COVID – 19 AND STOCK MARKET VOLATILITY IN NIGERIA

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ABSTRACT
After the discovery of corona virus, in Wuhan city of Hubei Province in central China in the late part of December, 2019, the disease spread like wildfire across almost all the continent of the world within a short period of time. Global financial markets and particularly the stock markets have experienced deep dive in the value and abnormal volatility. The objective of this research is to assess the impact of Covid-19 on the Nigerian Stock Market Volatility using daily time series data ranging from January, 2020 to December, 2022. The data used in this study are Secondary data that were sourced from the Nigerian Stock Exchange (NSE) website and the Central Bank of Nigeria (CBN) Website, the Nigeria Center for Disease Control (NCDC). Unit Root Test: The unit root test was conducted to check the stationarity of a data series. the Augmented Dickey-Fuller (ADF) (1979) and Phillips-Perron (PP) (1988) tests were conducted for this purpose. ARCHLM Test was also conducted to find presence of ARCH effects in the model to be estimated. The Exponential Generalized Autoregressive Conditional Heteroscedasticity (EGARCH) was applied. The result shows that the impact of covid-19 on stock market volatility is positive and statistically significant. The study recommends that covid-19 vaccine should be given to people in order to stop the spread of the disease.

Key words: **Covid-19**, **Stock Market, Stock Market Returns and Stock Market Volatility**
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1. INTRODUCTION
Corona virus disease popularly known as Covid-19 is an infectious disease caused by the most recently discovered coronavirus, it was first discovered in Wuhan city of Hubei Province in central China in the late part of December, 2019. After the discovery of corona virus, the disease spread like wildfire across almost all the continent of the world within a short period of time, this led the World Health organization (WHO) in the month of March, 2020 to declare Covid-19 as a pandemic. As at that period, Covid-19 pandemic was not an economic crisis rather a health related matter, but it has an adverse and serious effect on individual sectors as well as the overall economic activities. Since January, 2020 Covid-19 pandemic had set in motion a worldwide disruption in economic activities, affecting the major Economic activities and sectors like the Employment, Inflation, financial and capital markets, the oil market, etc. thereby posing a challenge to both the public and the private sectors globally.

Nigeria records its first Covid-19 case on the 27th February, 2020 in Lagos the seat of the Nigerian stock market. Since then Government started imposing some measures in a bid to curtail the spread of the disease, these measures has adversely affected the activities of individuals, firms, public and private corporations. This scenario led the whole economy into a difficult economic condition such as a drastic reduction of money in circulation, slowdown in almost all the sectors of the economy like the services sector, manufacturing sector, transportation sector, construction sector, the financial and the capital markets. However, through its effects on supply and demand conditions thus affecting the overall productivity, the crisis turned into a financial and economic crises. This Covid-19 pandemic and the economic implications of the disease around the globe has become an issue of concerned to the policy makers, investors and researchers. The world has faced unprecedented challenges as a result of covid-19 pandemic with significant negative effects on the society as a whole (Kabiru, 2020)

However, the emergence of the COVID-19 pandemic threatens the financial viability of social security systems in many developing countries. Nigeria was among the first countries in Sub-Saharan Africa to identify COVID-19 (coronavirus) cases and has since implemented strict measures to contain the spread of the virus (Josept, Victor and Simeon, 2020). Global financial markets and particularly the stock markets have experienced deep dive in the value and abnormal volatility (Alfaro, Chari, Greenland, & Schott, 2020; Baker et al., 2020). The activities of the Nigerian Stock Market like its counterpart of the world was distorted by the covid-19 pandemic particularly at the early stage even though the market slowly rebound to some extent during the study period.

The All share Index (ASI) and the Market Capitalization (MC) indicated a bullish trend at the beginning of January 2020, The ASI and MC opened, on the first trading day of the year 2020, at 26,867.79 points and N12.97 trillion. The outbreak and spread of the COVID-19 pandemic, however, truncated expectations, impacting negatively on the performance of businesses and the capital market resulting in unanticipated economic downturn. This trend reversed in February, as a fall out of the effects of the COVID-19 pandemic. Consequently, the ASI and MC dipped to 20,669.38 points and N10.77 trillion in April 2020.

On the Market Turnover, trading activities on the Exchange declined during the review period. The volume and value of shares traded were 87.10 billion and N916.12 billion, respectively, compared to 95.35 billion and N1, 018.09 billion in the preceding year. In addition, the number of deals also decreased by 8.09 per cent to 1,057,483 in 2021 from 1,150,515 in 2020. Stock market liquidity measured as the turnover ratio also declined to 43.41 from 70.65 in 2020. The Nigerian stock market in the first half of the year 2022 was bullish, the stellar performance was evident as the ASI and MC rose by 20.43 per cent and 20.53 per cent, respectively. Factors that influenced performance in the first half of 2022 included increased participation by domestic investors, asset switching by investors from fixed income securities to equities for expected higher yields, and attractive corporate earnings, among others. A significant development in the market was the introduction of Exchange Traded Derivatives (ETD) by the Nigerian Exchange (NGX or the Exchange), the first in West Africa.

The All Share Index (ASI) and Market Capitalization (MC) opened at 43,026.23 points and N23.18 trillion, respectively, in January and increased to close at 51,817.59 points and N27.94 trillion, respectively, at end-June 2022 (CBN, 2022). The ASI increased by 8,791.36 points or 20.43 per cent, while the MC increased by 4.76 trillion or 20.53 per

cent. There has been improvement in the market in 2023 because at the beginning of the year all share index rose to 54853 point. The objective of this study is to find the impact of Covid-19 on stock market volatility

2. LITERATURE REVIEW

2.1 Conceptual literature

COVID-19: The term Covid-19 is an acronym that stands for Corona Virus Disease 2019 as named by the World Health Organization (WHO), it is an infectious disease caused by the most recently discovered coronavirus, and it was first discovered in the late December of 2019 in China. WHO says that COVID-19 belongs to a large family of coronaviruses known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). COVID-19 is considered to be very contagious, this explains why it has quickly spread through human-to-human transmission to many countries around the world (Ahmad et al., 2020; Arshad Ali et al., 2020; Harapan et al., 2020). On 30th January 2020, the scale and trajectory of the coronavirus outbreak have led the WHO to officially declare the COVID-19 epidemic as a public health emergency of international concern, and later on 11th of March 2020, COVID-19 was transformed to a pandemic. COVID-19 is a deadly virus that attacked not only the health of individuals but also that of the entire world economy, creating stress in financial markets not seen since the Global Financial Crisis (GFC). It has now affected countries and territories around the world and has infected and killed millions of people across the globe.

Stock Market: a stock market is an organized location or joint where buyers and sellers of stocks like shares and other forms of securities meet to facilitate transactions. It is also referred to as stock exchange. Stock markets promote their importance as a sources of financing and providers of investment opportunities for economic subjects, specifically to facilitates capital mobilization for investments and dynamism, to promote corporate governance, to facilitates Government financing for developmental projects, To enhance public private partnership (PPP) initiatives, permits efficiency in Capital flow and above all it serves as a medium for transmitting government policies especially Monetary Policy. Aliyu (2021) asserts that Stock Market in an economy serves as a multi-functional sector in the sense that stock market serves as a buffer zone, a haven for not-so-holy funds, a barometer of segregation of firms, it provides insurance or protection for stake holders in the market, Among other indicators, it is a gauge for adjudging the health of an economy.

Participants in the stock market range from small individual stock investors to larger investors, who can be based anywhere, their buy or sell orders may be executed on their behalf by a stock exchange traders. Some stock markets or stock exchanges are physical locations where transactions are carried out on a trading floor, by a method known as open outcry example of this is Nigerian Stock Exchange (NSE). The other type of stock exchange or stock market is the one that has a network of computers where trades are made electronically. An example of such an exchange is the National Association of Securities Dealers Automated Quotation (NASDAQ). While there are stock markets that operate on both the two methods of trading that is the physically located place with a trading floor and also is electronically connected example of this type of market is the New York Securities Exchange (NYSE).

Stock Market Returns: Stock Market Returns are the returns that the investors generate out of the stock market. This return could be in the form of profit through trading or in the form of dividends given by the company to its shareholders from time-to-time. The most common form of generating stock market return is through trading in the secondary market. In the secondary market an investor could earn stock market return by buying a stock at lower price and selling at a higher price.

Stock Market Returns are not fixed ensured returns and are subject to market risks, they may be positive or negative. Stock Market Returns are not homogeneous and may change from investor-to-investor depending on the amount of risk one is prepared to take and the quality of his stock market analysis. In opposition to the fixed returns generated by the bonds, the stock market returns are variable in nature.

Stock Market Volatility: Stock Market volatility is a measure of the variance of returns on a market index over a given period of time. Volatility is usually calculated as a standard deviation of market returns and is often used to measure the level of risk associated with the market. Volatility refers to the spread of all likely outcomes of an uncertain variable. Typically, in financial markets, we are concerned with the spread of asset returns. Statistically, volatility might be measured as the sample standard deviation. Sometimes, variance σ^2 is used also as a volatility measure (Sulaiman, 2012). Volatility is related to, but not exactly the same as, risk. Risk is associated with undesirable outcome, whereas volatility as a measure strictly for uncertainty could be due to a positive outcome (Poon, 2005).

Volatility is a barometer of measuring the risk of facing uncertainty that investors consider when purchasing financial assets. Risk considerations are the main parameter in making investment portfolio decisions (Suryadi et al., 2021).

2.2 Empirical Studies

Some scholars here in Nigeria and outside conducted empirical studies on Covid-19 and its effects on some sectors of the economy. We review some of these studies here.

Caporale et al (2022) analyzed the impact of the Covid-19 pandemic on stock market returns and their volatility in the case of the G20 countries. Analysis of the study is based on a comprehensive dynamic panel model accounting for the effects of both the epidemiological measures, restrictive measures, fiscal and monetary responses; also instead of Covid-19 deaths it uses a far more sophisticated Covid-19 index based on a Balanced Worth (BW) methodology, and it also takes into account heterogeneity by providing additional estimates for the G7 and the remaining countries (non-G7) separately. The study finds that the stock markets of the G7 are affected negatively by government restrictions more than the Covid-19 pandemic itself. By contrast, in the non-G7 countries both variables have a negative impact. Further, lockdowns during periods with particularly severe Covid-19 conditions decrease returns in the non-G7 countries whilst increase volatility in the G7 ones. Fiscal and monetary policy (the latter measured by the shadow short rate) have positive and negative effects, respectively, on the stock markets of the G7 countries but not of non-G7 ones. In summary evidence suggests that restrictions and other policy measures play a more important role in the G7 countries whilst the Covid-19 pandemic itself is a key determinant in the case the non-G7 stock markets.

Carlos (2022) analyzed the influence of COVID-19 on the return and volatility of stock market indices of emerging and developed countries (Brazil, Canada, United States, France, India, and Mexico) using an asymmetric exponential GARCH model. The daily returns of the market indices from January 2019 to December 2020 were considered. The results reveal negative average daily returns for all stock market indices during the first period of the COVID-19 pandemic (January 2020 to June 2020). Although the second half of the pandemic period (2020) reflects a recovery of all indices with altered strengths, volatility remains higher than in normal periods, signaling a bearish trend in the market. COVID-19 has a positive impact on the volatility of stock returns for all indices, i.e., indicating increased volatility in the analyzed stock markets. In addition, it is also found that the COVID variable has a negative impact on average returns only in the stock market of Brazil and France.

Maccido et al. (2021) analyzed the impact of corona virus pandemic on stock market volatility over the early period of the pandemic from March 16, 2020 to July 20, 2020.Daily time series data were used with active cases of corona virus and the all share index and the generated volatility as the variables. Exponential general autoregressive conditional heteroscedasticity model (EGARCH) and the Autoregressive distributed lag model (ARDL) was used to ascertain the persistent of volatility in the stock market and to determine the effect of covid-19 on the volatility in Nigeria. The recommendation was that regulatory authorities should identify other factors that cause volatility in the stock market and mitigate them.

Egunjobi (2022) assessed the impact of Covid-19 on the financial market Performance of Nigeria, as a result of the discovery and spread of the pandemic financial market and consequently the economy in general have been severely impacted by the economic chaos caused by the pandemic. This study is among the front liners of its kind as it uses primary data for analysis. The primary data used was collected through a survey method and employed descriptive statistics and the chi square test to analyses data gathered from questionnaires distributed. The study discovered that COVID-19 has significant impact on both the financial market performance and stock market returns in Nigeria. Recommendations made include offering of Intervention funds to investors in the financial market, particularly those who have been worst hit by economic downturns and health hazards, in order to increase economic activities and Interest rates must be moderated in order to promote a favorable business climate and domestic investment needed to restore investors' confidence in financial instruments and speed up the process of development.

As we know literature on effects of Covid-19 on different sectors of Nigerian economy are scanty, though are now developing very fast. This paper will add to few literatures on the topic.

2.3 Theoretical Review

This study will consider and digest Arbitrage Pricing Theory and the Efficient Capital Market theory at the end Efficient Capital market theory will be used as theoretical framework of the study

Arbitrage Pricing Theory: This theory was developed by Ross (1976), while Roll and Ross (1995) provided a more intuitive explanation of the APT and discussed its merits for portfolio management. There are two versions of the APT: Factor loading model and Macro variable model. Factor loading model uses artificial variables created through the

factor analysis technique. While the Macro variable model uses macroeconomic variables based on the economically interpretable effect on stock prices (Erdugan, 2012). The APT is an alternative approach to the Capital Asset Pricing Model (CAPM) that has become the major analytic tool for explaining the phenomena observed in capital markets. The APT is an alternative asset-pricing model to the CAPM differentiated in its assumptions and explanation of risk factors associated with the risk of an asset. The CAPM specifies returns as a linear function of only systematic risk. The APT specifies returns as a linear function of more than a single factor. It predicts a relationship between the returns of portfolio and the returns of a single asset through a linear combination of variables. The APT approach moved away from the risk versus return logic of the CAPM, and exploited the notion of "pricing by arbitrage" to its fullest possible extent. As Ross (1976) has noted, arbitrage-theoretic reasoning is not unique to his particular theory but is in fact the underlying logic and methodology of virtually all of finance theory. There are many multifactor assets pricing models developed in the literature. According to Sinclair (1984), all of the multifactor asset pricing models developed in the literature can be treated as special theoretical cases of the APT.

Efficient Market Hypothesis (Clarke, Jandik & Mandelker, 1970): The Efficient capital market theory has achieved the greatest prominence among the approaches to understanding stock behavior. This theory is characterized by efforts to explain stock price movements through the use of statistical time series models. Fama (1970) defines an efficient capital market as "a market in which prices always fully reflect available information." The efficient markets hypothesis (EMH), popularly known as the Random Walk Theory, is the proposition that current stock prices fully reflect available information about the value of the firm, and there is no way to earn excess profits, (more than the market overall), by using this information. It deals with one of the most fundamental and exciting issues in finance – why prices change in security markets and how those changes take place. It has very important implications for investors as well as for financial managers. The first time the term "efficient market" was in a 1965 paper by E.F. Fama who said that in an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices. Many investors try to identify securities that are undervalued, and are expected to increase in value in the future, and particularly those that will increase more than others. Many investors, including investment managers, believe that they can select securities that will outperform the market. They use a variety of forecasting and valuation techniques to aid them in their investment decisions. Obviously, any edge that an investor possesses can be translated into substantial profits (Clarke, Jandik and Mandelker, 2001). The efficient markets hypothesis (EMH) suggests that profiting from predicting price movements is very difficult and unlikely. The main engine behind price changes is the arrival of new information. A market is said to be “efficient” if prices adjust quickly and, on average, without bias, to new information. As a result, the current prices of securities reflect all available information at any given point in time. Consequently, there is no reason to believe that prices are too high or too low. Security prices adjust before an investor has time to trade on and profit from a new a piece of information. The key reason for the existence of an efficient market is the intense competition among investors to profit from any new information. The ability to identify over- and underpriced stocks is very valuable (it would allow investors to buy some stocks for less than their “true” value and sell others for more than they were worth). Consequently, many people spend a significant amount of time and resources in an effort to detect "mispriced" stocks. Naturally, as more and more analysts compete against each other in their effort to take

advantage of over- and under-valued securities, the likelihood of being able to find and exploit such mispriced securities becomes smaller and smaller. In equilibrium, only a relatively small number of analysts will be able to profit from the detection of mispriced securities, mostly by chance. For the vast majority of investors, the information analysis payoff would likely not outweigh the transaction costs. The earliest formal study of stock market efficiency is attributed to Bachelier (1900). His work with commodity prices in France provided convincing evidence that speculation in commodities is a fair game: that the expected future price of a commodity based on past and current prices equals the current price.

Efficient Market Hypothesis and Expected Return: Efficient Markets Hypothesis (EMH) asserts that in an efficient market price fully reflect available information. This implies that investor can expect to earn a merely risk-adjusted return from an investment as prices move instantaneously and randomly to any new information. Efficiency is defined at three different levels, according to the level of information reflected in the prices. Three levels of EMH are expressed as follows: weak form, semi-strong and strong form. Weak-form version of EMH asserts that prices of financial assets reflect all information contained in the past prices. Semi-strong version postulates that prices reflect all the publicly available information. Lastly, strong-form posits that prices of financial assets reflect, in addition to information on past prices, publicly available information and the inside information (Fama, 1970, 1991).

As EMH states that security prices should fully reflect all available, relevant information, then deviations of actual returns from expected returns should be random they ought on average, to be zero and uncorrelated with information available to the market. (Tease, 1993) Stock market acts as an intermediary and channels funds from savers to firms who utilize it to carry out projects. Efficient markets are a necessary prerequisite if it is desired that funds should be allocated to the highest-valued projects. This is possible only if stock prices are efficiently priced i.e. reflect the fundamental value of future discounted cash flows. Also, to the extent that capital markets are efficient, it is easier for the firm to raise capital as the market performs the price discovery process i.e. it determines the price at which market players are willing to exchange claims on firm's future cash flows. (Hameed & Hammad, 2006) Furthermore, if the general perception prevailing in the market is that prices accurately reflect information, participation cost will be low and the stock market will successfully perform its function of channeling resources to productive projects. From a policy perspective, evidence of capital market efficiency spells out a limited role of the government in the capital markets.

3. METHODOLOGY

3.1 Source of Data

The data used in this study are Secondary data that were sourced from the Nigerian Stock Exchange (NSE) website and the Central Bank of Nigeria (CBN) Website, the Nigeria Center for Disease Control (NCDC), the World Bank and International Monetary Fund (IMF). The data start from 01st January, 2020, which covers the period when the Virus has already started spreading across, up to the end of trading day of the stock market in December, 2022. The study will use a daily stock market data and Covid 19 confirmed cases. The choice of a daily interval is consistent with the previous literature such as

Gnahe et al (2022) and Chaval et al. (2021), The Variables used in the study consist of Stock Market Returns (R) and Confirmed Covid - 19 cases (Covid).

3.2 Model Specification and Method of Estimation

The study adopt the model used by Machido, Usman, Nadani and Aliyu (2021)

Svol = f(covid-19)

Where

Sv = stock market volatility,

covid = Confirmed cases of covid -19

The Exponential Generalized Autoregressive Conditional Heteroscedasticity (EGARCH) was applied in estimating the model.

3.3 Method of Data Analysis

Unit Root Tests

Augmented Dickey-Fuller (ADF) (1979) and Phillips- Perron (PP) (1988) tests were used to test the stationarity of the variables.

3.3 ARCH-LM Test:

the Autoregressive conditional heteroskedasticity-Lagrange multiplier test is a test that is used to check whether there is presence of ARCH effects in the model to be estimated. Testing for the ARCH effects is one of the most important step before applying the generalized autoregressive conditional heteroskedasticity (GARCH) methodology to examine the residuals for evidence of heteroskedasticity. To test for the presence of heteroskedasticity in the residuals of the returns series, the Lagrange Multiplier (LM) test proposed by Engle (1982) will be applied in this research study. In summary, the test procedure will be performed by first obtaining the residuals e_t from the ordinary least squares regression of the conditional mean equation which might be an autoregressive (AR) process, moving average (MA) process or a combination of AR and MA processes; i.e. ARMA process. For example, in the ARMA (1,1) process the conditional mean equation will be:

$$r_1 = \varphi_1 r_{t-1} + \varepsilon_t + \theta_1 + \varepsilon_{t-1} \quad \text{---------- ----------1}$$

After obtaining the residuals e_t the next step is to regress the squared residuals on a constant and its q lags as in the following equation:

$$e_t^2 = \alpha_0 + \alpha_1 e_{t-1}^2 + \alpha_2 e_{t-2}^2 + - - - - + \alpha_q e_{t-q}^2 \quad \text{-------- 2}$$

After that the null hypothesis that there is no autoregressive conditional heteroscedasticity (ARCH) up to order q can be formulated as follows:

$$H_o: \alpha_1 = \alpha_2 - - - - - = \alpha_q = 0 \quad \text{----------3}$$

Against the alternative:

$$H_1: \alpha_i > 0 \quad \text{For at least one } i = 1,2 - - - - q \quad \text{----------4}$$

This study aims to examine and the impact of the Covid-19 pandemic on the Nigerian stock market Volatility over the specified period. To achieve this objective, the family of ARCH and GARCH Models will be adopted in accordance with the work of Carlos (2022) and Michael et al. 2021, Autoregressive Conditional Heteroskedasticity (ARCH) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models are some of the methodologies that have been applied in modelling and forecasting stock market returns volatility in empirical finance and Economic literatures.

Engle (1982) proposed the first model to address conditional variance in financial series called ARCH (Autoregressive Conditional Heteroskedasticity), i.e., that the conditional variance fits an autoregressive model on the square of the errors. Bollerslev (1986) extended Engle's (1982) work and developed the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) model which incorporates the observed past conditional variance itself into the ARCH model.

It was therefore discovered that one problem or a limitation of the standard GARCH model while capturing volatility clusters, does not detect the asymmetry properties of its distribution. This made econometricians to develop various volatility models, since volatility estimation with the best precision is crucial in determining what is happening in the stock markets and the economy, the models that were developed are the extension of the GARCH model to incorporate the asymmetry problems. The asymmetric models that were developed include the Exponential GARCH model (EGARCH) proposed by Nelson (1991), The exponential GARCH (EGARCH) model and the variance equation for this model is given by

$$logh_t = \alpha_0 + \emptyset logh_{t-1} + \Upsilon \frac{\mu_{t-1}}{\sqrt{h_{t-1}}} + \left[\frac{|\mu_{t-1}|}{\sqrt{h_{t-1}}} - \sqrt{\frac{2}{\pi}}\right]$$

4. RESULT AND DISCUSSION OF FINDINGS

Table1: Unit Root Test

variable	ADF		PP	
	Level	First Diff.	Level	First Diff.
Covid	-1.6552	-3.3784	0.18739	-23.265
Svol	-0.7624	-39.897	1.67834	25.1637

Source: Computed using E-view 9

Table 1 shows unit root tests using Augmented Dickey-fuller and Phillips Peron. Both tests show that the two variables are stationary at first difference. Indicating that both of them are I(1).

Table 2: Cointegration Test

Variable	ADF Statistic	Critical Value	Order of Integration
Residuals	-39.9	-3.43*	I(0)

Source: Computed using E-view 9

* indicates significance at 1% level

From 2 we see that using the Engel Granger cointegration procedure, the null hypothesis of no cointegration is rejected at 1% level of significance. Therefore, we can conclude that there is long run relationship between the variables.

4.1 Testing for ARCH Effect

Before estimating a GARCH-type model it is sensible first to compute the Engel (1982) test for ARCH effect to make sure that this class of model is appropriate for the data. Thus, the ARCH effect test is one of a joint null hypothesis that all q lags of the squared residuals have coefficient-values that are not significantly different from zero. If the value of the test statistic is greater than the critical value from the χ^2 distribution, then reject the null hypothesis and conclude that there is ARCH effect in the data.

The models to be estimated are the following

$$Svol_t = c + \lambda \text{covid}_t + \mu_t \quad \text{.....(i)}$$

Table3: ARCH Effect Test

Varible	OLs Coefficient	ARCH-LM Statistic
Covid	0.095(0.00)	0.979(0.00)

Source: Researcher computation using E-view (8) soft wire and figures in ( ) are probabilities

From table 2 above, we can see that in the model, the hypothesis of homoscedasticity is rejected at 0.01. Because in the model Lm-statistic (n x R^2) is greater than the critical value at 0.01 indicating that there is ARCH effect in the model.

Having established that there ARCH effect in each model we go ahead and estimate our model using

Table 4: E-Garch Dependent Variable Svol

Variable	Coefficient	Standard Error	Z- statistic	Prob.
C	-122.0555	42.26116	-2.888126	0.0039
Lcovid	9.312610	3.534127	2.635052	0.0084

Source: Computed using E-view 9

Table Shows that there is positive relationship between stock market volatility and covid-19 cases. Increase in covid-19 cases will lead to high level of stock market volatility. As indicated by table if Covid-19 case increases by 1 stock market volatility will increase by 9.3 units.

5. CONCLUSION AND POLICY RECOMMENDATIONS

The impact of covid-19 on stock market volatility is positive and statistically significant as shown by the result above. Increase in covid-19 cases increases the volatility of the stock market. Fortunately, the vaccines for the decease have been produced and governments are making it available for their people. However, there is a need for the government to do more on enlightening the public on taking the vaccine in order to prevent spread of the disease

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