SOAS
University of London

Centre for Global Finance

Working Paper Series

No.13 / 2020

The COVID-19 pandemic and its impact on African economies and financial markets: A review

By Elikplimi Komla Agbloyor and Joshua Yindenaba Abor

The Centre for Global Finance (CGF) Working Paper Series features recent studies by resident members of CGF as well as visiting researchers, altogether demonstrating the depth and breadth of research being undertaken at CGF. The papers are published to facilitate preliminary dissemination of ongoing research, enhance quality of work and contribute to the advancement of knowledge. We acknowledge, without implication, financial support from the DEGRP Research Grant (ES/N013344/2) on "Delivering Inclusive Financial Development and Growth", funded by the ESRC and the former UK Department for International Development, which merged with the Foreign & Commonwealth Office on 2 September 2020 to become the Foreign, Commonwealth & Development Office (FCDO), the ESRC-NSFC (ES/P005241/1) Research Grant on "Developing financial systems to support sustainable growth in China – The role of innovation, diversity and financial regulation", and the AXA Research Fund.

List of previous Working Papers of CGF:

No.1/2018 *Capital, risk and profitability of WAEMU banks: Does cross-border banking matter?* By Désiré Kanga, Victor Murinde, and Issouf Soumaré

No.2/2018 *Capital flows and productivity in Africa: The angel is in the details.* By François A. B. Bationo, Stephany Griffith-Jones, Victor Murinde, Issouf Soumaré and Judith Tyson

No.3/2018 *The persistence of bank fragility in Africa: GMM dynamic panel data evidence.* By Abbi M. Kedir, Syed Faizan Iftikhar, Victor Murinde and Bernadette Kamgnia

No.4/2018 *Reflections on central banking*. By Victor Murinde and Patrick Njoroge

No.5/2018 *Let beholders behold: Can banks see beyond oil booms and mitigate the Dutch disease?* By Morakinyo O. Adetutu, John E. Ebireri, Victor Murinde and Kayode A. Odusanya

No.6/2018 *National culture, CEO power and risk-taking by global banks.* By Eilnaz Kashefi Pour and Victor Murinde

No.7/2018 *Corporate investment, financing and payout decisions under financial constraints and uncertainty: Evidence from UK firms*. By Qingwei Meng, Victor Murinde and Ping Wang

No.8/2018 *Bank opacity and risk-taking: Evidence from analysts' forecasts* By Samuel Fosu, Collins G. Ntim, William Coffie, and Victor Murinde

No.9/2018 *Does microcredit increase hope, aspirations and well-being? Evidence from Sierra Leone.* By Adriana Garcia, Robert Lensink, and Maarten Voors

No.10/2018 *Lessons from emerging economies for African low income countries on managing capital flows.* By Stephany Griffith-Jones and José Antonio Ocampo

No.11/2018 *Financial inclusion and economic growth: What do we know?* By Joshua Y. Abor, Haruna Issahaku, Mohammed Amidu, and Victor Murinde

No.12/2018 *Climate vulnerability and the cost of debt.* By Gerhard Kling, Yuen C Lo, Victor Murinde, and Ulrich Volz

No.13/2018 *Pan-African banks on the rise: Does cross-border banking increase firms' Access to finance in WAEMU?* By Désiré Kanga,Victor Murinde, Lemma Senbet, and Issouf Soumaré

No.14/2018 *The peer monitoring role of the interbank market and implications for bank regulation: Evidence from Kenya.* By Victor Murinde, Ye Bai, Christopher J. Green, Isaya Maana, Samuel Tiriongo, and Kethi Ngoka-Kisinguh

No.1/2019 *Central bank independence: What are the key issues*? By Désiré Kanga and Victor Murinde

No.2/2019 *Banking services and inclusive development in sub-Saharan Africa.* By Haruna Issahaku, Mohammed Amidu and Aisha Mohammed Sissy

No.3/2019 *A survey of literature on financial literacy and financial behaviour: Is there a gender gap*? By Maryam Sholevar and Laurence Harris

No.4/2019 *Capital adjustment over the cycle: Evidence from microfinance institutions*. By Issouf Soumaré, Hubert Tchakoute Tchuigoua, and Hélyoth T.S. Hessou

No.5/2019 *Provisioning and business cycle: Evidence from microfinance institutions*. By Hélyoth T.S. Hessou, Robert Lensink, Issouf Soumaré, and Hubert Tchakoute Tchuigoua

No.6/2019 *Lending and business cycle: evidence from microfinance institutions*. By Hubert Tchakoute Tchuigoua, Issouf Soumaré, and Hélyoth T.S. Hessou

No.7/2019 *Term structure of CDS spreads & risk-based capital of the protection seller: an extension of the dynamic Nelson-Siegel model with regime switching.* By Standley R. Baron and Issouf Soumaré

No.8/2019 *Confidence, financial inclusion and sustainable economic development.* By Ayse Demir, Reinhard Bachmann, Victor Murinde, Laurence Harris, Christine Oughton and Meng Xie

No.9/2019 *The network structure of the Malawi interbank market: implications for liquidity distribution and contagion around the banking system.* By Esmie Koriheya Kanyumbu

No.10/2019 *Aid and Exchange Rates in sub-Saharan Africa: No More Dutch Disease?* By Oliver Morrissey, Lionel Roger and Lars Spreng

No.11/2019 *Does credit deepening increase financial fragility*? By Peng Yiqing, Niels Hermes, and Robert Lensink

No.12/2019 *Does microcredit increase aspirational hope? Evidence from a group lending scheme in Sierra Leone.* By Adriana Garcia, Robert Lensink, and Maarten Voors

No.13/2019 *Do better formal institutions promote financial inclusion*? By Peng Yiqing, Niels Hermes, and Robert Lensink

No.14/2019 *Do interbank interest rates reflect the financial soundness of borrowing banks*? By Thomas Bwire, Martin Brownbridge, Doreen K. Rubatsimbira and Grace A. Tinyinondi

No.15/2019 *Institutional environment and the microstructure of the interbank market*. By Thomas Bwire, Martin Brownbridge, Doreen K. Rubatsimbira, and Grace A. Tinyinondi

No.16/2019 *Segmentation of the interbank money market in Zambia*. By Jonathan M Chipili, Francis Z Mbao, Alick B Lungu, Shula M Sikaona, Anthony Bwalya, and Cosam S Chanda

No.1/2020 *How has the rise of Pan-African banks impacted bank stability in WAEMU?* By Désiré Kanga, Victor Murinde, and Issouf Soumaré

No.2/2020 *Threshold effects of financial inclusion on income inequality.* By Ayse Demir, Vanesa Pesqué-Cela, and Victor Murinde

No.3/2020 *FinTech, financial inclusion and income inequality: A quantile regression approach.* By Ayse Demir, Vanesa Pesqué-Cela, Yener Altunbas, Victor Murinde

No.4/2020 *Director reputation and earnings management: evidence from the British honours system*. By Tolulola Lawal

No.5/2020 *Financial inclusion and the growth-inequality-poverty triangle: New evidence from Africa.* By Ayse Demir and Victor Murinde

No.6/2020 Fellowship amongst peers: A systematic and selective survey of literature on the analysis of interbank lending networks. By Anosi F. Ikimalo and Victor Murinde

No.7/2020 Exploring the impact of COVID-19 pandemic on Africa's FinTech space. By Joshua Yindenaba Abor

No.8/2020 Financial Market Integration in Sub-Saharan Africa: How important is Contagion? By Robert Akunga, Ahmad Hassan Ahmad and Simeon Coleman

No.9/2020 Finance and well-being in developing countries: Does access to mobile money improve household well-being? By Fei Jiang, Christopher J. Green, Ahmad Hassan Ahmad and Carlos Sakyi-Nyarko

No.10/2020 Mobile money, ICT, financial inclusion and inclusive growth: How different is Africa? By By Fei Jiang, Christopher J. Green, Ahmad Hassan Ahmad and Victor Murinde

No.11/2020 Financial Inclusion and Welfare Improvement: Empirical Evidence from A Households Survey Data. By Carlos Sakyi-Nyarko, Ahmad Hassan Ahmad and Christopher J. Green

No.12/2020 The FinTech revolution: What are the opportunities and risks? By Victor Murinde and Efthymios Rizopoulos

All CGF Working Papers can be downloaded from CGF Website.

Centre for Global Finance
SOAS University of London
10 Thornhaugh Street, Russell Square
London
WC1H 0XG

Email: cgf@soas.ac.uk
Website: https://www.soas.ac.uk/centreforglobalfinance/publications/

The COVID-19 Pandemic and its Impact on African Economies and Financial Markets: A Review

Elikplimi Komla Agbloyor
Department of Finance
University of Ghana Business School, Legon

Joshua Yindenaba Abor*
Department of Finance
University of Ghana Business School, Legon

Abstract

The COVID-19 crisis has had a widespread impact on economies and financial markets across the globe. In this paper, we provide a review of the impact of the COVID-19 crisis on African economies and financial markets. Several countries eased monetary and fiscal policy to accommodate the effects of the crisis. This is likely to lead to an increase in debt levels for a number of countries that are already overburdened in terms of debt. Our review showed that the crisis had varied effects on commodity prices and exchange rates. In terms of capital flows, the crisis reduced capital flows, whilst accelerating capital outflows. The crisis is likely to lead to the first recession in Sub-Saharan Africa (SSA) over two decades and contribute to an increase in poverty levels at least in the short-term. The crisis has led to a severe strain on African banks and is likely to have an adverse impact on deposit taking, lending, profitability and stability. Our review suggests a negative impact on the insurance, investment and pension sectors in Africa. Though the crisis poses some challenges to Fintech firms, it also provides opportunities for growth and financial inclusion. Whilst stock markets in developed markets have largely recovered, stock markets in Africa remain in negative territory. African governments need to implement policies to mitigate the effects of the crisis and put economies and financial markets back on the path of growth and prosperity.

Keywords: African Economies, Financial markets and COVID-19 pandemic

*Abor acknowledges, without implication, financial support from the DEGRP Research Grant (ES/N013344/2) on "Delivering Inclusive Financial Development and Growth", funded by the ESRC and the former UK Department for International Development, which merged with the Foreign & Commonwealth Office on 2 September 2020 to become the Foreign, Commonwealth & Development Office (FCDO).

1. Introduction

The COVID-19 crises which originated in November 2019 in Wuhan in China and intensified in 2020 has had an impact on various areas of our lives. According to an OECD 2020 report, Africa recorded its first case of COVID-19 in Egypt on 14th February 2020. There have been both economic and non-economic impacts arising from the pandemic. Non-economic impacts include the tragic loss of many lives across the globe. As at 17th September 2020, records from the World Health Organization showed that there had been more than 29 million infections worldwide with close to a million deaths. In terms of economic impact, the pandemic has had a huge and negative impact on the livelihoods of millions across the globe. The economic impact has included the loss of jobs and a concomitant increase in unemployment, the shutdown of many businesses due to lockdown measures, low demand from consumers as well as disruption in supply chains, a decline in the liquidity and financial health of a number of companies leading to a number of them coming to the stock markets to raise funding, and a decision by companies (and sometimes regulators) to hold on to the payment of dividends to conserve cash and improve the liquidity and financial position of companies.

One of the early signs that the crises will have a severe impact on the global economy and financial markets in particular is the precipitous fall in stock prices across major markets around the world especially starting from February 2020. For example, in the United States between February and March, the S&P 500 fell by over 20%. The NASDAQ which is heavy on technology stocks and the Dow Jones Industrial Average (DJIA) fell by about 17% and 23% respectively. A similar trend was observed for other major markets in Australia, China, France, Germany, Japan, Russia, Singapore and the United Kingdom. These markets recorded declines of -33%, -6%, -25%, -25%, -16%, -34%, -24%, and -26%. The fall in stock prices also lead to significant spikes in volatility/uncertainty in capital markets across the world. Obviously, the pandemic has had a different impact on various sectors of the world economy. Booking, Entertainment and Live events, Airlines, Cruise and Casinos and Hotels and Resorts (BEACH) stocks were some of the hardest hit sectors shedding off significant proportions of their market values. In addition, financial services companies and energy firms suffered heavily from the selloff over this period.

Industries such as biotech, consumer staples, health care and technology have outperformed during the pandemic (CFA Institute, 2020). The technology sector in particular performed quite

well during the pandemic as evidenced by the almost 30% year-to-date gain of the NASDAQ as at 31st August 2020. According to an analysis by Damodaran, the pandemic has also had a bigger effect on the fortunes of older and more mature companies compared to younger and higher growth companies (Damodaran, 2020). Put differently, younger and higher growth companies against conventional wisdom, have performed better than older and more mature companies similar to how the pandemic itself has affected different age demographics.

Fan, Jamison and Summers (2018) estimate that epidemics and pandemic risks can have an impact on world economies comparable to that of climate change (0.2% to 2% of global income). Their estimate of a $500 billion cost due to losses from a global pandemic now seems to be far under-estimated given the havoc that COVI9-19 has already caused. Indeed, a number of bailout packages have been announced by governments across the world. For example, the United States alone implemented a $2.3 trillion package through the Coronavirus Aid, Relief and Economic Security Act (IMF, 2020). An additional $483 billion was allocated through the Paycheck Protection Programme and Health Care Enhancement Act (IMF, 2020) amongst many other interventions. As at August 2020, US policy makers were also considering additional stimulus packages ranging between $1 trillion and $3 trillion. Consequently, the total intervention from the U.S could range between $4 trillion to $10 trillion by the time the pandemic is over. This compares to a $700 billion package under the Troubled Assets Relief Program (TARP), a $200 billion package under the Term Asset-Backed Securities Lending Facility (TALF) and the $787 billion American Recovery and Reinvestment Act of 2009 which were the major interventions during the 2007-2008 global financial crisis. Further, the interventions during this crisis appear to be broader based targeting individuals and businesses of various sizes compared to the intervention in 2007-2009 that focused more on large financial institutions.

Given the scale and impact of the crisis, in this study we review the impact of the pandemic on African economies and financial markets. Our review is comprehensive as it covers the potential impact of the crisis on businesses and households, capital flows, commodity prices, financial institutions and markets, economic growth, macroeconomic indicators, monetary and fiscal indicators and poverty reduction. The rest of this paper is organized as follows; Section 2 provides an overview of past pandemics and the current COVID-19 pandemic, Section 3 details the economic measures put in place by African governments to mitigate the effects of the COVID-19 crisis, Section 4 provides an overview of the financial markets landscape in

Africa before the pandemic, Section 5 details the impact on the economies of African countries, whilst Section 6 discusses the impact on African financial markets. We conclude the study and provide policy recommendations in Section 6.

2. Overview of Past Pandemics and Current COVID-19 Pandemic

Apart from the COVID-19 pandemic, the world in the past withnessed other pandemics. The first was the Spanish flu, which was caused by infleunza A (H1N1). There was no universal consensus regarding its origin but it did spread throughout the world during the period, 1918 – 1919. It was estimated that 500 million people, representing one-third of the population of the world were infected with the virus during that period and globally, 50 million people were estimated to have died. This resulted in loss of global GDP of about 16%. The second pandemic (Asian flu) was triggered by an influenza A (H2N2) virus, which emerged in East Asia in February 1957. It was initially reported in Singapore in February 1957 and later it was also reported in Hong Kong in April 1957. About 1.1 million people were estimated to have died. The third pandemic, which occurred in 1968 was caused by an influenza A (H3N2) virus. This was first reported in the US in September 1968 and about 1 million deaths were reported globally. The pandemics of 1957 and 1968 were relatively milder (Centres for Disease Control and Prevention, 2019). In March 2009, Mexico withnessed the appearance of a novel influenza virus, which was in the form of a H1N1 subtype. This affected 214 countries, killing 18,449 people (WHO, 2009).

In the last two decades, we have confronted major public health issues, including severe acute respiratory syndrome (SARS), Middle East Respiratory Syndrome (MERS), avian flu (Influenza H5N1), influenza (H1N1) and the current COVID-19 due to SARSCoV-2 (Peeri *et al*, 2020; Bhatia and Abraham, 2020), which have had severe consequences on human lives and generated economic crises. It is important to apply the lessons learned in past pandemics in the better handling of future ones. Handling of the current COVID-19 pandemic and the experiences gained from past pandemics as well as epidemics like Ebola in Africa, should equip us such that pandemic preparedness and response plans are developed in such a way that the rest of the health system is not disrupted (Khetrapal and Bhatia, 2020) and the impact on the economy is curtailed.

After eight months of the first case of COVID-19 appearing in Wuhan, China, the whole world has been seriously hit by the novel coronavirus (named as SARS-CoV-2). The WHO

pronounced the outbreak of the virus a public health emergency of international concern on the 30th of January 2020 and later on the 11th of March 2020, it was declared a pandemic. The COVID-19 pandemic is still spreading and at the time of writing this paper there were increasing number of cases being reported daily. As at 28th July 2020, the pandemic had affected 216 countries and territories, with 16,341,920 confirmed cases and 650,805 deaths[1]. The global response to the pandemic has not been effective and therefore greater number of infections and deaths are more likely to occur. This presents two major types of crises – a health crisis and an economic crisis. Since the pandemic is still ongoing, it is impossible to ascertain its ultimate impact on African economies.

3. African Governments' Response to the COVID-19 Pandemic

The African region reported its first case of COVID-19 on the 14th February 2020 in Egypt and in SSA the first case appeared in Nigeria on the 27th February 2020 (WHO, 2020).The occurrence in Africa was close to two months after the first case was reported in Wuhan, China, providing the region with ample time to put in place preparedness plans. Local transmission of the virus has now superseded imported cases and the doubling time has been shortened to less than 7 days in over 95% of affected countries, therefore, African countries are bracing for the eventual impact of the COVID-19 pandemic[2]. At the end of April 2020, the Africa region had recorded an overall total of 20,652 confirmed cases and 861 related deaths (case fatality ratio 4.2%) had been reported across 45 countries. The highest mortality rates have been reported in Algeria 12.6% (425/3382), Liberia 9.7% (12/124), Democratic Republic of the Congo 6.1% (28/459), Mali 5.9% (23/389), Burkina Faso 6.6% (42/632), and Niger 4.2% (29/696) (WHO, 2020).

After the initial cases were reported in the respective countries, a number of governments of African countries responded by implementing public health and social measures in order to curb and contain the spread of the virus. Some of these policy measures include encouraging social distancing, closure of borders and travel restrictions, closure of schools, ban on large gatherings, self-isolation for persons exposed to the virus, establishment of quarantine centres for confirmed cases, and ether a partial lockdown of some cities or full lockdown of the entire

[1] https://covid19.who.int

[2] Resolve to Save Lives. Global situation update. 2020. Available from: https://vital.ent.box.com/s/m45vny0o2hhzsosscgbkgem3j8pux4f3

country. Apart from these, African countries also implemented a number of economic measures to reduce the human and economic impact of the CoVID-19 pandemic. Table 1 summarizes the key economic responses taken by governments of selected African countries. These are measures taken between March and July 2020.

Table 1: Policy Responses Implemented by Selected African Countries (March – July)

Policy	Specific Measures	African Country
Fiscal	Postponement of tax payment	Algeria, Angola, Botswana, Burkina Faso, Cameroon, Congo, DRC, Egypt, Rwanda, South Africa, Zambia, Zimbabwe
	Granting grace period for filing tax	Angola, Benin, Botswana, Burkina Faso, Cameroon, DRC, Ghana, Morocco, Namibia, Rwanda, Senegal, Uganda, Zimbabwe
	Lowering taxes/ granting tax exemptions or tax holiday	Angola, Burkina Faso, Congo, Cameroon, DRC, Ethiopia , Ghana, Kenya, Malawi, Mali, Morocco, Senegal, South Africa, Tanzania, Uganda, Zambia
	Provision of allowances/ cash transfers/ wage subsidy	Algeria, Benin, Botswana, Cameroon, Egypt, Gambia, Kenya, Nigeria, Malawi, Rwanda, South Africa
	Provision of business support scheme	Benin, Botswana, Egypt, Ethiopia, Ghana, Kenya, Mali, Morocco, Namibia, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Zimbabwe
	Provision of free food and subsidy on consumption of utilities (water and electricity)	Burkina Faso, DRC, Egypt, Ethiopia, Gambia, Ghana, Kenya, Mali, Rwanda, Senegal, South Africa
Monetary and Macro-Financial	Reduction of policy rate	Algeria, Angola, Botswana, Burkina Faso, Cameroon, Congo, DRC, Gambia, Ghana, Kenya, Malawi, Mali, Morocco, Namibia, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe
	Reduction / elimination of reserve requirement	Algeria, Angola, Benin, Botswana, Congo, DRC, Egypt, Gambia, Ghana, Kenya, Malawi , Morocco, Nigeria, Rwanda, Tanzania, Zimbabwe
	Reduction of capital adequacy / relief on bank capital requirements/ reduction of the capital conservation buffer	Botswana, Cameroon, Congo, DRC, Morocco, Namibia, South Africa, Zambia
	Easing of solvency and releasing liquidity	Algeria, Benin, Botswana, Burkina Faso, Cameroon, Congo, Egypt, Ethiopia, Gambia, Ghana, Kenya, Malawi, Morocco, Nigeria, South Africa, Uganda, Zambia, Zimbabwe
	Revision of provisioning and classification rules for specific loan categories/ regulatory forbearance for non-performing loans	Algeria, Botswana, Burkina Faso, Congo, DRC, Ghana, Guinea, Kenya, Malawi, Mali, Senegal, Zambia
	Granting of moratorium by banks on loans to clients/ providing debt relief to borrowers	Algeria, Angola, Burkina Faso, Egypt, Ghana, Kenya, Morocco, Mali, Namibia, Nigeria, Rwanda, Senegal, South Africa, Uganda, Zambia
	Expansion of the range of instruments accepted as collateral in monetary operations	Botswana, Cameroon, Congo, Morocco, South Africa, Zambia
	Lowering haircuts on government securities used in refinancing operations	Algeria, Cameroon, Congo Tanzania
	Introduction of measures to promote the use of electronic payments	Benin, Burkina Faso, Congo, DRC, Egypt, Ghana, Kenya, Malawi, Mali, Rwanda, Senegal, Tanzania, Uganda, Zambia
Exchange Rate and Balance of Payment	Transitioning to a more flexible exchange rate regime/ limiting foreign exchange market interventions	Gambia, Morocco, Rwanda
	Moving from managed floating exchange rate regime to a fixed exchange rate system	Zimbabwe
	Implementation of a new annual downward rate of crawl	Botswana
	Standing ready to intervene in the foreign exchange market	Uganda
	Cutting import bill and banning exports of several products	Algeria, Benin
	Introduction of electronic platform for foreign exchange transactions	Angola
	Seeking debt service deferral	Gambia, Ghana

Others	Donation of salary or taking a pay-cut by President/ Vice President	Algeria, Ghana, Malawi, Mali, Nigeria, South Africa
	Donation of salary or taking a pay-cut by ministers and top government officials	Ghana, Kenya, Malawi, Nigeria, Rwanda, South Africa
	Prohibition of eviction of renters in case of non-payment of rent.	DRC, Uganda
	Release of prisoners	Ethiopia, Ghana, Kenya, Nigeria, Somalia, South Africa

Source: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19
https://en.wikipedia.org/wiki/Impact_of_the_COVID-19_pandemic_on_prisons

The COVID-19 pandemic will impact Africa's economic growth through domestic and external channels as recent forecasts suggest that GDP will contract in most countries in 2020, the first in 25 years. This has implications for general well-being and level of poverty. According to the UN, an estimated 30 million more people could fall into poverty and many more people could become acutely food-insecure. According to the OECD (2020), policy measures initiated to mitigate the impact of the COVID-19 pandemic will continue to evolve as countries move to the next stages of the COVID-19 response, including:

- Surviving the pandemic – this involves ensuring adequate resources are channeled to addressing basic necessities such as food and medicine, and ensuring proper physical and mental health, in addition to safety for the people;
- Returning to normal – this entails supporting firms and households to continue their usual activities and repairing the harm or loss suffered in the time of the pandemic; and
- Re-focusing on the long term – this means shifting resources and focusing attention towards long-term development.

4. Financial Markets Landscape in Africa Prior to the COVID-19 Pandemic

The evidence in the financial markets literature implies that well-functioning financial markets are necessary for promoting economic growth (see Levine 1997; Aryeetey, 2003; Senbet and Otchere, 2010), and that inclusive financial development can spur inclusive growth and development (see Levine, 2004; Park and Mercado, 2015). Financial markets perform a number of functions including, mobilising and pooling of savings, producing information regarding likely investments and allocating capital, easing the exchange of goods and services, facilitating trading, diversifying and managing of risk, and monitoring firms and exerting corporate governance (Levine, 1997). Robust financial markets allow countries to progress beyond short term, volatile capital flows to the point of being able to attract longer-term capital for investments that drive economic growth and development.

Financial markets need to have clear channels or linkage with economic growth in order to have the desired impact on economic development. For instance, banks need to be able to appropriately allocate the resource they mobilise through credit extension. Similarly, stock markets have to be active in producing information and ensuring liquidity through trading systems that are well functioning (Senbet and Otchere, 2010). A good mix of banks, capital markets, private equity finance, and contractual savings institutions is necessary to achieve strong, diversified and liquid financial markets. However, in Africa, financial markets are said to be small, narrow and illiquid with limited outreach. This is reflected in the aggregate indicators of financial development as well as the firm- and household-level data assessing how formal financial services are used (Beck and Cull, 2014).

Table 2: Indicators of Financial Development

Region	Broad Money/GDP	Private sector credit/GDP	Bank credit to private sector/GDP	Market capitalisation/ GDP
World (Low and Middle Income)	130.85	108.53	105.44	60.21
East Asia & Pacific	180.86	153.15	151.66	61.36
Europe & Central Asia	55.04	52.24	49.60	27.87*
Latin America & Caribbean	68.92	51.68	48.62	45.24
Middle East & North Africa	79.83*	31.50*	30.14*	21.31*
South Asia	73.53	47.15	47.12	74.19
Sub-Saharan Africa	42.53	45.22*	28.35	52.7*

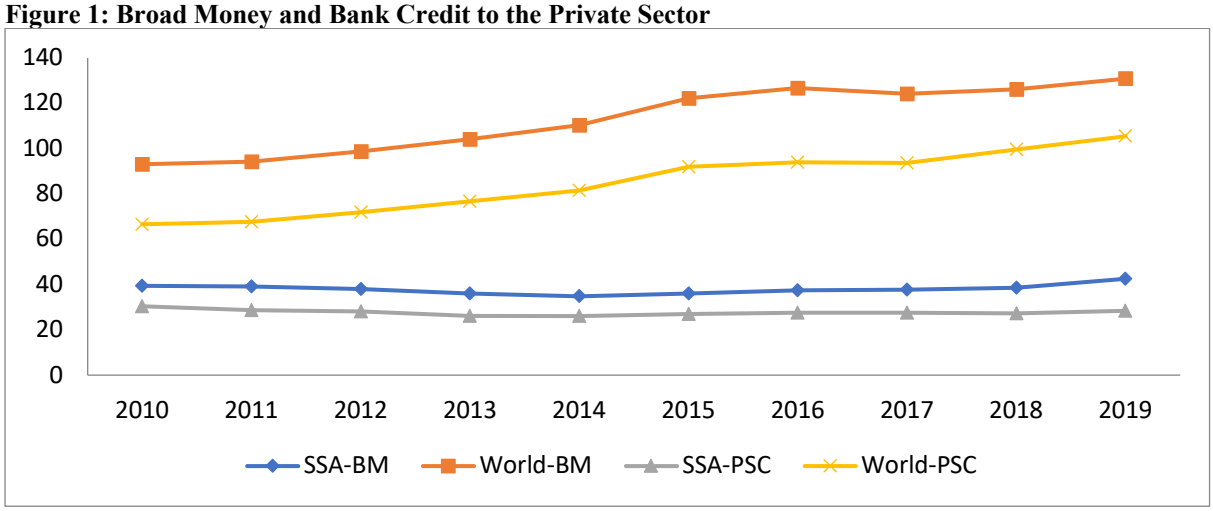
*Source: Global Financial Development Indicators (2019); * latest figure available*

Financial markets in Africa tend to be bank-based, meaning the banking sector plays a more important role than capital markets. In comparison with the other regions, the banking sector shows lower broad money as a percentage of GDP, and bank credit to the private sector as a percentage of GDP. For instance in 2019, average bank credit to the private sector in SSA was 28.35% of GDP, lower than that of emerging economies and the world average for low- and middle-income countries. Broad money as a percentage of GDP in SSA (42.53%) was also the lowest compared with the other regions (see Table 2). Banking penetration is also low in many African countries with banking services largely restricted to urban communities. Though financial inclusion (i.e. in terms of the percentage of adults in SSA with bank account) has increased, this percentage is still low compared with emerging countries and the rest of world. A number of factors have been identified to contribute to the low-level financial inclusion, and these include inadequate suportive infractursture, deterrant transaction costs, unfavoural regulatory regime, low level of financial literacy, high poverty rates, and behavioural biases

(see Abor *et al,* 2018). Figure 1 shows that the level of financial development (in terms of broad money as a percentage of GDP, and bank credit to the private sector as a percentage of GDP) declined between 2010 and 2014, gradually picking up from 2015 to 2019 (i.e. before the outbreak of COVID-19 pandemic). These indicators are, however, far lower than the world average for low- and middle-income countries.

The banking sector is also highly inefficient (see Beck and Cull 2014; Bazot, 2018) and concentrated with foreign banks dominating the sector (Doku *et al*, 2012; Fosu, 2013; Banya and Biekpe, 2017). The high level of inefficiency in the African banking sector is often demonstrated by the high bank overhead costs and high interest margin. The increased presence of foreign banks in the African banking space is as a result of the financial sector reforms that a number of African countries carried out, which resulted in the opening of African markets to foreign entry. Government-owned banks also dominate the banking sector in some African countries. It is important to mention that many African countries have taken some initiatives aimed at promoting banking sector development to ensure efficient allocation of capital to finance growth. The banking sectors in Botswana, Malawi, Nigeria, Seychelles and South Africa are said to have a relatively well-capitalised and dynamic banking sector and the sector encourages innovative practices in banking (Allen *et al*, 2011).

Figure 1: Broad Money and Bank Credit to the Private Sector



Source: Global Financial Development Indicators (2019)
NB: SSA-BM = Broad money in SSA; World-BM = Broad money for the world; SSA-PSC = Bank credit to the private sector in Africa; World-PSC = Bank credit to the private sector for the world

African stock markets are confronted with challenges in respect of financial depth (measured by market capitalisation and number of listings), and level of liquidity. The stock markets in SSA are among the smallest with regards to stock market capitalisation and number of firms

listed on stock exchanges. Table 2 shows that Africa's stock market capitalisation is among the lowest in the world. Also African stock markets are generally quite thin with low level of turnover or liquidity. This issue is being recognised, and there are policy initiatives being undertaken with the aim of building integrated regional stock markets. Some of these initiatives include privatisation of state-owned organisation through public offerings on the stock exchanges (e.g. the privatisation of SIC Insurance Company Limited in Ghana), the introduction of alternative stock exchanges for small and medium enterprises (e.g. the Ghana Alternative Market, the Alternative Securities Market in Nigeria and the Growth Enterprise Market Segments in Kenya), and the establishment of regional stock exchanges. Examples of a regional stock exchange are the Bourse Régionale des Valeurs Mobilières (BRVM) situated in Abidjan, Cote d'Ivoire for the Francophone West African countries, and the Bourse Régionale des Valeurs Mobilières d'Afrique Centrale (BVMAC) located in Libreville, Gabon. There are also considerations regarding the need for Economic Community for West African States (ECOWAS) to also create a regional stock exchange for the Anglophone countries in West African. In the same vein, Southern African Development Community (SADC) and the Eastern African Community (EAC) may form regional exchanges for their respective regions.

The stock markets in Africa have, however, witnessed some increase over the past two decades. With only 5 stock exchanges in SSA and 3 in North Africa, there are currently about 29 stock exchanges in Africa and two 2 regional stock exchanges mentioned earlier: the BRVM and the BVMAC. The BRVM serves the Francophone countries in West Africa (i.e. Benin, Burkina Faso, Guinea Bissau, Côte d'Ivoire, Mali, Niger, Senegal and Togo), while the BVMAC serves the countries in Central Africa (i.e. Central African Republic, Chad, Democratic Republic of Congo, Equatorial Guinea and Gabon). The past two decades have also been characterised by growth in assets, number of listings and market capitalisation.

The private equity market has seen some increase, however, this is at a low pace. Private equity investments are estimated at less than 1% of Africa's GDP. The market is dominated by regional and domestic firms. The market is also witnessing increased interests from large foreign firms, which wish to take advantage of the growing investment opportunities in Africa. The modest growth of the private equity market can be attributed to the stable macroeconomic environment in most African countries.

The bond markets are mainly under-developed in Africa. In many African countries, the size

of the bond market represents less than 10% of GDP, far lower than the size of the global bond market, which account for about 140% of global GDP. The bond market is mainly dominated by trading in government bonds. The public issuance of corporate bonds is not a common feature in African bond markets, as these tend to be very small, representing an insignificant composition of the overall local bond market. Corporate bond issues are essentially done through private placement. A number of factors, including limited number of individual and institutional investors, capital gains, high returns in risk-free government instruments, alternative sources of debt financing, weak regulations and market infrastructure, and unfavourable macroeconomic environment tend to adversely impact bond market development in Africa (Abor, 2018). The little progress in terms of bond market development is evidenced by the corporate bond market in the regional market in French West Africa, a secondary debt market and a bond index in Nigeria, and well-developed bond market for government bonds in South Africa. African countries have typically relied on foreign private capital flows for financing long-term projects. Therefore, they have not paid much attention to developing the domestic bond markets.

The insurance market in Africa is also relatively undeveloped compared with other emerging economies. Access to insurance products is restricted and Africa's share of the world insurance market is low, representing about 1.3% of the total world premium. The market is very diverse and fragmented, with only 11 countries controlling about 92% of total insurance premiums in Africa (Balcilar *et al*, 2020). The insurance penetration rate in Africa is low and a number of reasons have been given for the low penetration rate with regards to insurance. These include low level of income, lack of human capital and expertise, lack of trust providers of financial service, and accessibility of informal types of insurance (KPMG, 2017). Mauritius, Namibia, and South Africa tend to have relatively well-developed insurance markets, with insurance penetration rates of 6.4%, 6.9%, and 14.3% respectively. The size and impact of the other African countries' insurance sectors is relatively small (Balcilar *et al*, 2020). However, some steady growth is being recognised with growth rate in Africa's insurance market surpassing the world average (KPMG, 2015).

Previous crises, including the global financial and economic crisis presented some uncertainties for emerging and frontier economies, such as African countries. The current COVID-19 pandemic introduces even more serious challenges and new uncertainties, which have implications for African economies and financial markets – the focus of this paper.

5. Impact of COVID-19 Pandemic on African Economies and Financial Markets

In this section, we provide an overview of the COVID-19 crisis on the African economies and financial markets. We start by reviewing the situation before the crisis and provide our prediction of the effect of the crisis on the various economic and financial indicators.

5.1 *Monetary Policy, Inflation, Exchange Rates and Balance of Payments*

As was shown in Table 1, a number of countries across the continent implemented monetary measures to counter the effects of the crisis. These measures included reduction in the discount rate, reduction in reserve requirements, relief on bank capital requirements and the expansion of acceptable collateral for monetary operations amongst others. We expect that a number of these measures such as lower interest rates and reductions in reserve requirements will continue to be in place even in a post-pandemic situation to guide the economy back on a path of growth. The increase in the fiscal burden (debt), however is likely to place upward pressure on interest rates in the medium to long-term given that a number of countries are already exposed to high debt rates. In terms of inflation, we expect an upward pressure on inflation if domestic production is not sufficient to counter the disruption in supply chains. In addition, the possibility of a food crisis may lead to an increase in prices of food items.

It is difficult to tell how the crisis would affect exchange rates in Africa. A short-term reduction in imports may ease pressure on the exchange rate and improve the balance of payments situation. On the other hand, if investors flee to the U.S dollar then the dollar is likely to increase in value against most other currencies including African currencies. Interesting trends are observed for a number of African currencies. For example, the Ghana Cedi initially strengthened just at the start of the crisis (between January and February) but has since lost ground against the dollar. The dollar gained significant ground against the South African Rand between January and April 2020, however, the Rand has since regained some of its losses against the dollar. For the Kenyan Shilling, the dollar has appreciated against the Shilling since the start of the crisis. Nigeria on the other hand has devalued its currency a couple of times over the course of the crisis. These few case studies show that the impact across African countries have been diverse and varied. Overall, however, it appears that African currencies have lost ground against the dollar.

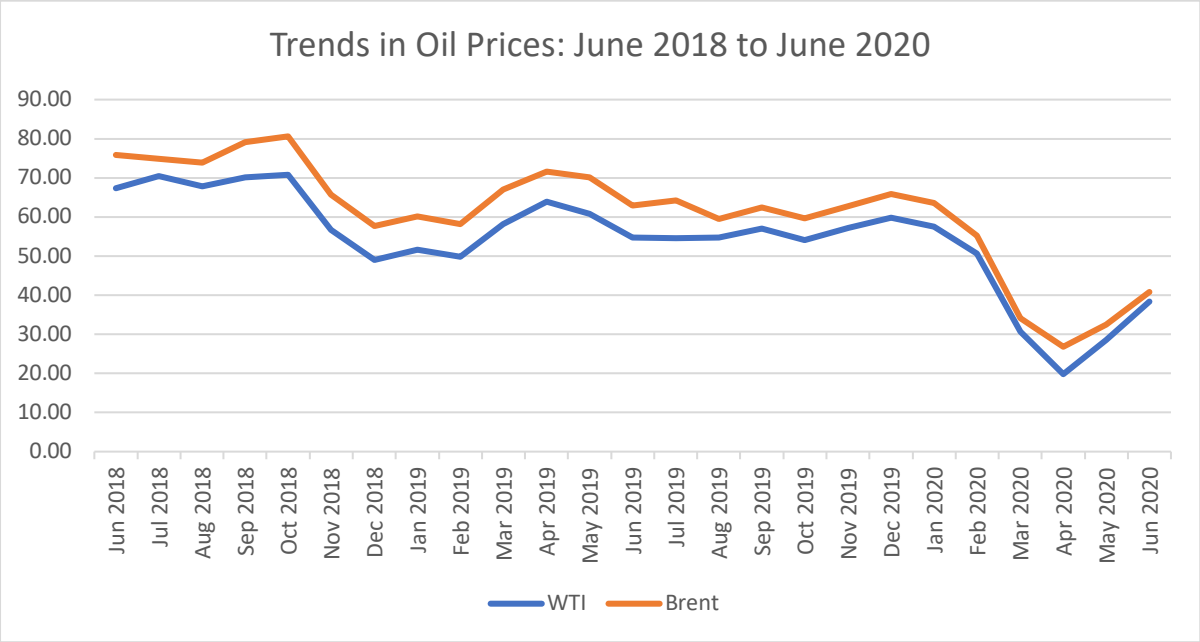
5.2 *Businesses and Household Sectors*

The COVID-19 crisis is likely to lead a collapse in businesses, especially small and medium size enterprises (SMEs). Businesses in the hardest hit sectors such as tourism are likely to suffer the most. Africa has a large number of SMEs that provide employment and livelihoods to millions across the continent. The World Bank (2020a), reports that the largest impact of the crisis is being felt in urban areas and the informal sector. Using Nigeria as an example, Siwatu et al (2020) show that COVID-19 reduced access to farming inputs, increased uncertainty about being able to meet rental payments, led to reduced working hours, reduced access to staple foods, made it more difficult to access transportation, reduced savings and increased attempts to find additional income generating activities. Indeed, the World Bank (2020b) predicts that the pandemic could lead to a severe food crisis.

5.3 *Commodity Prices: Oil and Gold*

The COVID-19 crisis led to steep declines in oil prices due to the shutdown of many economies around the world pushing oil prices to 21-year lows. Figure 2 shows trends in oil prices before and after the pandemic. Before the pandemic, Brent crude oil and WTI were trading at about $55 and $50 per barrel respectively in February 2020. By April 2020, prices had collapsed to about $26 and $19 respectively. The sharp decline in the demand for oil saw oil inventories rising for producers contributing to an excess supply of oil which also placed downward pressure on oil prices. The drop-in oil prices may mean that international companies who invest in Africa's oil sector will postpone further production as low prices are likely to lead to negative NPVs and investment outcomes. For example, the Energy Monitor Worldwide reported that low oil prices were likely to lead to a postponement of a $3.5 billion investment in an oil pipeline to Tanzania from Uganda. The data (based on averages of oil rents to GDP from 2010 to 2017) suggests that the countries most at risk from a drop in oil prices were Libya (41%), Congo, Rep (37%), Equatorial Guinea (26%), Angola (25%) and Gabon (24%).

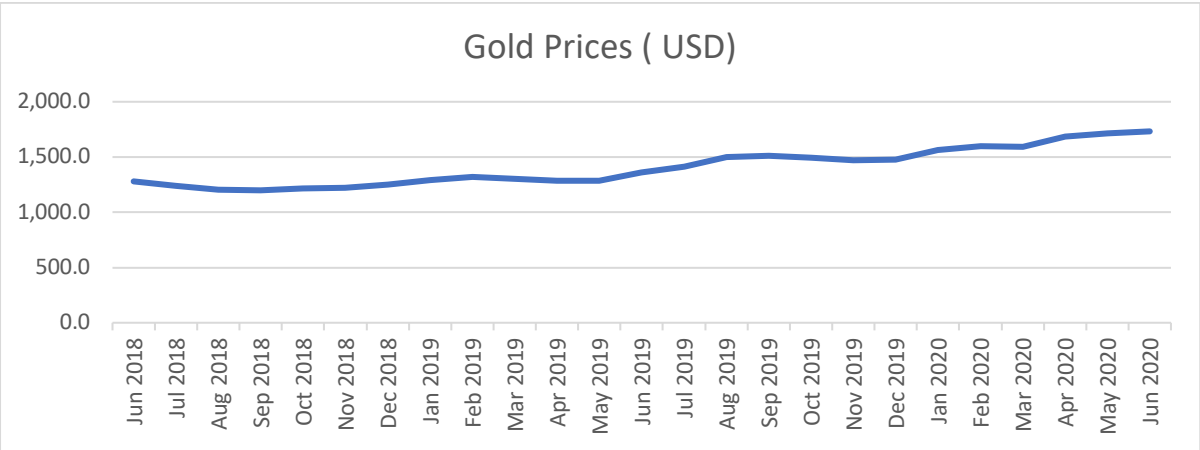
Figure 2: Trends in Oil Prices: June 2018 to June 2020



Source: Constructed by Authors based on data from Market Index Australia

However, despite the fall in oil prices, gold prices on the other hand have surged considerably over the course of the year. This is attributable to the fact that gold is regarded as a safe asset and serves as a hedge for investors given increased volatility in the financial markets. Figure 3 shows the rise in gold prices. Prices increased from about $1500 in February 2020 to about $1700 in June 2020. As at August 2020, gold prices had crossed the $2000 mark. This is likely to benefit gold exporters such as Ghana and South Africa.

Figure 3: Trends in Gold Prices: June 2018 to June 2020



Source: Constructed by Authors based on data from Market Index Australia

5.4 Capital Flows: Foreign Direct Investment (FDI), Official Development Assistance (ODA), Tourism and Remittances

The onset of the COVID-19 pandemic is likely to lead to a drop in foreign direct investment (FDI), tourism, remittances and official development assistance to African countries. The crisis is likely to lead to a reduction in capital inflows, whilst accelerating capital flight. Before the pandemic hit, FDI to Africa generally had been on a downward trend since the year 2012 (see Figure 4). FDI into Africa is largely driven by natural resources. With the fall in oil prices, some MNEs may put additional investment decisions on hold. Further, due to the fact that MNEs may have experienced challenges themselves during the crisis, they are unlikely to make additional investments abroad. A number of companies may actually embark on reshoring to bring services back to their home country. Indeed, globally the World Bank (2020b) predicts that FDI will drop by about 35% in 2020. The top FDI recipients (expressed as a percentage of GDP based on averages from 2010 - 2018) such as Liberia (43)%, Mozambique (25%) Congo, Rep (21%), Seychelles (15%), Sierra Leone (11%) and Sao Tome and Principe (10%) are likely to take a hit to their FDI receipts in the short-to-medium term. In terms of dollar receipts, the data suggests that the countries most at risk were Egypt (5.3 billion), Nigeria (5 billion), South Africa (4.2 billion), Mozambique (3.8 billion) and Ghana (3.2 billion).

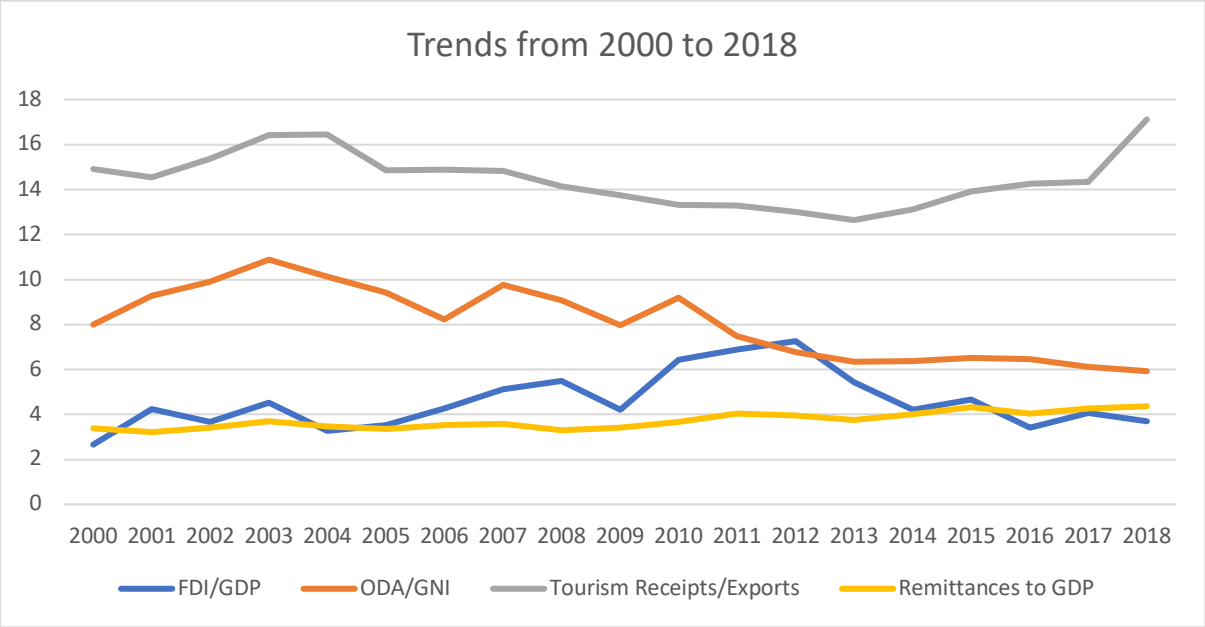
Our analysis shows that since 2002, ODA receipts to Africa (% of GNI) has been on the decline. With a lot of donor partners now having to borrow themselves to cushion their economies against the effects of COVID-19, it is very likely that donor appetite will wane further, leaving a lot of aid dependent countries in dire circumstances. Our analysis shows that the countries most at risk (based on averages from 2010 to 2018) when ODA is expressed as a percentage of GNI) are Liberia (32%), Burundi (21%), Central African Republic (20%), Malawi (18%), Sao Tome and Principe (17%), Sierra Leone (16%) and Rwanda (14%). In terms of dollar receipts, the countries most at risk (based on averages from 2010 to 2018) were Ethiopia (3.6 billion), Congo, Dem. Rep (2.8 billion), Tanzania (2.6 billion), Kenya (2.4 billion) and Nigeria (2.4 billion).

Tourism is one of the most prominent sectors that has suffered severely from the COVID-19 crisis due to the closure of borders around the world. This has seriously affected airlines and associated industries, hotels, restaurants and many tourist sites and attractions. The data suggests that tourism arrivals into Africa had been on the rise increasing from about 749,000 in the year 2000 to 1.4 million in the year 2010. As at 2018 the number of arrivals had further

increased to 2.13 million. Further, Figure 4 shows that tourism receipts (as a percentage of exports) has been on the rise since 2013. The data suggests that the countries most at risk from the decline in tourism (average of number of arrivals from 2010 to 2018) in the short-to-medium term are Morocco (10.2 million), Egypt (9.6 million), South Africa (9.4 million), Tunisia (6.8 million) and Nigeria (4.9 million). In terms of tourism receipts (as a percentage of exports from 2010 to 2018), the countries most at risk were Sao Tome and Principe (62%), Cabo Verde (56%), Comoros (47%), the Gambia (40%), and Seychelles (37%).

Finally, we expect that remittances in the short to medium term will decline given that a number of migrants have lost their jobs and those who have not, would most likely want to keep emergency funds due to the heightened uncertainty in the global economy. Indeed, the World Bank (2020b) predicts that remittances globally are likely to experience a drop of about 20% in 2020 alone, one of the largest declines in recent history. We expect that given that remittances are counter-cyclical, the altruistic motive for sending remittances will moderate the expected sharp fall in remittance inflows globally. Remittances (as a percentage of GDP) has been stable hovering around 3% to 4% of GDP for African economies between 2000 and 2018. In 2019, remittances fell slightly by 0.5% to $48 billion, with remittances expected to decline by about 23.1% to $37 billion in 2020 (World Bank, 2020b). This is in line with the literature (see for example Ratha, 2005) that has shown that remittances are less volatile compared to private capital flows such as FDI. In terms of remittances (as a percentage of GDP averaged from 2010 -2019), the data suggests that the countries most at risk of a decline are Lesotho (22%), Liberia (16%), Comoros (12%), Cabo Verde (11%) and the Gambia (11%). In U.S dollar terms (based on averages from 2010 – 2019), the countries most at risk were Nigeria (21 billion), Egypt (19 billion), Morocco (6.8 billion), Ghana (2.6 billion) and Tunisia (2 billion).

Figure 4: Trends in Capital Flows from 2000 to 2018



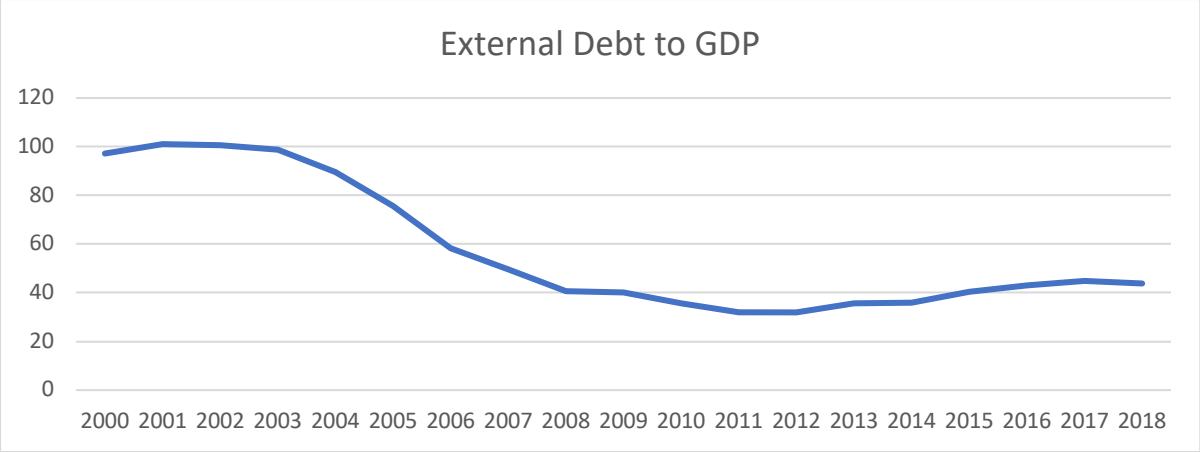
Source: Constructed by Authors based on data from the World Development Indicators.

5.5 Country Risk Premiums, Debt burden, Fiscal Policy and Sovereign Credit ratings

Unlike some countries such as Australia who had low debt burdens before the pandemic hit, a number of African countries had seen an increase in their debt levels (IMF, 2020). In particular, debt burdens had risen steadily after a number of African countries benefited from the Highly Indebted Poor Countries (HIPC) programme which was launched by the IMF and the World Bank in 1996. As of February 2020, 30 out of the 36 countries that qualify for, are eligible for or may potentially be eligible for and can elect to receive HIPC assistance were African countries (IMF, 2020).

Figure 5 shows the external debt to GDP ratio for African countries from 2000 to 2018. Debt levels dropped from 2000 to around 2011 but began to pick up again. Our analysis shows that Djibouti (151%), Mauritania (93%), Mozambique (86%), Mauritius (83%), Carbo Verde (83%), Sao Tome and Principe (76%) and Tunisia (66%) had very high debt levels based on their average debt between 2010 and 2018. These countries as at 2018 had external debt levels in excess of the 60% threshold which is considered as sustainable. These figures exclude domestic debt and do not capture borrowing in 2019 and 2020.

Figure 5: Trends in External Debt



Source: Constructed by Authors based on data from the World Development Indicators

The pandemic is likely to lead to an increase in the debt burden of African countries in the short to medium term. This is because governments have had to borrow to provide support to the health sector, cushion the shortfall in taxes due to the stress on industries such as tourism, and to provide interventions to individuals and businesses to save livelihoods. Further, the increase in debt burdens will be exacerbated because of a drop in taxes from productive sectors of the economy such as tourism and the fall in prices of commodities such as oil. The huge drop in oil prices is likely to seriously affect oil dependent countries such as Nigeria and Angola. However, countries who export gold are likely to see an increase in their revenues due to the jump in gold prices. The fall in tax revenues together with a restraint to increase taxes will worsen the fiscal situation of a number of African countries.

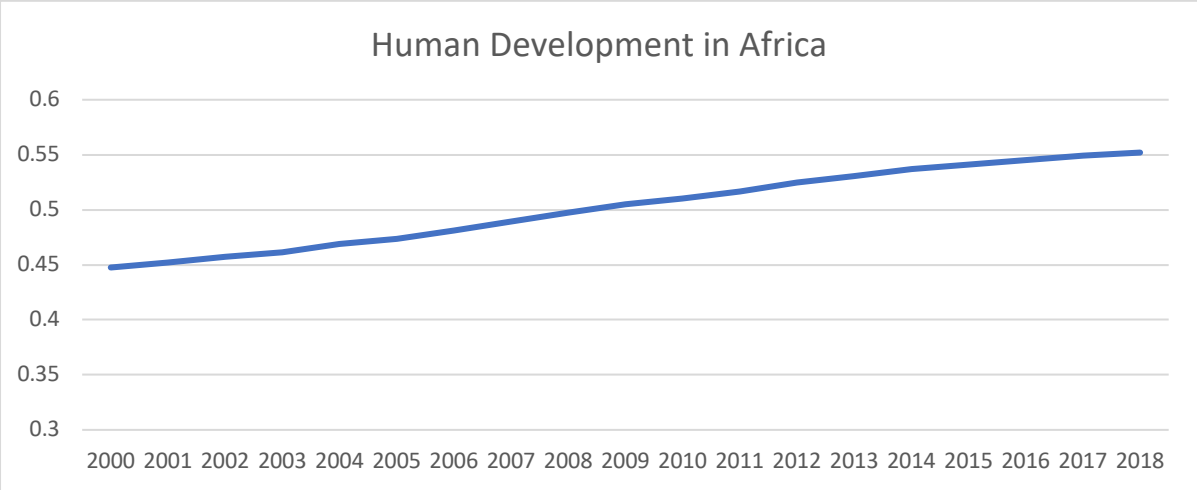
Given, that most countries had high debt burdens, we see two forces at play that will affect interest rates. The first is that most governments reduced interest rates so that borrowing costs for businesses will come down. This would likely translate into lower treasury bill rates in the short-term. The second is that, interest rates are likely to rise in the medium-term given the already high debt burdens and fiscal deficits. This is likely to lead to an increase in interest rates, country risk premiums and a deterioration in the credit quality of these countries. Some countries may therefore receive credit downgrades from the international rating agency increasing their cost of borrowing in international markets (Eurobonds) or reducing their access to these markets. This is particular important for a number of African governments given their increasing reliance on Eurobonds in recent times. African countries will need to reduce their

debt burdens and create fiscal space for possibly another pandemic, the effects of climate change, wars and other unexpected shocks that could appear suddenly in the future.

5.6 Economic Growth/Human Development/Poverty

Africa is still one of the poorest regions in the world (see for example Barne and Wadhwa, 2018) with a comparatively low level of human development compared to other regions. However, the data shows a steady increase in the Human Development Index (HDI) for Africa (see Figure 6). The HDI captures improvements in income, education and health. Thus, higher values of the index suggest an improvement in human development or a reduction in poverty. Consequently, Figure 6, suggests that Africa made steady progress in reducing poverty between 2000 and 2018.

Figure 6: Trends in Human Development/Poverty Reduction in Africa



Source: Constructed by Authors based on data from the World Development Indicators.

One of the possible reasons for the increase in the HDI is recent decent economic growth that various countries in Africa have experienced. The period after 1990 has been markedly different from the 1960s to the 1980s which was classified by Easterly and Levine (1997) as a growth tragedy. However, the onset of the crisis is likely to lead to slower growth across many countries in the region. Indeed, the World Bank (2020) predicts that the crisis is likely to lead to the first recession in 25 years in the region. The World Bank (2020c) predicts a growth rate of between -2.1% and -5.1% in 2020 compared to 2.4% in 2019. The World Bank (2020b) estimates that in an optimistic scenario, the crisis would lead to welfare losses in the region of about 7% compared to pre-crisis levels. Further, the report shows that the crisis could lead to output losses in the region of $37 – $79 billion.

Admittedly, the impact of COVID-19 pandemic on development will be a very complex mechanism. This is because the COVID-19 pandemic will affect various variables such as economic growth, healthcare, employment, investment, exchange rates, bank lending, government tax revenues, donor support etc which affect poverty. The crisis is likely to have differential impacts on these variables thus leading to a complex impact on poverty reduction. However, we expect that generally the pandemic will exacerbate the already high levels of poverty in Africa (Barne and Wadhwa, 2018) especially for lower income workers who have less means to manage risks using financial markets and instruments such as insurance. These households also have a lower ability to invest in assets such as real estate, gold and the capital markets that may serve as a hedge against the drop-in incomes occasioned by the pandemic. Indeed, Mahler, Lakner, Aguilar and Wu (2020) forecast that the COVID-19 crisis could push between 71 million and 100 million people into extreme poverty globally (below the international poverty line of $1.90 per day) with sub-Saharan Africa and India being the hardest hit regions/countries. Some of the countries most at risk based on the data (averaged from 2010 to 2018) were Niger (0.35), Central African Republic (0.37), Chad (0.40), Burkina Faso (0.41) and Mali (0.41).

6. Implications of COVID-19 Pandemic for Africa's Financial Markets

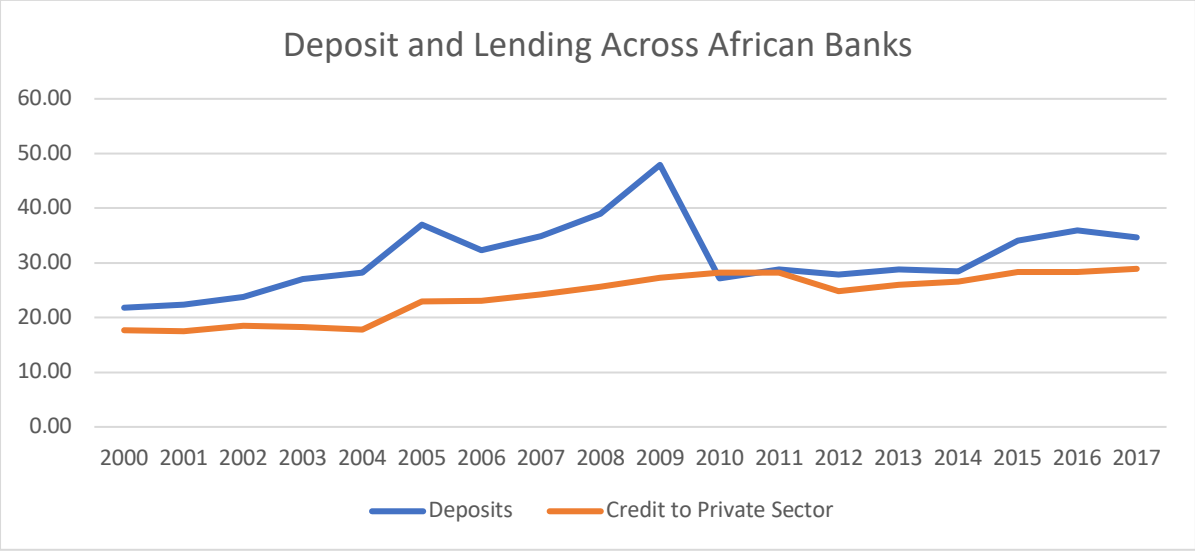
We now turn our attention to the impact of the pandemic of Africa's financial markets by examining the effects on banking and microfinance institutions (MFIs), non-bank financial institutions, capital markets, investment firms, and FinTech.

6.1 Impact of COVID-19 Pandemic on Banking and MFIs

The COVID-19 pandemic will certainly have some negative consequences for African banks. According to the CDC Group (The U.K's Development Finance Institution and Impact Investor), the crisis has put severe pressure on African banks as foreign banks withdraw correspondent banking relationships in an effort to 'de-risk' their operations (CDC Group, 2020). Recognizing this challenge, the CDC group pledged an additional $75 million to enhance its trade facility with ABSA Bank. Further, the COVID-19 crisis is likely to constrain the ability of banks to mobilize deposits and make loans. The reduced ability to raise deposits is likely to affect the liquidity of banks leading to banks being likely to reduce their lending to productive sectors of the economy as a precaution. Indeed, this conjecture is supported by evidence from the great recession that took place between 2007 -2010. Figure 7 shows a sharp

drop in deposit taking in 2010, probably due to aftershocks of the 2007-2009 global financial crisis. Lending by banks subsequently declined in 2012.

Figure 7: Deposit Taking and Lending Across African Banks



Source: Constructed by Authors based on data from the World Development Indicators.

Apart from deposit taking and lending, the crisis will affect the profitability and stability of banks across the continent. Figure 8 shows that the Non-performing loans to Gross Loans Ratio (NPL) increased steadily between 2012 and 2016 for Africa. However, the NPL ratio declined in 2017. This is the last data point available from the Global Financial Development database. We expect the NPL ratio across African banks to worsen slightly at least in the short-term. Depending on how long the pandemic lasts, this effect could linger for between 2 to 5 years before full recovery takes place. The data suggests that the country's most at risk from an NPL spike were Mauritania (27.36%), Sierra Leonne (23.48%), Central African Republic (22.37%), Senegal (18.66%), Djibouti (16.31%), Equatorial Guinea (15.25%), Ghana (13.76%) and Tunisia (13.38%).

The Z Score measures the distance from default and has therefore being used in the empirical literature to proxy bank stability. Higher values of the Z Score suggests a safer banking system because banks are farther away from default. The Z Score has been criticized as a measure of banking stability because it did not pick up vulnerabilities in the banking system before the 2007-2009 banking crisis. Newer measures of banking wide systemic risk such as CoVaR (see Tobias and Brunnermeier, 2016) and Marginal Expected Shortfall (see Brownlees & Engle, 2012) have been developed to provide a clearer picture of financial system vulnerabilities.

These measures however are not widely available for African banks given that they are mainly market risk indicators that are easier to compute when a bank is traded on a stock exchange. In terms of Marginal Expected Shortfall (MES), data from the New York University' Stern Business School VLab show that the banks that pose the most systemic risk in Africa are located in South Africa, Nigeria, Morocco and Egypt. Table 3 presents the Top 10 banks based on MES extracted from VLab. Majority of the banks have South African origin.

Table 3: Measures of Marginal Expected Shortfall for African Banks

No	Country	Bank	SRISK T	SRISK T-1	Change in SRISK
1	South Africa	Standard Bank Group Ltd	3266.1	-950.7	4216.8
2	South Africa	Absa Group Ltd	2905.4	1772.3	1133.1
3	South Africa	Investec Ltd	2703.7	2485.9	217.8
4	South Africa	Nedbank Group Ltd	2558.4	1378.9	1179.5
5	South Africa	Liberty Holdings Ltd	1408.5	1191.8	216.7
6	South Africa	Momentum Metropolitan Holdings	1220.5	959	261.5
7	Nigeria	FBN Holdings Plc	741	685.1	55.8
8	South Africa	African Phoenix Investments Ltd	-20.7	-48	27.3
9	South Africa	Hosken Consolidated Investments Ltd	-46.5	-165.8	119.3
10	Morocco	Douja Promotion Groupe Addoha	-162.2	-136.8	-25.4

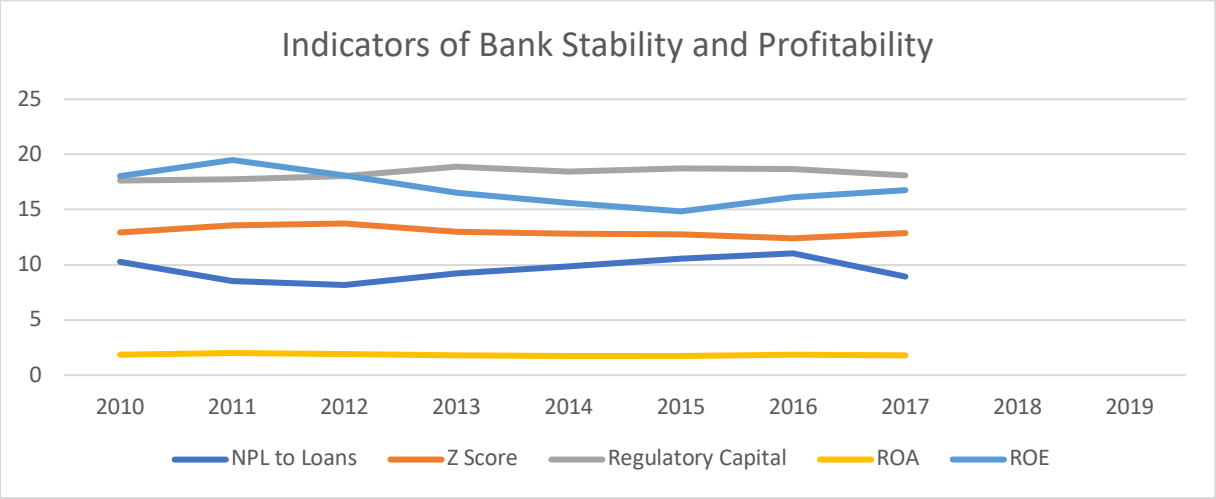
Source: Extracted by Authors based on data from New York University's Stern Business School VLab.

We therefore resort mainly to the Z Score being cognizant of its weaknesses. Interestingly, the Z Score as expected has the opposite shape to the NPL ratio (see Figure 8). It reduced between 2012 and 2016 (whilst NPL was rising) suggesting that banking stability reduced during this period and increased in 2017 (when NPL was falling). Using the Z Score (averages from 2010 to 2017), the country's most at risk were Zimbabwe (3.46), Sao Tome and Principe (3.70), Togo (4.03), Sierra Leonne (4.25), Congo, Dem. Rep (4.34), Mozambique (4.51), South Sudan (5.14), Congo, Rep (5.54), Guinea (6.02), Madagascar (6.11), Guinea Bissau (6.41), Central African Republic (7.07), Liberia (7.41), Burkina Faso (7.82) and Ghana (8.07).

The data shows that bank regulatory capital has been steady between 2010 and 2017 (see Figure 8). Capital levels were far above the 8% prudential limit providing banks with a buffer against shocks such as COVID-19. Consequently, even though the capital ratio may decline, we do not expect a significant decline that would pose significant risk to African banks. The data shows that the countries with the lowest capital buffers and therefore most at risk of being under-

capitalized were Cameroon (8.33%), Tunisia (10.83%), Djibouti (11.68%), Gabon (12.35%) and Morocco (12.68%). Finally, though ROA was low, shareholders of African banks enjoyed quite high returns (ROE) consistent with a leverage effect (see Figure 8) given the high deposit levels employed in the banking industry.

Figure 8: Bank Stability and Profitability in Africa (2010 – 2017)

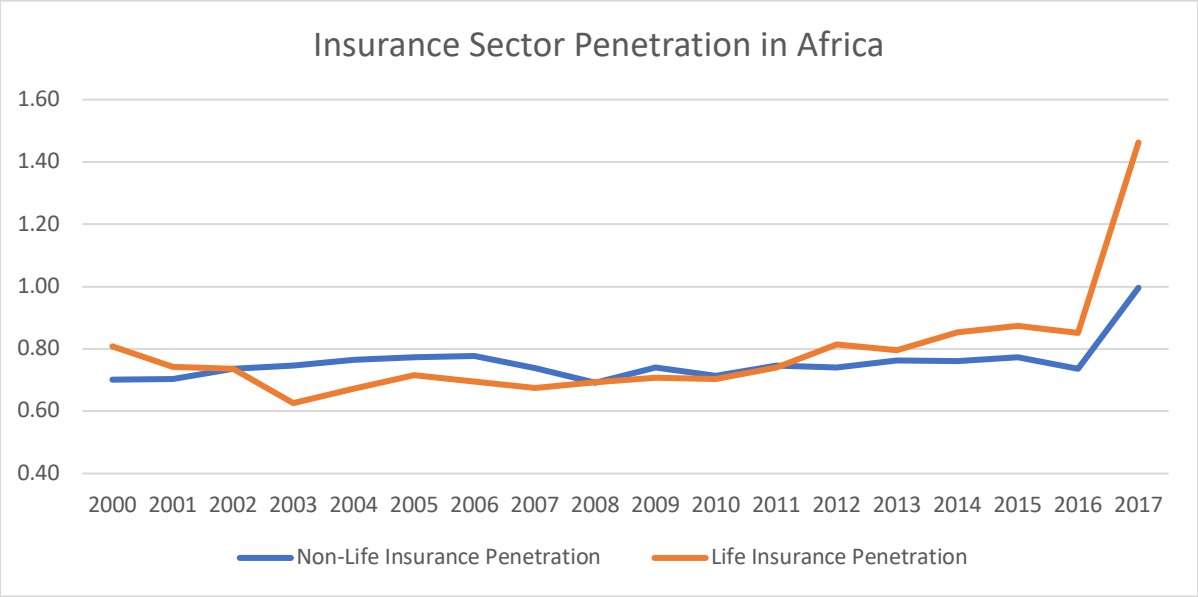


Source: Constructed by Authors based on data from the World Development Indicators.

6.2 Impact of COVID-19 Pandemic on Non-Bank Financial Institutions

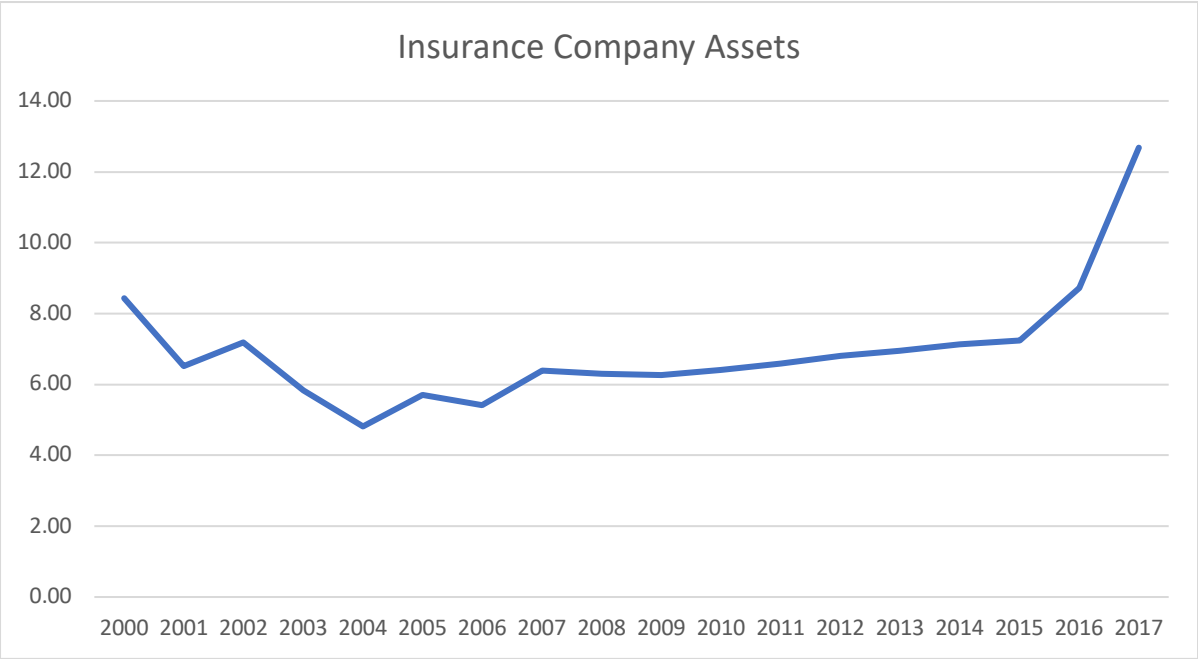
Just as the pandemic will affect the banking sector, we expect it to have large effects on non-banking financial institutions as well. In this review, we attempt to predict the impact on investment management firms, insurance firms and pension funds. Figure 9 shows that in the earlier periods, non-life insurance penetration was higher than life insurance sector penetration. By 2011 however, life insurance penetration began to outpace non-life insurance penetration. Between 2016 and 2017, where we have the latest data available, there was a big jump in both life and non-life insurance sector penetration. Figure 10 also shows that insurance sector assets have increased significantly, jumping from about 6% of GDP in 2007 to about 13% in 2017.

Figure 9: Trends in Insurance Sector Development in Africa



Source: Constructed by Authors based on data from the World Development Indicators.

Figure 10: Trends in Insurance Company Assets in Africa



Source: Constructed by Authors based on data from the World Development Indicators.

We expect however that the COVID-19 pandemic will moderate the growth or reduce the growth of insurance (both life and non-life) sector penetration in Africa. This is premised on a number of reasons. COVID-19 is likely to affect the payment of premiums on a number of insurance policies especially those that come up for renewal. Some individuals and businesses

may decide not to reinsure policies such as motor vehicles because they are not using their vehicles. Due to the effect on income, life insurance policies may be discontinued, or withdrawals made on policies that also have an investment component built in. In Lesotho for example, insurance companies were asked on the 7th of May 2020 to suspend instalment payments. Botswana also rescheduled payments on life insurance and retirement fund payments for at least three months. In South Africa, the issuance of new insurance licenses was suspended for six months. Some policies adopted by African governments may help cushion the insurance sector. For example, in Sierra Leonne the government incentives for healthcare workers included a life insurance component. In Ghana, the government announced a GHS 350,000 insurance package for frontline health workers.

Another interesting dimension regarding the impact of the COVID-19 pandemic on the non-insurance sector is whether insurers are liable to pay claims to businesses who took out business interruption policies. Insurers in South Africa rejected claims by businesses arguing that even if businesses had taken insurance against infectious or contagious diseases, these policies do not specifically cover the impact of national lockdowns on businesses (Insurance Journal, 2020). These debates raise an important question as to whether the effect of a pandemic on this scale can be insured. If regulators and law courts force insurers to make payments, this is likely to lead to an increase in premiums going forward. This may lead to individuals and businesses being priced out of the insurance market or being under-insured relative to their needs. This may have an impact on the development of the insurance sector across the region. The top markets (based on insurance penetration and insurance company assets) on the continent being South Africa, Namibia, Morocco, Mauritius and Kenya may suffer the most due to a contraction in the insurance market on the continent.

In terms of the potential impact of the pandemic on the pensions sector, it is important to note that the pension sector on the continent is not well developed with just a few exceptions. Though there are several missing points for a number of countries, the average (between 2010 and 2017) pension sector assets to GDP was about 20%. This figure is inflated by the top countries, namely South Africa (88%), Namibia (83%) and Botswana (47%). When these countries are dropped, the average drops to just about 5% of GDP. We expect that pension contributions will fall at least in the short-term to medium-term due to unemployment and income effects on the ability of individuals and businesses to continue to make pension contributions. Another channel through which COVID-19 could affect the pensions industry is

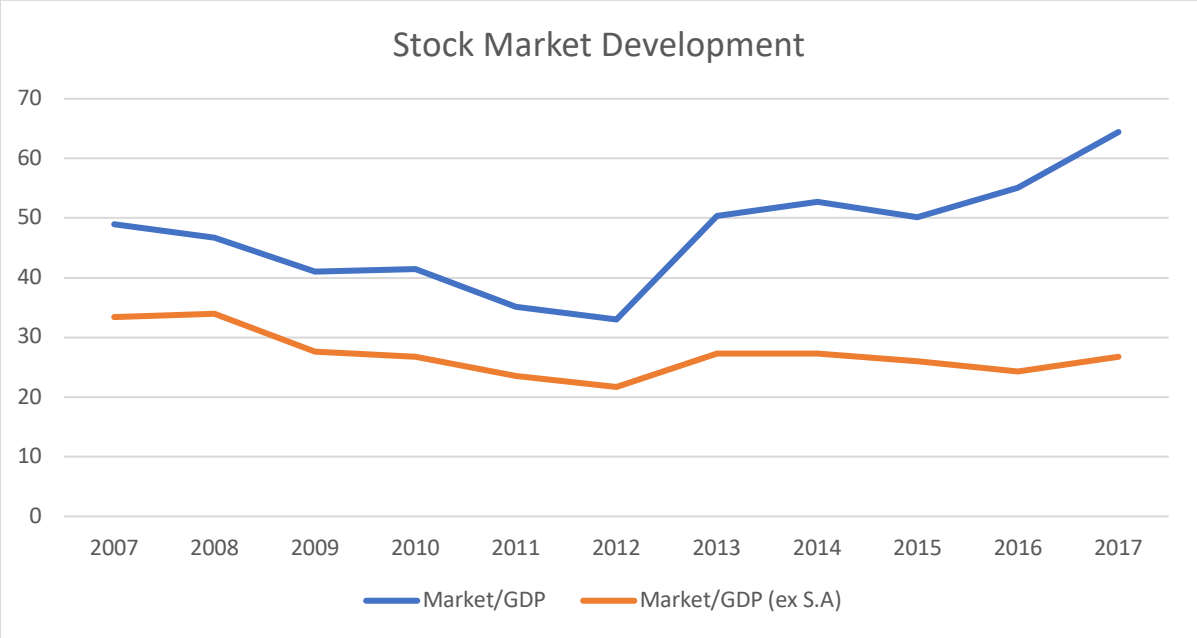
the impact of the crisis on the returns of the portfolios of pension funds. For example, in Ghana, pension funds and other asset managers were asked to take a haircut of 200 basis points on their Treasury Bill investments to reduce the fiscal burden on the government. This amounts qualitatively to a transfer of wealth of over GHS 300 million (about $52 million using current exchange rates) from these funds to the government. In a number of countries such as Lesotho and Botswana, pension funds were asked to either suspend or reschedule pension payments. This is also likely to adversely affect the fortunes of pension funds. Finally, given the stress on businesses and on governments, the unfunded pension liabilities of businesses and governments on defined benefit schemes is likely to increase significantly in the short-to-medium term.

6.3 Impact of COVID-19 Pandemic on Capital Markets

One of the first places to look to about a crisis or its end is the stock market. The stock market is a leading indicator of economic activity as investors discount future cash flows when they attempt to value companies. Consequently, a fall or rise in the stock market can be an indication of an onset of a crisis or the end of one. Stock market development across the continent has been low with a number of markets characterized by illiquidity. Further, various studies have shown that African markets are informationally inefficient meaning that information is not quickly and rapidly reflected in stock markets (Ntim et al., 2007; Osei, 2002).

Figure 11 shows that stock market capitalization had been on the decline after the global financial crisis in 2007. Stock market capitalization fell to a trough in 2012 and then generally began to rise again. Stock market capitalization in Africa seems to be high, however, this masks the fact that the majority of the capitalization is driven by South Africa only. After dropping South Africa, it becomes more apparent that stock markets in the region are not that well-developed. The biggest markets on the continent (based on averaged data from 2010 – 2017) were South Africa (249%), Mauritius (66%), Morocco (56%), Cote D'Ivoire (31%), Botswana (29%), Kenya (29%), Uganda (22%), Egypt (22%) and Tunisia (20%). The remaining markets had a capitalization ratio below 20% of GDP.

Figure 11: Trends in Stock Market Development (Market Capitalization) in Africa



Source: Constructed by Authors based on data from the World Development Indicators

The onset of the COVID-19 crisis led to a sharp fall in stock markets around the world with a corresponding increase in volatility measured by the VIX index (see Figure 12).

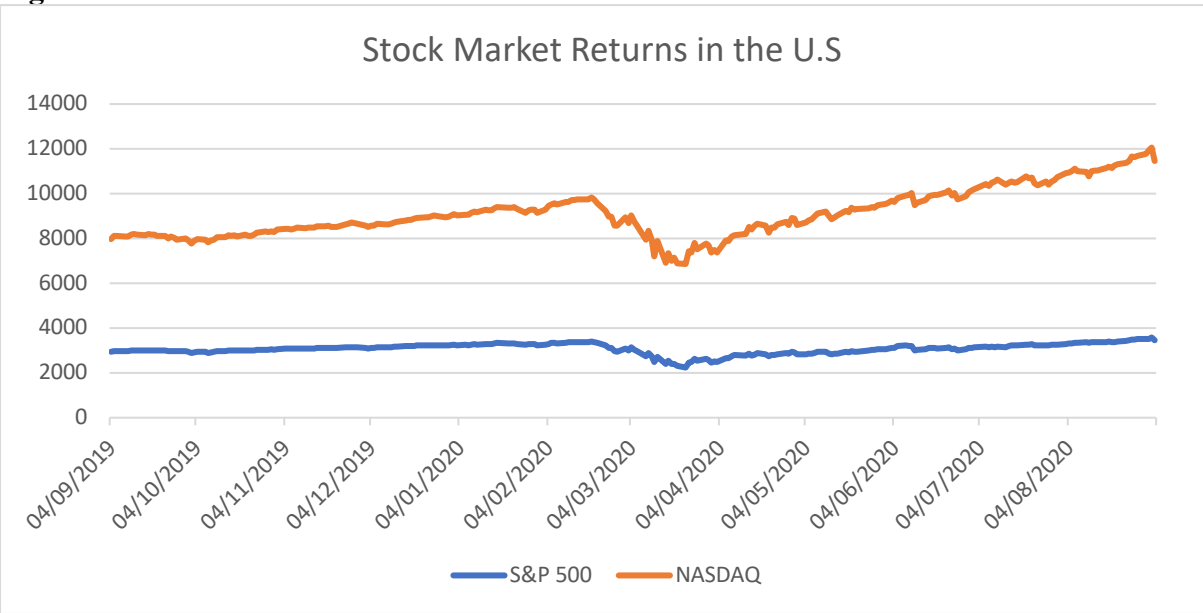
Figure 12: Trends in Market Volatility (VIX Index)

Constructed by Authors based on data from the CBOE.

Using the S&P 500 index and the NASDAQ to represent global markets, it is clear that markets fell sharply between February and March 2020 when the COVID-19 pandemic began to spread across the world (see Figure 13). However, it appears markets have largely recovered with the

S&P 500 index and the NASDAQ posting year to date returns of 6.94% and 27.70% percent as at 3rd September 2020.

Figure 13: U.S Stock Market Returns

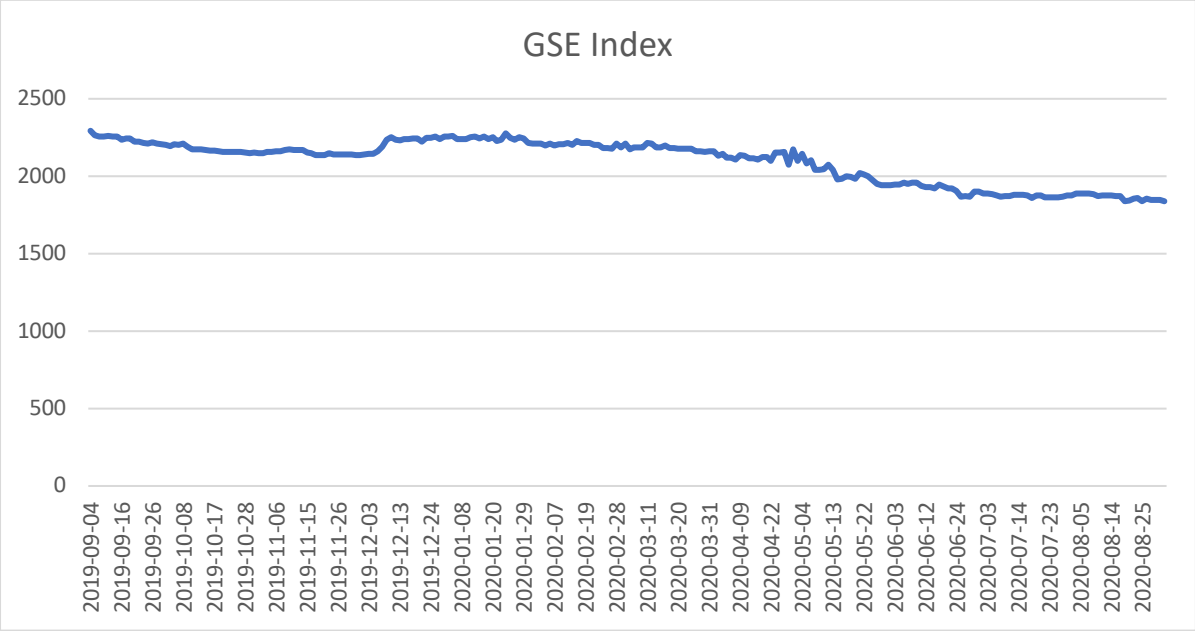


Source: Constructed by Authors based on data from Yahoo Finance.

Whilst the trend for the Johannesburg Stock Exchange (JSE) mirrors that of global markets, it appears that there are differences in response across markets in Africa. This is probably attributable to the level of efficiency of these markets and the kind of stimulus packages that was offered by governments and central banks.

For example, Figure 14 shows a slower burn for the Ghana Stock Exchange (GSE). This appears to be consistent with an inefficient market (see Agbloyor, Gyeke-Dako, Fiador and Kuttu, 2020).

Figure 14: Ghana Stock Exchange Returns.



Source: Constructed by Authors based on data from the Ghana Stock Exchange.

Further, whilst global markets were in positive territory as at 3rd September, 2020, most African markets, with the exception of the Malawi Stock Exchange, recorded negative returns (see Table 4). Taken together, these may suggest that it may take a longer time for African markets to recover from the COVID-19 crisis.

Table 4: Stock Market Returns for Selected Markets Across Africa as at 3rd September 2020

Market	Year to Date Returns
Kenya Stock Exchange	-30.72%
Mauritius Stock Exchange	-27.91%
Uganda Stock Exchange	-24.31%
Namibia Stock Exchange	-21.97%
Ghana Stock Exchange	-19.93%
Egypt Stock Exchange	-19.56%
BVRM (Cote D'Ivoire)	-19.49%
Morocco Stock Market (MASI)	-15.12%
Tanzania Stock Exchange	-10.51%
Lusaka Stock Exchange	-9.09%
Botswana Stock Market	-5.97%
Johannesburg Stock Exchange	-5.54%
Nigeria Stock Exchange	-5.05%
Tunisia Stock Exchange	-4.10%
Malawi Stock Exchange	4.36%

Source: Based on data obtained from Trading Economics and African-Markets. Year to date returns are as at 3rd September 2020.

As was indicated earlier, the debt markets in Africa are under-developed. Though governments are borrowing more, the strain on investors such as pension funds and individual investors may reduce the demand for government bonds. Further, our earlier review indicated that firms in Africa rely more on bank lending than issuing bonds in the capital markets. Given the increased volatility in capital markets and reductions in IPOs for example experienced in the equity markets, we expect that the crisis will set back the development of the corporate bond market in Africa at least in the short-to-medium term. The crisis is likely to lead companies that intended to explore or reuse the corporate bond market to reconsider their intentions. We expect that even if interest rates drop due to monetary policy, firms are more likely to go in for bank finance as opposed to issuing bonds.

6.4 Investment Firms

The crisis is likely to have an impact on brokerage and asset management firms across the continent. This is likely to be the case because of increased withdrawals by clients due to liquidity reasons. Investors are likely to also invest less because they want to hold on to their money for precautionary reasons in case things get worse. Further, the increase in unemployment and under-employment is likely to lead to less investments by both businesses and individuals.

Given the negative returns posted by stock markets, investors may shift their funds more into money market instruments for protection and safety. This is likely to adversely affect the ability of businesses to tap into long-term funds to increase productivity and growth. Further, it is instructive to note that the crisis has seriously affected the ability of firms to raise capital on the stock exchange. This has consequential effects on future economic growth and development as implied by the finance and growth literature (see King and Levine, 1993a and b). A report by EY shows that global IPO activity declined in the first half of 2020. For example, the report shows that IPO activity in the Middle East and North Africa (MENA) declined by 11% in terms of volume and 43% in terms of proceeds (EY, 2020).

6.5 Impact of COVID-19 Pandemic on Fintech

This COVID-19 pandemic has also affected the FinTech industry in Africa with elevated risks associated with cybercrime due to enhanced adoption rate. The increased risks in connection with FinTech adoption will be more prominent in Africa given the weak regulatory regime. Considering the vulnerability with respect to the FinTech business, FinTech firms may be

confronted with challenges with respect to finance since majority of them have been in business for less than a decade and are yet to make profits. Relying on investor funding will no longer be guaranteed considering the declining revenues as a result of the effect of COVID-19 pandemic. The present condition also makes it challenging establishing new FinTech startups. It is important to note that irrespective of these challenges and risks posed by the pandemic, it also presents some opportunities. The FinTech industry appears to be better placed for the digital transformation taking place in Africa's financial services sectors (Abor, 2020).

The technology sector in general and particularly, firms facilitating communication and exchanges of goods and services remotely has witnessed significant increase in adoption and usage. The provision of such services is crucial for firms and households to lessen some of the health and socio-economic risks of the pandemic (Flu and Mishra, 2020). For instance, using FinTech offers attractive choice of accessing financial services during crisis, given the restrictions to movement and social distancing protocols as well as risk of infection in connection of holding cash (Arner et al., 2020). Additionally, the use of FinTech enables providers of financial services to swiftly respond to shocks by introducing new products or services, changing or upscaling existing ones. The outbreak of the pandemic coupled with the related lockdowns imposed by government have led to considerable increase in FinTech and digital finance adoption (Fuster et al., 2019).

7. Conclusion and Recommendations

In this paper, we provided an overview of how the COVID-19 pandemic is affecting economies and financial markets in Africa. Very interesting observations are made by examining the data. First of all, we observed that a number of countries loosened monetary policy to accommodate the crisis. Also, governments have embarked on expansionary fiscal policies such as borrowing to provide social support and mitigate the effects of the crisis. Further, we see that the crisis had varied effects on exchange rates across the continent. However, it appears that overall a number of currencies lost ground against the US dollar. In terms of commodity prices, again, there were varied impacts. Whilst gold prices rose, oil prices on the other hand collapsed, thus likely to lead to different impacts based on the import and export structure of countries. In terms of capital flows, the crisis seems to have reduced capital inflows, whilst accelerating capital outflows. For example, FDI, ODA, tourism and remittances are expected to decline in the short-to-medium term. This is further likely to exacerbate the already declining trend in

capital flows such as FDI and ODA. The COVID-19 crisis is likely to lead to the first recession in over two decades in SSA, which is likely to worsen the number of people living in extreme poverty in Africa.

The crisis has led to severe strain on African banks and consequently is likely to affect their deposit-taking, lending activities, profitability and stability. We expect the crisis to adversely affect the premium of insurance companies. If these companies are forced to make payouts to companies for business interruption due to the pandemic, it is likely to lead to a spike in insurance premiums in the future leading to individuals and businesses being under-insured or priced out of the insurance market. We expect that pension contributions will fall at least in the short-term to medium-term due to unemployment and income effects on the ability of individuals and businesses to continue to make pension contributions. Another channel through which COVID-19 could affect the pensions industry is the impact of the crisis on the returns of the portfolios of pension funds. Finally, the crisis is likely to lead to an increase in the unfunded pension liabilities of pension funds. Brokerage firms and asset management firms are likely to suffer due to increased withdrawals by clients due to liquidity reasons. Investors are likely to also invest less because they want to hold on to their money for precautionary reasons in case things get worse. Further, the increase in unemployment and under-employment is likely to lead to less investments by both businesses and individuals. Finally, negative stock market returns are likely to discourage investors from participating in the capital markets. The fall in IPOs is likely to deprive firms of the much-needed capital to expand their activities to be able to create jobs, pay taxes and support economic growth.

African countries will need to reduce their debt burdens and create fiscal space for possibly another pandemic, the effects of climate change, wars and other unexpected shocks that could appear suddenly in the future. The call by the World Bank for creditors to freeze payment of debt in the short-to-medium term will be helpful for African countries. African countries also need to position themselves to be able to attract capital flows when MNCs begin to reinvest across borders. For countries that are reliant on the export of a few commodities, this crisis should provide a timely reminder for them to diversify their economies to put them in a position to better absorb future shocks. African governments will need to continue to monitor the health of financial institutions like banks, insurance companies, pension funds, and investment firms and be ready to provide the needed support and regulatory and business environment to promote their health and stability. Regulators should reflect carefully on forcing insurance

companies to make business interruption payments to businesses in countries such as South Africa as it could lead to a spike in premiums in the future thus leading to under-insurance or individuals and businesses being priced out of the insurance market. Governments and stock exchanges should consider implementing policies that make it easier for companies to list and to seek additional capital to promote economic growth. Finally, the enhanced adoption of FinTech should help extend financial services and assist in promoting inclusive finance. This will necessitate the need for policy makers to consider investing in infrastructure to support FinTech and improve the regulatory regime for FinTech such as mobile money payment system, crowdfunding and cryptocurrencies.

References

Abor, J. Y. (2018), *Financial Markets and Institutions: A Frontier Market Perspective*, 2nd edition, Tema: Digibooks.

Abor, J. Y., Issahaku, H., Amidu, M., & Murinde, V. (2018). Financial inclusion and economic growth: What do we know? Working Paper Series No.11 / 2018. Centre for Global Finance, SOAS University of London, https://www.centreforglobalfinance.org/2018-working-papers

Abor, J. Y. (2020), Exploring the Impact of COVID-19 Pandemic on Africa's FinTech Space, Working Paper, Paper Series No. 7/2020, Centre for Global Finance, SOAS University of London, https://www.centreforglobalfinance.org/2020-working-papers

Agbloyor, E.K., Gyeke-Dako, A., Fiador, V.O. and Kuttu, S. (2020). COVID-19 and the Informational Efficiency of the Ghana Stock Exchange. https://globalnetwork.io/perspectives/2020/08/covid-19-crisis-and-informational-efficiency-ghana-stock-exchange

Allen, F., Otchere, I., & Senbet, L. W. (2011). African financial systems: A review. *Review of Development Finance*, 1(2), 79-113.

Arner, D. W., Barberis, J. N., Walker, J., Buckley, R. P., Dahdal, A. M., & Zetzsche, D. A. (2020). Digital finance & the COVID-19 crisis. Available at SSRN 3558889 .

Aryeetey, E. (2003), Recent Development in African Financial Markets: Agenda for Further Research, *Journal of African Economies*, 12(2), 111-152.

Balcilar, M., Gupta, R., Lee, C. C., & Olasehinde-Williams, G. (2020). Insurance-growth nexus in Africa. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *45*(2), 335-360.

Banya, R. M., & Biekpe, N. (2017). Bank competition and economic growth: Empirical evidence from selected frontier African countries. *Journal of Economic Studies*, *44*(2), 245-265.

Barne, D. and Wadhwa, D. (2018). Year in Review: 2018 in 14 Charts. https://www.worldbank.org/en/news/feature/2018/12/21/year-in-review-2018-in-14-charts

Bazot, G. (2018), Financial Consumption and the Cost of Finance: Measuring Financial Efficiency in Europe (1950 – 2007), *Journal of the European Economic Association*, *16(1),* 123-160

Beck, Thorsten, and Robert Cull. 2014. "Banking in Africa." In *The Oxford Handbook of Banking, Second Edition*. Oxford, United Kingdom: Oxford University Press.

Bhatia, R., & Abraham, P. (2020). Time to revisit national response to pandemics. *The Indian Journal of Medical Research*, *151*(2-3), 111.

Brownlees, C. T., & Engle, R. (2012). Volatility, correlation and tails for systemic risk measurement. *Available at SSRN*, *1611229*.

CDC (2020). *CDC Announces Additional US$ 75 million Trade Finance Deal with Absa as part of COVID Response*. https://www.cdcgroup.com/en/news-insight/news/cdc-announces-additional-us75-million-trade-finance-deal-with-absa-as-part-of-covid-19-response/

Centres for Disease Control and Prevention (2019), *Past pandemics*. Available from: https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html, accessed on July 29, 2020.

CFA Institute (2020). Aswath Damodaron on Valuations amid COVID-19: "Go Back to Basics". https://blogs.cfainstitute.org/investor/2020/05/29/aswath-damodaran-on-valuations-amid-covid-19-go-back-to-basics/

Damodaran, A. (2020, June 19). Musings on Markets. A Viral Market Update X: A Corporate Life Cycle Perspective. http://aswathdamodaran.blogspot.com/2020/06/

Doku, J. N., Abor, J., Adjasi, C. K., & Andoh, C. (2012). Assessing competitive behaviour in emerging banking market: African evidence. *Finance and Development in Africa*, *12*, 25-51.

Easterly, W., & Levine, R. (1997). Africa's growth tragedy: policies and ethnic divisions. *The quarterly journal of economics*, *112*(4), 1203-1250.

EY (2020). *COVID-19 slows down Global IPO Activity YTD 2020.* https://www.ey.com/en_gl/news/2020/06/covid-19-pandemic-slows-global-ipo-activity-ytd-2020.

Fan, V. Y., Jamison, D. T., & Summers, L. H. (2018). Pandemic risk: how large are the expected losses?. *Bulletin of the World Health Organization*, *96*(2), 129.

Fosu, S. (2013). Banking competition in Africa: Subregional comparative studies. *Emerging Markets Review*, *15*, 233-254.

Fu, J. and Mishra, M. (2020), The Global Impact of COVID-19 on FinTech Adoption, Swiss Finance Institute Research Paper Series N°20-38, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3588453

Fuster, A., Plosser, M., Schnabl, P., & Vickery, J. (2019). The role of technology in mortgage lending. *The Review of Financial Studies, 32* (5), 1854–1899.

IMF (2020a). Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative. Retrieved from IMF: https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/11/Debt-Relief-Under-the-Heavily-Indebted-Poor-Countries-Initiative**.** Retrieved on 3rd August 2020.

IMF (2020b). Policy Response to COVID-19. Retrieved from IMF: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Insurance Journal (2020). *S. African Insurers are Pushed to Pay COVID-19 Business Interruption Claims.* https://www.insurancejournal.com/news/international/2020/07/02/574127.htm

Khetrapal, S., & Bhatia, R. (2020). Impact of COVID-19 pandemic on health system & sustainable development goal 3. *Indian Journal of Medical Research*, *151*(5), 395.

King, R. G., & Levine, R. (1993a). Finance and growth: Schumpeter might be right. *The quarterly journal of economics*, *108*(3), 717-737.

King, R. G., & Levine, R. (1993b). Finance, entrepreneurship and growth. *Journal of Monetary economics*, *32*(3), 513-542.

KPMG. 2015. *KPMG Africa's banking in Africa report*. http://www.blog.kpmgafrica.com/kpmg-africas- banking-in-africa-report-2015/.

KPMG. 2017. *Insurance market in Africa: Where is the boom?* http://www.blog.kpmgafrica.com/insurance-market-in-africa-where-is-the-boom/.

Levine, R., 1997. Financial Development and Economic Growth: Views and Agenda". Journal of Economic Literature *35*, 688–726.

Levine, R., 2004. Finance and Growth: Theory and Evidence. In: NBER Working Paper Series, Working Paper 10766.

Mahler, D.G., Lakner, C., Aguilar, R.A.C & Wu, H. (2020). *Updated Estimates of the Impact of COVID-19 on Global Poverty*. Retrieved from World Bank: https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty.

Ntim, C. G., Opong, K. K., & Danbolt, J. (2007). An empirical re-examination of the weak form efficient markets hypothesis of the Ghana Stock Market using variance-ratios tests. *African Finance Journal*, *9*(2), 1-25.

OECD (2020), *COVID-19 in Africa: Regional socio-economic implications and policy priorities*, Retrieved from OECD: https://read.oecd-ilibrary.org/view/?ref=132_132745-u5pt1rdb5x&title=COVID-19-in-Africa-Regional-socio-economic-implications-and-policy-priorities

Osei, K. A. (2002). *Asset pricing and information efficiency of the Ghana Stock Market*. AERC.

Ozili, P. K. (2020). COVID-19 in Africa: socioeconomic impact, policy response and opportunities. *Policy Response and Opportunities (April 13, 2020)*.

Park, C. Y., & Mercado, R. (2015). Financial inclusion, poverty, and income inequality in developing Asia. *Asian Development Bank Economics Working Paper Series*, (426).

Peeri, N. C., Shrestha, N., Rahman, M. S., Zaki, R., Tan, Z., Bibi, S., ... & Haque, U. (2020). The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned?. *International journal of epidemiology*.

Ratha, D. (2005). Workers' remittances: an important and stable source of external development finance. *Remittances: development impact and future prospects*, 19-51.

Resolve to Save Lives. Global situation update. 2020. Available from: https://vital.ent.box.com/s/m45vny0o2hhzsosscgbkgem3j8pux4f3

Senbet, L., Otchere, I., 2010. African Stock Markets: Ingredients for Development and Capacity Building In: Marc, Q., Genevieve, V., Palgrave (Eds.), *African Finance in the 21th Century*. Macmillan Publishing.

Siwatu, G.O., Palacios-Lopez, A., Mcgee, K.R., Amankwah, A., Vishwanath, T. and Lain, J.W. (2020). *Impact of COVID-19 on Nigerian Households : Third Round Results (English)*. Monitoring COVID-19 Impacts on Households in Nigeria Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/244031598460057591/Third-Round-Results

Tobias, A., & Brunnermeier, M. K. (2016). CoVaR. *The American Economic Review*, *106*(7), 1705.

World Bank (2020a). *COVID-19 (Coronavirus) Drives Sub-Saharan Africa towards first Recession in 25 Years.* Retrieved from World Bank: https://www.worldbank.org/en/news/press-release/2020/04/09/covid-19-coronavirus-drives-sub-saharan-africa-toward-first-recession-in-25-years

World Bank (2020b). *For Sub-Saharan Africa, Coranavirus Crisis Calls for Policies for Greater Resilience*. Retrieved from World Bank: https://www.worldbank.org/en/region/afr/publication/for-sub-saharan-africa-coronavirus-crisis-calls-for-policies-for-greater-resilience

World Bank (2020b). *World Bank Predicts Sharpest Decline of Remittances in Recent History.* Retrieved fromWorld Bank: https://www.worldbank.org/en/news/press-release/2020/04/22/world-bank-predicts-sharpest-decline-of-remittances-in-recent-history.

World Bank (2020). *COVID-19 (Corona Virus) Response.* Retrieved from World Bank: https://www.worldbank.org/en/region/afr/coronavirus.

World Health Organization (2020). *Weekly bulletin on outbreaks and other emergencies*., Retrieved from World Health Organisation: https://apps.who.int/iris/bitstream/handle/10665/331892/OEW17-2026042020.pdf.

World Health Organization (2020). *Coronavirus disease (COVID-19) outbreak situation.* Retrieved from World Health Organization: https://covid19.who.int

World Health Organization (2010). *Pandemic (H1N1) 2009 - update 112.* Available from: *https://www.who.int/csr/don/2010_08_06/en/,* accessed on April 18, 2020.