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## Forecasting COVID-19 Pandemic and Capital Market Efficiency in Africa

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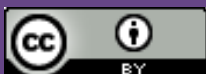


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## Forecasting COVID-19 Pandemic and Capital Market Efficiency in Africa

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### Abstract

*Despite a large and growing list of studies on COVID-19 across space and time and on heterogeneous social, environmental and welfare issues, the empirical relations on the consequences of COVID-19 pandemic and Africa's market capitalization objectives remain dimly discerned. Even more worrisome is Africa, where the condition for growth and development has not been adequately fulfilled. This structural ambiguity calls for a policy document that is evidence-based to reach conclusions to aid the containment, risk analysis, structures and features of the deadly and fast-spreading disease. This study employed negative binomial and the Poisson regression to establish the contemporaneous influence of COVID-19 pandemic on market capitalization capabilities in Africa. Health data from various reports of the World Health Organization (WHO) is regressed on the all-share index from World Development Indicators (WDI) to establish a clear line of thought. It is found that the growth of confirmed cases and attributable deaths are inversely related to the growth in market capitalization in Africa. The findings from this study show that Africa market capitalization is inversely related to total growth in the number of confirmed cases of COVID-19 and attributable COVID-19 deaths. This leads to the assertion that Africa's capital market is fast nosediving in the time of COVID-19 due to global uncertainties caused by the pandemic. With no known cure or vaccine procedure discovered yet, the global uncertainty around the novel coronavirus disease will lead to approximately  $\pm 0.56$  percentage decrease in market capitalization in Africa. To this end, emphases must be laid on identifying and including non-traditional sources of financing strictly tied to projects that could encourage institutional investors. It is therefore equally imperative for Africa to form a formidable and integrated capital market among themselves.*

**Keywords:** market capitalization; COVID-19 pandemic, negative binomial Regression, poisson, Regression, Africa

**JEL Classification:** C10, C31, G15, I12

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## 1. Introduction

For some time now, the efforts toward fighting diseases, poverty and squalor have been a dominating agenda of the Millennium Development Goals (MDGs) but later included in the Sustainable Development Goals (SDGs) due to inability of African countries to achieve all the stated goals in the MDGs. In recursive, Africa as a whole has failed to utilize the opportunities arising from the MDGs in form of integrating the socio-economic and environmental dimensions of development. Perhaps this has exposed the continent to series of external shocks due to its structural imbalances (Subair, [2017](#)). For SDGs, economic growth, social inclusion and environmental protection have been its principal focus. It can thus be upheld that with the Addis Ababa Action Agenda (AAAA) and Agenda 2063, mobilising resources for financing alleviation of diseases and development has already been encapsulated but without envisaging the extent of the impact of COVID-19 outbreak. There is need to therefore, confront the undeserved development challenges facing humanity most especially in the African region due to the COVID-19 pandemic.

Over the last few years, Africa's indigenous transformation agenda 2063 came up with some financial sources such as carbon taxes, aviation taxes, repatriation of illicit financial flows, Diaspora bond and remittances to fund health programmes like immunisations against acquired immune deficiency syndrome (AIDS), polio and tuberculosis. All these actions have actually shown that fighting diseases has been a prolonged exercise but faced with inadequate financial resources and commitments by African leaders. The current financing gap in dealing with poverty and diseases has been quite substantial in Africa, which, according to Schmidt-Traub ([2015](#)) was estimated to be around US\$600 billion annual incremental costs. Accordingly, this is almost a third of the continent's aggregate gross national income (GNI). It thus implies that there is a strong link between improvement in the quality of life and wealth creation.

With the sudden outbreak of coronavirus disease (COVID-19), the valiant nations have been destabilised with the weak nations turning to beg thy neighbour for supports. This outbreak of COVID-19 has severely compounded the economic challenges of most of the Africa's oil-dependent nations. Due to the sudden oil price somersault, it has

been estimated that COVID-19 impacts could reduce Africa's GDP growth rate by 3-8 percentage points thus causing economic contraction (Jayaram, et al., [2020](#)) and financial market instability if there is no major fiscal stimulus in the pipeline. For Mckibbin and Fernando ([2020](#)) however, the impacts of COVID-19 outbreak beyond morbidity and mortality include production disruption, the drastic reduction in the global supply chain, distortion in aggregate consumption pattern, the decline in world transport activities, creation of market anomalies and subsequent declining global stock indices. The growth or otherwise of productive activities is not unconnected with the ability of local and foreign investors to sustain their share ratio in the overall Africa capital market. This is more so hinged on the fact that made most of the African countries vulnerable to external shocks which according to Gurley et al. (2020) are attributed to domination of foreign investors, underdeveloped domestic capital market and high levels of public and private debts. Gurley *et al.*, (2020) further reiterates that the COVID-19 pandemic has seriously hit the private sector most especially the small and medium scale enterprises that rely largely on debts that have to be repaid in foreign currencies.

Arising from the hitherto is thus the strong and positive linkage between the outbreak of contagious disease and market capitalisation in Africa. Perhaps, the outbreak of COVID-19 pandemic has imposed both direct and indirect economic costs that have impacted on the world economy. In the frontline of discourse on disease and economic growth relationship are (Robalino et al., [2000a,2000b](#); WHO Commission on Macroeconomic and Health, [2001](#); Haacker, [2004](#); Hyams et al., [2002](#)). Furthermore, (Schoenbaum, [1987](#); Meltzer et al., [1999](#); Bloom et al., [2005](#)) all discussed the economic costs of large scale outbreaks of infectious diseases, but the implication of the deadly and fast-spreading novel coronavirus for the growth or otherwise of Africa's capital market has been dimly discerned. Considering the sudden outbreak of COVID-19 pandemic and the level of unpreparedness of Africa towards its containment and treatments coupled with their weak financial base, it becomes imperative to examine the contemporaneous influence of COVID-19 pandemic for the financial base of Africa growth and industrialisation objectives. Pertinent questions arising thereafter are; (1) is COVID-19 pandemic a source or reflection for ill-growth and development of Africa growth

and industrialisation objectives? (2) How significant are the variances in Africa's capital market as induced by COVID-19 pandemic? (3) Would the continent survive the aftermath of the COVID-19 pandemic economically? (4) Could the continent's growth rate not continue to nosedive after so much of their inadequate funds have been expended on mitigating COVID-19 pandemic? All these are relevant questions that need to be resolved if we are conscious of developing the much-proclaimed potential of the region and the realisation of the Agenda 2063 (*The Africa we want*).

In this study, we assigned numerical weights to the anticipated influence of COVID-19 pandemic in Africa's capital market to aid evidence-based policymaking and appropriate reactions to the global uncertainty caused by the pandemic. The novelty of this research is in three-fold; (i) apparently, this study leads the debate on the contemporaneous influence of COVID-19 pandemic in the growth or otherwise of Africa's capital market; (ii) the impact of COVID-19 pandemic has been studied along various dimensions and regions, but the contemporaneous influence on Africa's capital market remains *a priori* unclear. The intricacies of this unobserved factor (unobserved heterogeneity) underpin this study; (iii) this study employs a novel estimation procedure to gauge the impact of COVID-19 pandemic on Africa's capital market. The negative Binomial regression and the Poisson regression is most appropriate for estimating dataset that is classified as count nature and characterised by overdispersion in their averages. It is therefore imperative that for Africa's growth rate to be sustained, the continent must set out in stabilising its capital market. On this note, Africa's subsequent capital market growth post-COVID-19 pandemic will depend majorly on the cost of containment and treatments of the disease, depth of investor's confidence, the current level of financial deepening, remittances and crude oil prices.

Having introduced the study, Section 2 presents the Literature Review with Section 3 presenting the Materials and Methods. Section 4 focuses on the Results and Discussion, while Section 5 concludes the study by recommending policy options for the African continent in enhancing capital market growth during and beyond the COVID-19 pandemic.

## 2. Review of Related Literatures

The sudden outbreak of COVID-19 pandemic caused by the SARS-COV-2 virus emanated from Wuhan city in Hubei Province of China spreaded like wildfire to all other parts of the world with the Republic of Iran, South Korea Republic, Italy, Japan with the United States later joining the race as the epicentres in December, 2019. However, African continent did not experience the veracity of the disease until around March, 2020. Initially the continent did pay little attention to the Virus until it started affecting its economy in all ramifications. Perhaps most of the African nations have been deeply shocked by the disruption of their economy due to the continent's dependence on imported raw materials and monocultural source of foreign exchange earnings most especially by the oil-dependent nations among them. This soon generated financial market instability and further creates market anomalies as signalled by the fall in global stock indices. According to Mckkibbin and Fernando (2020), the International Monetary Fund (IMF) having assessed the situation expected "China to slow down by 0.4 percentage points compared to its initial growth targets to 5.6 percent (while) also scaling down global growth by 0.1 percentage".

In the real sense of it therefore and by *a priori*, it indicates that there is an existing relationship between infectious disease, economic welfare and growth. As rightly established in some of the studies by (Cuddington & Hancock, 1994; Robalino et al., 2000a; 2000b; WHO Commission on Macroeconomics and Health, 2001; Hacker, 2004; Jayaram et al., 2020) the health of the population is positively related to economic growth. This relationship has further been corroborated by Mckkibbin and Fernando (2020) based on the loss of future income, time, expenditure on medical care and supplying services as a result of mortality and morbidity arising from the disease. But since there is no vaccine yet in place for containment of COVID-19 virus, it becomes difficult to actually estimate what it could cost the world to avert the community spread especially in the Sub sahara Africa. In all ramifications the economic cost has been more devastating and consequential on the efficiency of capital market in Africa. The continent's capital market could not have been easily affected negatively but for the emergence of financial globalisation and market internalisation occasioned according to Subair and Akingunola (2016) by the African emerging economies. The emergence of these emerging

economies has been adduced to have generated a reduction in the ratio of market capitalisation to the gross domestic product, financial illiquidity and increased economic vulnerability or volatility in terms of shrink stock returns, trade volumes, currency devaluation and inflationary pressure (Bhagwati, 1988; Rodrick, [1998](#); Stiglitz, [2000](#)). Referencing to the COVID-19 pandemic effects, Gurley *et al.*, (2020) traced its impacts on the stock markets to “global financial market volatility and repricing”. This large scale adjustment of prices has been necessitated by those classes of assets that have been rated very low and simultaneously not easily convertible into liquid assets. Consequently the foreign investors are discouraged and capital flights ensued most especially in the domestic sovereign bond market.

Experiences abound on the macroeconomic effects of 2003 SARS epidemic that led to general decline in consumption, high business operating costs and increasing risk premiums with possible transmission of the shocks to other economies depending on how countries are exposed or susceptible to the disease (Lee & Mckkibbin, [2004](#); Chou *et al.*, 2004 & Hui, 2004). For an instance, Meltzer *et al.* ([1999](#)) investigated the likely economic consequences of the United States influenza pandemic and came up with the result that 15-35% of the total population were exposed to the gross rate of attack with the expected deaths of 89000-207000. This according to the authors amounted to the colossal lost of US\$73.1-US\$166.5 billion by the United States. Going by this study, Africa’s economy would equally likely experience according to Jayaram *et al.* ([2020](#)) make a loss of between US\$90 billion and US\$200 billion in 2020. This could be attributed to the sudden reduction in household and business spending coupled with the travel bans. Accordingly, the global pandemic could be held responsible for one third of this total loss most especially due to decline in demand for Africa’s non oil exports and delay or outright cancellation of investments from Africa’s foreign direct investment partners. It is therefore inevitable and by extension, COVID-19 pandemic would influence the efficacy of capital market in the African continent.

The literature on COVID- 19 pandemic and its effects on the economy has grown tremendously in cross-country and country-specific studies, but the effect on the financial market and financial institutions in Africa remain understudied. Some of the country-level



influences of COVID-19 pandemic are reported in the findings from the study of Ayodele, et al. (2020) that examined the effects of COVID-19 on the money market, capital market and foreign exchange in Nigeria. Using the ordinary least square regression estimation procedure, the authors found that the COVID-19 pandemic has a little negative impact on the capital and money markets. The authors identified that the pandemic had a moderately positive correlation with the exchange rate. On the contrary however, Adenomon, et al. (2020) while applying QGARCH and EGARCH with dummy variable to study the stock returns in Nigeria discovered a heavy loss and high volatility in stock returns during the peak of the COVID-19 pandemic. In related country-level studies, Elsayed and Elrhim (2020) studied the impact of COVID-19 pandemic spread on Egyptian stock market indices from March to May 2020. The authors observed that returns of selected stock market sectors (health, industrial goods and communication services) were susceptible to cumulative indicators of mortality and deaths from coronavirus.

Some of the cross-countries evidence on the influence of COVID-19 are reported in the study of Ashraf (2020) who explored the economic impact of government COVID-19 pandemic actions and policies on stock market returns from January to April 2020 using a panel data from 77 countries. The author employed a panel regression analytical technique to establish that government actions have both direct and indirect effects on stock market returns. The author argued that social distancing measures have a significant adverse effect on stock market returns by adversely affecting economic activity. At the same time, government income support packages result in a positive market reaction by enhancing investor's confidence and reducing adverse economic effects due to the disease. This finding contradicts the earlier submission of the author on their regional level influences. In the submission of Topcu and Gulal (2020) that studied the effects of COVID-19 pandemic on capital markets of 27 emerging economies between the period of March and April 2020 using a pooled ordinary least square regression, coronavirus has a negative and statistically significant impact on emerging capital market. In their regional analysis, Asian emerging markets are found to be the most affected region. Liu, et al. (2020) then found that the stock market in major affected countries and areas dropped rapidly during the coronavirus



outbreak in their short-term consequence of the coronavirus outbreak on 21 leading stock market indices in seven affected countries (Japan, Korea, Singapore, the US, Germany, Italy and the UK). Using the fixed panel effect regressions, they also found that COVID -19 pandemic had adversely affected abnormal returns. They further observed that countries in Asia experienced negative abnormal returns.

In a separate study, Al-Awadhi, et al. (2020) studied the impact of the infectious disease on the Chinese stock market using a panel regression, and the authors found a significant negative effect of COVID-19 pandemic on stock returns. The authors identified that specifically stock returns are adversely affected by both daily growth in total COVID-19 pandemic confirmed cases and daily growth in total death cases caused by COVID-19 pandemic. In a similar but distinct finding Ramelli and Wagner (2020) investigated the effect of contagious diseases on stock market outcomes in China using a panel data analysis and the authors consented to the existence of a negative statistically significant effect of both daily growth in total confirmed cases and cases of death caused by COVID-19 pandemic on stock returns. These findings are in line with Liu, et al. (2020) study that examined the effects of COVID-19 pandemic on China's economy and Asian's stock market. The authors found that the COVID-19 outbreak had significant impacts on both the Chinese and Asian stock markets with the investors' response to the pandemic being reflected in stock price fluctuations. In the findings of He, et al. (2020) whose study examined the effect of COVID-19 on stock market performance and response trend of Chinese industries to the COVID-19 pandemic using ordinary least square regression, COVID-19 pandemic effect was significant across industries. While manufacturing, information and technology and health care showed significant positive effects of COVID-19 pandemic, electricity and heating, transportation, mining and environment industries showed significant adverse effects of COVID-19 pandemic on stock returns. The authors identified that the COVID-19 pandemic resulted in an overall decline in the Chinese stock market.

### 3. Methodology and Data

#### 3.1 Model

This study relies on the negative binomial regression to evaluate the concomitant effect of COVID-19 pandemic in Africa's capital market. The count nature and overdispersion of COVID-19 pandemic data make the negative binomial regression the most appropriate in our baseline analysis. In consonance with negative binomial regression-centric literature (see Ajide, et al., [2020](#); Choi, [2015](#); Choi & Luo, [2013](#) for an extensive review), the mean outcome ( $z$ ) in the negative binomial regression analysis is premeditated on the exposure time  $t$  and set of regressors  $n$ . Our functional relationship in the negative binomial regression is specified as:

$$\theta_i = \exp(\ln(t_i) + H_1 D_{1_i} + H_2 D_{2_i} + \dots \dots + H_n D_{n_i}) \quad (1)$$

$H_1$  gives the intercept of the model,  $D_1$  is equivalent ( $\equiv$ ) to one (1),  $H_1, H_2 \dots \dots H_3$  are output elasticity of the negative binomial model,  $\theta_i$  is the response terms while  $\exp$  is the exponential factor. For an observation  $i$ , the fundamental negative binomial regression is specified as:

$$Pr(Z = z_i / \theta_i, \delta) = \frac{\pi(z_i + \delta^{-1})}{\pi(\delta^{-1})\pi(z_i + 1)} \left(\frac{1}{1 + \delta_i \theta_i}\right)^{\delta^{-1}} \left(\frac{\delta_i \theta_i}{1 + \delta_i \theta_i}\right)^{z_i} \quad (2)$$

While  $Pr$  is the probability term,  $Z$  and  $\delta$  is the mean outcome and the drift parameter respectively. We defined  $\theta_i = t_i \theta$ ;  $\delta_i = \frac{1}{v}$  in the generalised Poisson distribution containing a gamma noise component with an average value of 1. The scale of the output elasticities  $\theta$  characterised the average incidence rate of outcome  $z$  per unit of time  $t$ . The mean incidence rate  $\theta$  defines the risk of contemporaneous occurrence of the event in a specified exposure time  $t$  (Lawless, [1987](#)).

#### 3.2 Data

In gauging the influence of COVID-19 pandemic on Africa's market capitalisation, the study relies on indices of market capitalisation, aggregates of daily counts of COVID-19 pandemic deaths and count data of daily confirmed COVID-19 pandemic cases across 53 African

states<sup>1</sup>. Data on market capitalisation measured as the relative all share index was sourced from World Development database (World Development Indicator (WDI)). Data on the daily count of COVID-19 pandemic deaths, the daily count of confirmed COVID-19 pandemic cases and daily count of recovered patients from COVID-19 pandemic cases was obtained from World Health Organisation (WHO) situation reports 130<sup>2</sup> up to situation reports 160<sup>3</sup> (a matrix 31 X 53 observations) extensive for panel data analysis (Sarkodie & Owusu, 2020; Adekunle, et al., [2020](#)).

## 4. Results and Discussion

### 4.1 Descriptive Statistics

We established normality conditions of the dataset and observed that the means and the medium statistics lie between the maximum and minimum. This translates to high tendencies for normal distribution. Positively skewed variables are reported as shown in Table 1 below.

We reported platykurtic kurtosis value with flat tailed distributions since their values are less than 3. Jacque-Berra confirms the normality of the variables using the probability term at 5% level of significance.

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<sup>1</sup>Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Egypt, Eritrea, Eswatini, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Comoros, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe

<sup>2</sup>[https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200529-covid-19-sitrep-130.pdf?sfvrsn=bf7e7f0c\\_4](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200529-covid-19-sitrep-130.pdf?sfvrsn=bf7e7f0c_4)

<sup>3</sup>[https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200628-covid-19-sitrep-160.pdf?sfvrsn=2fe1c658\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200628-covid-19-sitrep-160.pdf?sfvrsn=2fe1c658_2)

**Table 1: Summary Statistics**

	$ALL_{SHARE}_{i,t}$	$COVIDdeaths_{i,t}$	$Confrmd\ Cases_{i,t}$
<b>Mean</b>	3.663	1.553	2.773
<b>Median</b>	2.772	3.882	3.622
<b>Maximum</b>	12.662	8.662	6.772
<b>Minimum</b>	-1.722	0.892	1.882
<b>Std. Dev.</b>	2.662	1.321	0.772
<b>Skewness</b>	2.772	-2.882	1.221
<b>Kurtosis</b>	2.662	1.662	4.788
<b>Jarque-Bera</b>	1.662	1.342	4.123
<b>Probability</b>	0.672	0.236	0.231
<b>Observations</b>	1643	1643	1643

Source: Authors, 2020

In Table 2, we found no co-movement among the regressors with tolerance values well above 0.2 and variance inflation factors far below 5. With this collinearity thresholds, we established no collinearity among our core explanatory variables. We are thus ruling out bias in sample estimations leading to coefficient variations in the COVID-19 pandemic-capital market relations in Africa.

**Table 2: Variance Inflation Factor**

Model	Collinearity Statistics	
	Tolerance	VIF
$ALL_{SHARE}_{i,t}$	0.532	1.452
$COVIDdeaths_{i,t}$	0.661	3.442
$Confrmd\ Cases_{i,t}$	0.721	2.622

Source: Authors, 2020

Note: Dependent variable is Market Capitalisation. Decision Rule: Tolerance values  $\geq 0.2$ , and VIF values  $\leq 5$ .

#### 4.2 The Negative Binomial Model

In Table 3, the negative binomial result indicates all COVID-19 pandemic regressors are negative and statistically significant at 1% level of significance. By intuition, as COVID-19 pandemic cases rise, market capitalisation falls with confirmed COVID-19 pandemic cases causing about 0.582 percentage decrease in market capitalisation in Africa.

**Table 3: Empirical Result from the Negative Binomial Model**

<b>Dependent Variable: Market Capitalisation</b>			
<b>Variables</b>	<b>Coefficients</b>	<b>T-Statistics</b>	<b>P-Value</b>
<b>Constant <math>\rho</math></b>	0.224	3.672	0.0000*
<b><i>Confrmd Cases</i><sub><i>i,t</i></sub></b>	-0.582	-2.772	0.0002**
<b><i>COVIDdeaths</i><sub><i>i,t</i></sub></b>	-0.543	-4.882	0.0003*^
<b>Wald Chi-square</b>	161.76	662.21	132.76
<b>Prob (Wald Test)</b>	0.000	0.000	0.000
<b>Log Pseudo</b>	-134.1	-782.1	-115.1
<b>Likelihood Ratio</b>	198.32	561.23	662.88
<b>Prob. (LR)</b>	0.000	0.000	0.000
<b>Countries</b>	53	53	53
<b>Observations</b>	1643	1643	1643

Source: Authors, 2020

Note: \*  $P < 0.01$ , \*\*  $P < 0.05$  respectively

In other related findings, COVID-19 pandemic attributable deaths induced 0.543 percentage decrease in market capitalisation in Africa. The inverse relationship in the market capitalisation-COVID-19 pandemic confirmed cases and attributable deaths might be as a result of the loss of confidence in the capital stock returns processes. As COVID-19 pandemic cases increased, the impetus to maintain widely adopted restrictions and lockdown of people, goods and services increased (except those on essential duties). By intuition, the capital seeking objectives of most existing and new entry businesses fell substantially, and thus, having a negative consequent effect on capital investment. Even at this time of global uncertainties, the market value of company shares declines as an asset does not generate returns while fixed costs are mounting.

### 4.3 The Poisson Regression Result

In the Poisson regression analysis in Table 4, COVID-19 pandemic impact on market capitalisation is also inversely related. With a percentage increase in the number of confirmed COVID-19 pandemic cases and attributable deaths, market capitalisation in Africa is expected to fall by some 0.618 and 0.432 percentage. The Poisson regression affirms the existence of a negative relationship in Nigeria.

**Table 4: Empirical Result from the Poisson Regression**

Dependent Variable: Market Capitalisation			
Variables	Coefficients	T-Statistics	P-Value
Constant $\rho$	0.522	0.623	0.0001*
<i>Confrmd Cases</i> <sub><i>i,t</i></sub>	-0.618	-2.222	0.0002**
<i>COVIDdeaths</i> <sub><i>i,t</i></sub>	-0.432	-1.827	0.0013*^
Wald Chi-square	562.11	163.22	213.66
Prob (Wald Test)	0.000	0.000	0.000
Log Pseudo	-155.1	-117.1	-192.1
Likelihood Ratio	562.81	882.82	0.012
Prob. (LR)	0.000	0.000	0.000
Countires	53	53	53
Observations	1643	1643	1643

Source: Authors, 2020 Note: \*  $P < 0.01$ , \*\*  $P < 0.05$  respectively

## 5. Conclusion and Recommendations

Since the emergence of COVID-19 pandemic in Wuhan, Hubei Province in China from late December 2019, the impact has been unprecedented and still unfolding, felt in at least 200 countries around the world. These impacts include reduction in the global supply chain, distortion in aggregate consumption pattern, the decline in world transport activities, creation of market anomalies and subsequent declining in global stock indices. The COVID-19 pandemic has had its toll on Africa through its capital market with an approximated value of  $\pm 0.56$  percentage decrease in market capitalisation in Africa among other sectors of her economy.

Since the capital market plays a significant role in investment or portfolio decision, Africa must as a matter of necessity first, makes adequate provisions for integrated and all-inclusive health care programmes in the containment of COVID-19 pandemic disease. Further to this, Africa should expand its regional trade by tapping the comparative advantage cost through tariff concession and by removing

other unnecessary barriers to trade. There is also the need to encourage equities in Africa so that funds could be raised for government investment instead of borrowing.

Furthermore, Africa should also reduce non-essential spending while also drastically curbing corruption that often generates social unrest, insecurity and consequently, growth retardness. The government must consistently ensure a stable macroeconomic environment with better efficient fiscal and monetary policies that will assist in reducing the uncertainty surrounding investor's risk returns. This can also be achieved by emphasizing on identifying untapped sources of financing (such as airport tax, repatriation of illicit funds, Diaspora bond and remittances) tied to various specific projects. In line with this also is the need for African government to back up these policies with well-functioning and well-designed legal and institutional framework that would boost investors' confidence.

Finally, the government of African emerging economies should strive to optimise the positive benefits that could accrue post-COVID-19 pandemic from financial openness towards virile capital market efficiency. All these put together would boost the depth of investors' confidence in Africa's capital market and hence its efficiency.

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