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A Comparative Analysis of the Effect of COVID-19 on Stock Prices of Quoted Manufacturing Firms in Nigeria

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Abstract: This study examined the difference in the stock prices of quoted manufacturing firms in the pre-covid 19, during covid 19 and post covid 19. The purpose was to examine the differences in the stock prices of quoted manufacturing firms in Nigeria. 6 manufacturing firms were selected using random sampling techniques. Statistical mean and standard deviation were employed to answer the research questions while t-test was used in testing the null hypothesis at 0.05 level of significance. The study revealed about the paired sample correlation between the pre-covid 19, during covid 19 and the Covid 19. The results disclosed that the correlation value is of -.553 before African Paints Nigeria Plc and AshaksCem Plc, this implies that there is negative correlation before Austin Laz and Company Plc and Avon Crown Caps and Containers in the pre-covid 19 while the covid 19 shows 16.5 percent over the periods. However, other pairs in the table have positive and significant relationship. Table 4.3 revealed a higher mean among the pairs in the pre-covid 19 and the covid. The standard deviation of the pairs is also found to be lower in the pre and covid 19. The concerned confidence intervals did not observe zero between them which we can interpret that the sample results are significant, the value of the t-test and t-significant of the shows that, the pairs are statistically significant. the probability coefficient of the t-test from the pairs is 0.0000 less that the critical of 0.05 at 5 per cent level of significance, the study accept the alternate hypotheses that there is significant difference in the stock prices of manufacturing firms in pre-covid 19 in Nigeria. We recommend that the manufacturing firms should intensify effort in developing more competence in formulating strategies of enhancing prices in the post Covid 19 periods. The manufacturing industries will require government bailout as Nigerian manufacturing are in a weak financial state, which has further been exacerbated by the Covid19 pandemic.

Keywords: Comparative Analysis, COVID-19, Stock Prices, Quoted Manufacturing

INTRODUCTION

In a given economy, a rise and fall in corporation's stock price depends largely on market forces. Stock prices tend to rise or remain stable when companies and the economy in general show signs of stability and growth. Economic recession, depression or financial crisis eventually can lead to a stock market crash such as the stock market crash of 2007/2008. Factors that determine stock prices of quoted firms have long been a major point of departure among scholars in finance.

Prior to the deregulation of stock market in Nigeria, stock prices of newly issued and existing stocks were regulated by the regulatory agent of the market, the Nigerian Securities and Exchange Commission, without reference to internal factors such as financial information that can affect stock prices of listed firms. Stock prices in the Nigerian stock Exchange moves up and down in response to news and information expected about the particular stock in the market. The news and information cause buyers and sellers of common stocks to take buying and selling decisions which generate market activities that affect market value (Aflbi and Dada, 2014). Stock price constitute the value of a firm (Pandey, 2005).

COVID-19 outbreak surfaced the shore of Nigeria when the country was already recovering from economic recession. The health crisis gave rise to a number of challenges such as heightened economic contraction, job losses, high inflationary pressure, increased unemployment rates, increase crime among

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others (Iwedi, Kocha and Onaakpono, 2020). COVID-19 pandemic actually, carries exceptional challenges. Melodramatically, there has been fall in basic demand for many goods and services, although some of the manufacturers either have shortages or are shocked. Borders are being closed around the world and Nigeria which brings change in the livelihood of the societies. This has made entire countries come under quarantine orders making consumers around the world try to reduce human contact and manufacturers on the other hand needs to recognize that their response to the novel COVID-19 Pandemic will have a significant impact on their business. This has led companies to having challenge with liquidity and management of their cash. Management of cash is indispensable to every business that desires to meet up with its short-term financial obligations.

For the recent decade, global financial markets have suffered several dramatic shocks including the 911 attacks in 2001, subprime crisis in the fall of 2007, Lehman Brothers collapse on September 2008, 2009 European sovereign-debt crisis and 2018-2019 US-China trade war etc. Most of these financial shocks could be directly attributed to equities or capital market decline that affects the stock prices of quoted firms. However, it is rare to observe that the infectious disease episodes cause the financial market turmoil. In addition, the volatility is widely used in asset pricing and hedge, risk management, portfolio selection and the other financial events (Larry, 2020).

One of the greatest controversies among behavioural finance is factors that determine stock prices of quoted firms. The Random Walk hypotheses are based on the assumption that investors adjust prices rapidly to reflect on the effect of new information. Believing in the efficiency of the market, therefore assort that stock prices are essentially random and there is no chance for profitable speculations in the stock market (Gupta and Basa, 2004). Other theories such as Capital Assets Pricing Model (CAPM) and Arbitrage pricing methods (APM) attempt to explain internal determinants of asset prices. From the perspective of agency theory as presented by Jensen and Macklin (1976), managers could be incapable of maximizing shareholders' wealth because of conflict of interests. Retained earnings can be invested in low risk projects because of manager's interest which may not affect share price as the policy incentive.

The stock market reaction to information disclosure has been tested in many occasions in developed markets such as the United State of America and United Kingdom. The evidence reported in these studies is largely consistent with the information content hypothesis and efficient market hypothesis, which is that earnings announcements contained value-relevant information and that stock markets react quickly and efficiently to this information (Sharma, 2014).

However, the validity of EMH has been questioned as several recent studies have reported evidence of significant abnormal returns generated by trading on the basis of public information. For example , Kausar and Taffler (2006) found that stocks of UK firms in distress have a publicized going concern audit report which tended to experience significant negative price reactions ranging between -24% and -31% . Sponholtz (2005) using the event study method, examined the information content of annual earnings announcements in the Danish stock market. Utilizing data from 1999 to 2001, Sponholtz found significant abnormal price reactions in the period surrounding the announcement.

The effect of the covid 19 has well been studied, Iwedi, Gbarabe and Uruah (2020) investigated impact of COVID-19 on stock price of quoted banking firms in Nigeria from the period dated 1st January 2020 to 30th September, 2020. Nuhu (2020) examined the impact of the COVID-19 on the financial market: Evidence from China and U.S.A. Baret, Celner, O'Reilly and Shilling (2020) investigated the impact of the COVID-19 pandemic on the financial market and banks. Xinhuao (2020) found that there is a significant impact between COVID-19 pandemic and the Chinese financial market such that the financial market in China have remained generally stable compared to overseas markets despite the spread of the corona virus. Tesfaye (2020) explored

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the impact of COVID-19 pandemic on the Ethiopia's private banking system. Ten (10) years historical data from 2010 to 2019 was used to found that the pandemic has effect on both balance sheet and income statement of banks. Iwedi, Kocha and Oriakpono (2020) assessed COVID-19 global pandemic trade and impact on the Nigerian economy while Wakode (2020) studied the influence of COVID-19 on the credit exposure of a bank. The study employed the statistical tool of the multivariate analysis of variance to choose and found out that there is a significant impact between COVID-19 and bank risk metrics. Denurjuc-Kunt, Pediaza and Ruiz (2020) assessed the impact of banking sector performance during the COVID-19 crisis. Most of the above studies are foreign studies, similar studies in Nigeria focused on the banking sector. This study therefore compares the stock prices of manufacturing sector in the pre-covid 19, covid 19 and post covid 19 in Nigeria.

LITERATURE REVIEW

Coronavirus

The COVID-19 (coronavirus) crisis endangers health and economic prospects across the globe. The outlook is especially sobering for the most vulnerable populations in developing countries. Informal workers, farmers, and micro entrepreneurs are coming under severe financial stress brought on by the social distancing and lockdown measures taken to contain the outbreak (Haleem, et al., 2020). While poor people are resilient, many depend on banking services, including basic savings accounts, small loans, and remittances. Banking services afford clients a margin of flexibility to cope with emergencies when publicly funded safety nets fall short.

COVID-19 Pandemic COVID-19 is traceable to Wuhan in China in the late 2019. The pandemic of COVID-19 has been affecting all spheres of human endeavour in the recent time. As the coronavirus affects public health services at global level, it also does to global economies. The pandemic of COVID-19 is worrisome because it is inevitable in leading to the global economic recession (Hope, Saidu & Success, 2020). World Health Organization (2020) notes that, the victim of COVID-19 will surely experience respiratory illness and older people and more importantly, people with medical or health problems such as diabetes, cancer respiratory disease among others are likely to be infected with COVID-19. It is reiterated that COVID-19 can spread easily through the nose or mucus discharge and droplets of saliva especially through sneezes and coughs (World Health Organization, 2020). Nonetheless, the most common symptoms of the disease are fever, dry cough and tiredness. The severe symptoms are chest pain, loss of speech and difficult breathing. Globally, many lives have been taken as a result of the prevalence of coronavirus. Hence, it is important to adhere to preventive measures especially by washing hands, using sanitizers etc. as directed by the health workers (World Health Organization, 2020).

Currently, there is no actual treatment and or vaccine to be taken by someone infected with the virus. Nonetheless, there are several efforts at the international level especially China, US, UK, Japan, Canada, Germany, France, pertaining to trail vaccines for treatment of COVID-19. The spread of the infectious disease is still on the rise despite many efforts people and government of nations to contain it, such as containment, an individual measure of protection, the authorization of the use of Hydrochloroquine and other drugs that have not been clinically tested (Addi, Benksim, Amine & Cherkaoui, 2020). According to NCDC (2020), the incubation period for COVID-19 is between 2-14 days. Bai, Yao, Wei, Tian, Jin, Chen and Wang, (2020) asserted that the reason for the high level of the spread of the virus on individuals across the globe as a result of the symptomatic and asymptomatic nature.

Share Prices

Share prices are based on supply and demand. It is used to refer to a company's market capitalization value. It is calculated by multiplying the number of shares issued by the price of the company's share. A company's share price is determined by daily trading between buyers and sellers on the relevant stock exchange. Market prices

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are easy to determine for assets as the constituent values, such as stock and futures prices, are readily available. A valuation would have to be prepared using different methods (Ngerebo-a, 2007).

Share prices are the value of an asset/security as determined by the forces of demand for and supply of the assets. It is the perceived or observed value of an asset on the market. It is also known as current value. It is in fact the mutually accepted worth (cost or price depending on the individual) of the asset after negotiation. Most assets that have market values have their values determined by specialized markets such as the stock exchange. The acceptance of any asset depends on the perception of the potential investor after comparing the share prices to the intrinsic value. An asset is undervalued or under-price or favorably priced if the share prices of the asset is less than the intrinsic value. If the intrinsic value of the asset is less the market value, then the asset is overvalued, over-priced or favorably priced. Where the latter occurs, the investor would ordinarily be acquiring an asset at more expensive value than he would ordinarily have paid. An investor would acquire an overpriced asset if he expects the asset to record a bullish price movement such that if the anticipated price movement crystallizes, the investor can make capital gain.

Market Efficiency Theory

Efficient-market hypothesis (EMH) asserts that financial market is "informationally efficient". There are three major forms of the hypothesis: "weak", "semi-strong", and "strong". Weak EMH claims that prices on traded assets (for example, stock bonds, or property) already reflect all past publicly available information. Semi-strong EMH states that prices reflect all publicly available information and that prices instantly change to reflect new public information. Strong EMH additionally claims that prices instantly reflect even hidden or "insider" information. Efficient market theory implies that market will react quickly to new information. Thus, it is important to know when the accounting report first became publicly known. The accounting report is informative only if it provides data not previously known by the market.

Signaling Theory

According to signaling theory, also referred to as the information content hypothesis, corporate announcements are hypothesized to have information content, for example, managers use cash dividend announcement to signal changes in their expectation about the future prospect of the company when the markets are imperfect. The investments and financing decisions of a firm are made at the management's discretion. It is argued that company managers use earnings as a signaling tool to convey information about the prospects of a company, and that like dividends, if earnings convey useful information, this will be reflected in stock price changes immediately following a public announcement. An increase in equity (shares) issued by the company reduces the price of its shares, stock splits cause an increase in the price, while issuing more debt instruments leads to price increase actions. Berhardt, Douglas, and Robertson (2007) in their study noted that the markets are rarely in equilibrium, that information has a cost and that it does not reach all at the same time. When a firm announces its earnings or dividends it sends a signalto the investor and if they react to this signal as expected this will affect the share prices of the company listed at the stock market (Nyabundi, 2013).

The Capital Asset Pricing Model

The CAPM is a model for pricing an individual security or a portfolio. The CAPM model was developed independently by William Sharpe (1964), and Parallel work was performed by Lintner (1965) and Mossin (1966) these model marks the birth of asset pricing theory. The CAPM suggests that the only variables that we need in calculating the expected return on security are: the risk-free rate (a constant), the expected excess return on the market, and the security's beta (a constant). The CAPM model is attractive because of its effectively simple logic and intuitively pleasing predictions relating to how it measures risk and the relation between expected return and risk.

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Unfortunately, the CAPM simplicity causes the empirical record of model to be poor, poor enough to invalidate the method used in the application of the model. The models empirical problems may reflect true failings or they may also be due to the shortcomings of the empirical tests, most notably, poor proxies for the market portfolio of invested wealth, which plays a crucial role in the models predictions.

The CAPM is built on the model of portfolio choice developed by Harry Markowitz (1959). The Markowitz model is often known as a mean-variance model it describes the relationship between risk and the expected return of an asset under the conditions of market equilibrium in a capital market where all investors undertake optimal portfolio selection. The model assumes investors are not risk takers and that they care only about the mean and variance of their one-period investment return when choosing among portfolios.

In the real open market place where the number of assets is enormous, trying to actually construct the market portfolio would be an awesome and unrealistic task for any financial analyst. Thus so-called index funds (or mutual funds) have been created as an attempt to approximate the market portfolio. Such an index is a smaller portfolio made up of what are viewed as the markets most dominant assets that captures the essence of M. The most well-known such index is the standard & Poor's 500-stock index (S&P), made up of 500 stocks. A beta for given asset is then estimated by using the S&P in place of M, and then collecting past data for both rates of return. For example consider an asset A for which we wish to estimate its beta.

The Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT) is another model of asset pricing based on the idea that equilibrium market prices should be perfect, in such a way that prices will move to eliminate buying and selling without risks (arbitrage opportunities). The basis of this theory is the analysis of how investors construct efficient portfolios and offers a new approach to explaining the asset prices and also states that the return on any risky asset is a linear combination of various macroeconomic factors that are not explained by this theory. Therefore unlike CAPM model this theory specifies a simple linear relationship between assets, returns and the associated k factors. There are two empirical testable versions of the APT, the statistical APT and the macro variable APT. However, the macro variable model differs from the statistical factor model mainly because the factors are specified in advance and they are interpretable.

Empirical Review

Iwedi, Gbarabe and Uruah (2020) investigated impact of COVID-19 on stock price of quoted banking firms in Nigeria from the period dated 1st January 2020 to 30th September, 2020. Using confirmed cases of COVID-19 and stock price of quoted banking firms as variables for the study. The study applied the vector auto regressive Model in analyzing the variables. The results reveal that negative relationship between COVID-19 and stock price of quoted banking firms in Nigeria though statistically insignificant. Contrarily, the result of the variance decomposition shows weak influence of COVID-19 in predicting stock price movement of quoted banking firms in the future. This means the variable do influence stock price movement in short run but does not influence it in the long run. The impulse response function graph shows that a one SD shock of COVID-19 initially has no noticeable impact on stock price in period 1 to 3. The study concludes that COVID-19 impacted on the stock price of quoted banking firms in Nigeria during period under review.

Nuhu (2020) examined the impact of the COVID-19 on the financial market: Evidence from China and U.S.A. The study applied a regression model time series data from China COVID-19 statistics reports and trading economics from 1st of March 2020 to 25 March 2020. The study used the Shanghai Stock Exchange as a sample for China and the New York Dow Jones as a sample for the U.S.A. The study found that there is a positive significant relationship between the COVID-19 confirmed cases and all the financial markets.

Baret, Celner, O'Reilly and Shilling (2020) investigated the impact of the COVID-19 pandemic on the financial

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market and banks. The study found evidence of significant effects of COVID-19 on the general financial markets as recently the world experienced fall in share prices, oil prices, equities and bonds' prices.

Xinhuao (2020) found that there is a significant impact between COVID-19 pandemic and the Chinese financial market such that the financial market in China have remained generally stable compared to overseas markets despite the spread of the corona virus. Tesfaye (2020) explore the impact of COVID-19 pandemic on the Ethiopia's private banking system. Ten (10) years historical data from 2010 to 2019 was used to found that the pandemic has effect on both balance sheet and income statement of banks.

Iwedi, Kocha and Oriakpono (2020) assessed COVID-19 global pandemic trade and impact on the Nigerian economy. The study employed descriptive methodology to evaluate Covid-19 pandemic global trade wars and its impact on the Nigerian economy. The study revealed that coronavirus cripple the Nigerian economy in terms of social, religious and economic activities while the measures taken to contain the spread of COVID-19 impacted on Nigerian citizens in many ways including job losses, higher prices, and damage to healthcare and seriously on education services.

Wakode (2020) studied the influence of COVID-19 on the credit exposure of a bank. The study employed the statistical tool of the multivariate analysis of variance to choose and found out that there is a significant impact between COVID-19 and bank risk metrics. Denurjuc-Kunt, Pediaza and Ruiz (2020) assessed the impact of banking sector performance during the COVID-19 crisis. The study found that the crisis and the countercyclical lending role that banks are expected to play have put banking systems under significant stress with bank stocks underperforming in their domestic market than other non-banking financial firms.

Xhang, Hu and Ji (2020) studied financial markets under the COVID-19 global pandemic. The study employed descriptive statistics to map the general patterns of country specific risks and systemic risks in the global financial markets. The researchers analysed possible consequences of policy intervention like the US implementation of zero-percent interest rate and unlimited quantitative easing (QE) and the extent to which such policies may introduce further uncertainties into financial markets. They observed that the rapid spread of the pandemic has created an unprecedented level of risk causing investors to suffer huge losses within a short period of time. They observed that QE stopped investors panic but may create inconsistencies between investors' short-term and long-term expectations as well as further uncertainties to the global market and create trouble for developing economies as occurred in 2008 global financial crisis leading to greater systemic risk.

Amnim and Aipma (2021) examined the impact of COVID-19 Pandemic on Liquidity and Profitability of Firms in Nigeria. The study is vital as it portrays the extent to which COVID-19 Pandemic has influenced the Liquidity and Profitability of Firms in Nigeria. In order to determine the relationship between COVID-19 Pandemic and Firms Liquidity & Profitability, some key proxy variables were used in the study, namely Liquidity Ratio (LR), Return on Equity (ROE) while COVID-19 Pandemic was proxy by Pre COVID-19 Pandemic Period (2017-2018) and During COVID-19 Pandemic Period (2019-2020). Two hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using Wilcoxon statistical test tool. The research design used is Ex Post Facto design and data for the study were obtained from the NSE Factbook. The findings of the study show that COVID-19 Pandemic has significantly affected the Liquidity and Profitability of Firms in Nigeria at 5% level of significance. This goes further to confirm that government-imposed partial and total lockdowns during COVID-19 Pandemic increasingly hindered firms access to inputs at the local markets, difficulty in exporting and importing goods which affected both the firms liquidity and profitability negatively. Based on this, the study recommended for government to strengthen its support for local provision of raw materials since COVID-19 outbreak has greatly

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affected the importation of raw materials necessary for production from China in particular and other countries in general. Thus could make resource input required for production available which could enable firms maintain optimal liquidity and in turn improve firms' profitability.

Hope, Saidu and Success (2020) examined the relationship between coronavirus pandemic outbreak and firms' performance in Nigeria. The result from the linear regression revealed that Coronavirus (COVID-19) Pandemic harms both the financial and non-financial performance of private businesses in Nigeria. The study concluded that that Coronavirus (COVID-19) Pandemic harms firm performance in Nigeria. Adegboye, Adekunle and Gayawan (2020) examine the early transmission of COVID-19 in Nigeria, and show that the COVID-19 cases in Nigeria were lower than expected. Adenomon and Maijamaa (2020) examined the impact of COVID-19 on the Nigerian Stock Exchange from the 2nd January 2020 to 16th April 2020. The results revealed a loss in stock returns and high volatility in stock returns during the COVID-19 period in Nigeria.

Ohia, Bakarey and Ahmad (2020) predict that the effect on COVID-19 will be severe in Africa because African countries have fragile health systems. They argue that Nigeria's current national health systems cannot respond to the growing number of infected patients who require admission into intensive care units. They suggest that Nigeria should explore available collective measures and interventions to address the COVID-19 pandemic. Jacob, Abigeal and Lydia (2020) show that the COVID-19 pandemic affected higher institutions in Nigeria through the lockdown of schools, reduction of international education, disruption of academic calendar of higher institutions, cancellation of local and international conferences, creating teaching and learning gap, loss of man power in the educational institutions, and cut in budget of higher education.

Xinhuao (2020) found that there is a significant impact between COVID-19 pandemic and the Chinese financial market such that the financial market in China have remained generally stable compared to overseas markets despite the spread of the corona virus. Iwedi, Kocha and Onakpono (2020) assessed COVID-19 global pandemic trade and impact on the Nigerian economy. The study employed descriptive methodology to evaluate Covid-19 pandemic global trade wars and its impact on the Nigerian economy. The study revealed that coronavirus crippled the Nigerian economy in terms of social, religious and economic activities while the measures taken to contain the spread of COVID-19 impacted on Nigerian citizens in many ways including job losses, higher prices, and damage to healthcare and seriously on education services.

Tesfaye (2020) explored the impact of COVID-19 pandemic on the Ethiopia's private banking system. Ten (10) years historical data from 2010 to 2019 was used to found that the pandemic has effect on both balance sheet and income statement of banks. Wakode (2020) studied the influence of COVID-19 on the credit exposure of a bank. The study employed the statistical tool of the multivariate analysis of variance and found that there is a significant impact between COVID-19 and bank risk metrics.

Demirgue-Kunt, Pediaza and Ruiz (2020) assessed the impact of banking sector performance during the COVID-19 crisis. The study found that the crisis and the countercyclical lending role that banks are expected to play and put banking systems under significant stress with bank stocks underperforming in their domestic market than other non-banking financial firms. Baret, Celner, O'Reilly and Shilling (2020) investigated the impact of the COVID-19 pandemic on the financial market and banks. The study found evidence of significant effects of COVID19 on the general financial markets as recently the world experienced fall in share prices, oil prices, equities and bonds' prices.

Mert and Omer (2020) investigated the impact of COVID-19 on emerging stocks markets over the period March 10-April 30, 2020. The study found that there is a negative impact of COVID19 on emerging stock markets, though this negative impact has gradually fallen and has begun to tape off since mid-April. Nuhu

(2020) examined the impact of the COVID- 19 on the financial market: Evidence from China and U.S.A. The study applied a regression model time series data from China COVID-19 statistics reports and trading economics from 1st of March 2020 to 25 March 2020. The study used the Shanghai Stock Exchange as a sample for China and the New York Dow Jones as a sample for the U.S.A. The study found that there is a positive significant relationship between the COVID-19 confirmed cases and all the financial markets.

Kocha, Iwedi and Barisua (2020) emphasized on COVID-19 outbreak, oil price shock and banking system liquidity. The results of the study using regression model reveal that there is a positive significant impact between COVID-19 and changes in banking system liquidity in Nigeria. On the other hand, the results of the oil price slump reveal that there is a negative significant relationship between oil price and banking system liquidity. Also the results of Johansen co-integration test reveal that the series are co-integrated that is exhibit a long run relationship. The results of the granger causality tests suggest evidence of bidirectional causality flowing from COVID-19 to banking system liquidity vice versa while there is no evidence of causality running from oil price shock to banking system liquidity vice versa. Based on this, the study concludes that COVID-19 and Oil price shocks impacted significantly on banking system liquidity in Nigeria.

Tesfaye (2020) explored the impacts of the COVID-19 pandemic on Ethiopia's Private Banking System and informs interventions and policy responses, the study employed the input-output framework. It has used ten years historical data from 2010 to 2019 of the aggregate private commercial banks in order to explore trends and examine the effect of pandemic on the past critical success factors. The result shows that the pandemic has effect on both balance sheet and income statement of banks. The effect is shadowed during the current year due to good performance record all through pre COVID period. Nevertheless, it won't take much time to feel the effect of the pandemic in the private banking system as well. Therefore, the notion of considering banks less vulnerable to the crisis should be swotted. The study identified immediate liquidity need of around Birr 17 billion to private banks so that they can comfortably meet the NBE's liquidity requirement. This in fact will be challenged by less resource mobilization and reduced loan collection of Birr 10 billion per quarter. Early measures to improve the liquidity (infusing injection), capital position (setting dividend pay-out limit), asset quality (setting minimum provision level), earning (avoiding price pressure) and cost (controlling exchange losses) profile of banks will have paramount importance for sustainable soundness of the private banking system. In addition, the shock absorbing capability of each bank in the sector should be separately looked at for an effective remedial action. The banking business after Covid-19 shall be intensified with new sources of growth: advisory services, e-commerce, digitalization, e-banking services etc. Online and digitalization will be the way forward. Comprehensive reform and finance sector restructuring programs should be thought of in order to accommodate such changes and speed up the recovery process.

Sansa (2020) investigated the impact of the COVID - 19 on the Financial Markets from the period dated 1st March 2020 to 25th March 2020 in China and USA. The study applied a Simple regression model to investigate the impact of the COVID - 19 on the Financial Markets during the period from dated 1st March 2020 to 25th March 2020 in China and USA. Time series data from China COVID - 19 Statistics Reports and Trading Economics from 1st March 2020 to 25th March 2020 for China and USA were employed by the study. The study used the Shanghai Stock Exchange as a sample for China and the New York Dow Jones as a sample for the USA. On the process of investigating the impact of the COVID -19 on the financial markets the study assumes the COVID - 19 Confirmed cases to be the independent variable while Shanghai Stock Exchange and New York Dow Jones to be dependent variables of the study in China and USA. The study findings were in actual fact very interesting.

The study findings revealed that there is a positive significant relationship between the COVID - 19 confirmed cases and all the financial markets (Shanghai stock exchange and New York Dow Jones) from 1st March 2020 to 25th March 2020 in China and USA. That means the COVID - 19 had a significant impact on the financial markets from 1st March 2020 to 25th March 2020 in China and USA.

HaiYue, Aqsa, CangYu, Lei and Zaira (2020) evaluated the short-term impact of the coronavirus outbreak on 21 leading stock market indices in major affected countries including Japan, Korea, Singapore, the USA, Germany, Italy, and the UK. The consequences of infectious disease are considerable and have been directly affecting stock markets worldwide. Using an event study method, our results indicate that the stock markets in major affected countries and areas fell quickly after the virus outbreak. Countries in Asia experienced more negative abnormal returns as compared to other countries. Further panel fixed effect regressions also support the adverse effect of COVID-19 confirmed cases on stock indices abnormal returns through an effective channel by adding up investors' pessimistic sentiment on future returns and fears of uncertainties.

Day-Yang, Chun-Ming and Yi-Kai (2020) adopted the smooth transition Generalized Autoregressive Conditional Heteroscedastic (GARCH) model to depict the influences of the Novel Coronavirus Disease (COVID-19) on the dynamic structure of the broad-based indices volatility in Taiwan. The empirical results show that the episode of the COVID-19 switches the volatility structure for the most of indices volatilities except two industrial sub-indices, the building materials and construction index and the trading and consumer goods index. Furthermore, we obtain the transition function for all indices volatilities and catch that their regime adjustment processes start prior to the outbreak of COVID-19 pandemic in Taiwan except two industrial sub-indices, the electronics index and the shipping and transportation index. Additionally, the estimated transition functions show that the broad-based indices volatilities have U-shaped patterns of structure changes except the trading and consumer goods sub-indices. This study also calculated the corresponding calendar dates of regime change about dynamic volatility pattern.

AlAli (2020) examined the velocity of Coronavirus pandemic effect on major stock markets during the early stages of the pandemic. The study also examines whether or not there was any difference before and after the first confirmed Coronavirus case reported. Using the data on eleven major stock markets, results from this study shows that, out of the eleven markets under study, six markets showed no difference in mean return 30 trading days before and after reporting the first Coronavirus case in these countries. The results also showed that WHO announcement had a more impact on the stock markets performance than the announcements of local health authorities' announcements. One interesting finding in this research is that there was an inverse relation between the distance of the stock market from Wuhan and the financial performance of that market.

Baret et al, (2020) had in detail discussed the impact of the COVID - 19 to the financial markets and banks. Baret et al, (2020), argued that the COVID - 19 have significant effects to the general financial markets as recently the world witness the fall of shares, oil, equity and bonds throughout the world. This is the evidence that the COVID - 19 has seriously pushed the financial markets in a different direction and response on investments. Baret et al, (2020), in detail argued that, since February 21, 2020, bond yields, oil, and equity prices have sharply fallen, and trillions of dollars, across almost all asset classes, have sought safety. In the World Business perspective, the COVID - 19 has as well impacted. Different companies are experiencing the low production which leads to the decline of the revenue collected.

Jim (2020) identified the extent of the companies affected by the recent COVID - 19 pandemic. Jim, (2020)clarified that companies experiencing decreased revenues, higher operating costs and/or cash flow

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challenges due to COVID–19. ICAEW Report, (2020), on their report contribution reported that, the COVID-19 pandemic made for difficult, if not entirely unexpected, listening, but did offer hope of a recovery in the longer term. Larry (2020) suggested that since the world is at a large part depend on the goods and china production then the importation of the goods become the challenge because as the spread of corona virus stands serious production stops and exportation as well. Therefore a big number of countries who depend on the importation of goods from China are automatically affected due to this COVID -19. Larry (2020), in detail clarified that, the effect of imports to China have directly affected the export economy of countries around the world. Segal &Gerstel (2020) analyzed the sense of investment worries and in detail argued that, fears of a broader outbreak and its economic impact spread to financial markets last month.

Fernandes (2020) suggested that the longer the pandemic lasts, the more economic damage it will cause resulting in a longer recovery period. Stock markets have always been one step ahead of the economy. Investors use forecasting methods to estimate the future economic condition and construct their market position based on these forecasts. But, the Coronavirus, which can be labeled as "Black Swan", caught the investors by surprise. While markets plunge during epidemic periods, history shows that these losses were erased during the first 6 months after the end of the epidemic. Studying the effect of pandemic on the stock market,

Velde (2020) found that the negative impact of the Spanish Flu on U.S. stock markets was fairly modest even over time spans of several months. He contributed the modest effect to the lack of information availability during that time.

Mann (2020) concluded that the interlink age between global commodity markets, financial markets, public sentiment, and the economy is likely to make situation worse and challenging for policy responses and would result in a faster spread of the destructive of effect of the pandemic. Fernandes (2020), argue that the difficulties in estimating the economic effects of pandemic outbreak are currently being underestimated, due to over-reliance on historical comparisons with SARS, or the Spanish flu.

Siu and Wong (2019) studied the spread of Hong Kong's SARS epidemic, and addressed its economic impact and suggested that the most serious negative impacts were seen on the consumer side, with the short term severely affected by local consumption and the export of tourism and air travel-related services. The economy did not face any supply shock, as the manufacturing base present in the Delta of the Pearl River was unaffected and products were usually exported to Hong Kong. By using the G-Cubed (Asia Pacific) model Lee and McKibbin (2004) evaluated the global economic impacts of the severe acute respiratory syndrome (SARS) and according to them the effect of the SARS epidemic on human society all over the world is severe, not only because the disease spreads rapidly through countries by global travel, but also because of financial integration and globalization, any economic shock to one country spreads rapidly to others.

Mei-ping Chenet al., (2018) analysed the effect of the SARS epidemic on China's long-term relationship with four Asian stock markets their findings support the existence of a time-varying co-integration relationship in aggregate stock price indices, and they also found that the SARS epidemic has weakened China'slong-term relationship with the four markets.

Wang, Yang, and Chen (2013) suggested that infectious disease outbreaks have a major impact on the performance of biotechnology stock in Taiwan. According to Bai (2014) Baker, Wurgler, and Yuan (2012) investors may feel pessimistic about investment prospects in a given market, selling of that market's stocks under communicable disease outbreak.

Chiang, Nam, and Li (2007) examined the daily stock return for nine Asian markets for the period of 1996 to 2003 and found that there was a high correlation among sample Asian countries during the period of crises. Sun and Hou (2018) found that in Southeast Asia, Malaysia,

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Vietnam, and Thailand were most financially integrated with China.

Olapegba et al (2020) assess the knowledge and perceptions of Nigerians about COVID-19. They find that some Nigerians have misconceptions about COVID-19, for instance, some respondents believe that COVID-19 is a biological weapon of the Chinese government. These misconceptions prevented them from taking maximum preventive measures. They suggest that evidence-based campaign should be intensified to remove misconceptions and promote precautionary measures.

Ozili (2020) show that Nigeria had the highest number of COVID-19 cases in West Africa and the third highest cases in Africa between March and April. Ohia et al (2020) predict that the effect on COVID-19 will be severe in Africa because African countries have fragile health systems. They argue that Nigeria's current national health systems cannot respond to the growing number of infected patients who require admission into intensive care units. They suggest that Nigeria should explore available collective measures and interventions to address the COVID-19 pandemic.

Jacob et al (2020) show that the COVID-19 pandemic affected higher institutions in Nigeria through the lockdown of schools, reduction of international education, disruption of academic calendar of higher institutions, cancellation of local and international conferences, creating teaching and learning gap, loss of man power in the educational institutions, and cut in budget of higher education. Adegboye et al (2020) examine the early transmission of COVID-19 in Nigeria, and show that the COVID-19 cases in Nigeria were lower than expected. Adenomon and Maijamaa (2020) examine the impact of COVID-19 on the Nigerian stock exchange from the 2nd January 2020 to 16th April 2020. The results revealed a loss in stock returns and high volatility in stock returns during the COVID-19 period in Nigeria.

Literature Gap

Olapegba et al (2020) assess the knowledge and perceptions of Nigerians about COVID-19. They find that some Nigerians have misconceptions about COVID-19, for instance, some respondents believe that COVID-19 is a biological weapon of the Chinese government. Ozili (2020) show that Nigeria had the highest number of COVID-19 cases in West Africa and the third highest cases in Africa between March and April. Ohia et al (2020) predict that the effect on COVID-19 will be severe in Africa because African countries have fragile health systems. Jacob et al (2020) show that the COVID-19 pandemic affected higher institutions in Nigeria through the lockdown of schools, reduction of international education, disruption of academic calendar of higher institutions, cancellation of local and international conferences, creating teaching and learning gap, loss of man power in the educational institutions, and cut in budget of higher education. Adegboye et al (2020) examined the early transmission of COVID-19 in Nigeria, and show that the COVID-19 cases in Nigeria were lower than expected. The above studies failed capture the stock prices in Nigeria, this study focuses on the comparative analysis of the Covid 19 on stock prices of Nigeria quoted manufacturing firms.

METHODOLOGY

The study used descriptive research design approach for the data analysis. The approach combined theoretical consideration with the empirical observation and extract maximum information from the available data. Cresswell (2018) defined population as the total number of elements that conform to the characteristics needed for the purpose of the study. Thus, the population for this study includes the 63 quoted manufacturing firms in Nigeria stock exchange. The study use random sampling methods to select 5 manufacturing firms quoted on the floor of Nigeria Stock exchange. The five selected manufacturing firms are selected as the sample size of the study. The manufacturing firms, the researcher used the random sampling procedure for selecting the five firms.

Data Collection Methods

The data in this study will be sourced from the publications of Central bank of Nigeria Statistical

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Bulletin and Stock Exchange Factsheet. This constitutes the time series data sourced from the secondary data. Due to the very small number of observations and the narrow lockdown days during the COVID-19 pandemic, it was almost impossible to perform any robust econometric modelling; therefore, descriptive analysis was used to analyse the economic crisis and its structural causes.

Data Analysis Methods

Descriptive analysis will be used to analyse the effect of COVID-19 pandemic on the performance of commercial banks. Descriptive analysis is a basic statistical tool which is widely used to analyse and interpret primary and/or secondary data. Descriptive statistics provide simple summaries about the sample and about the observations that have been made. Such summaries may be either quantitative. Descriptive statistics is a powerful beast of burden: (1) It collects and summarizes vast amounts of data and information in a manageable and organized manner, (2) A fairly straightforward process that can easily translate into results in a distribution of frequency, per cents and overall averages. (3) Establishes standard deviation, (4) It's used when it may not be desirable to develop a complex Research models, (5) Deals with immediate data and single variables rather than trying to establish conclusions, (6) Can identify further ideas of research, (7) A good primer to learn about statistical processes, and (8) Can lay the groundwork for more complex statistical analysis.

ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
PRE-COVID 19					
Pair 1	African Paints Nigeria Plc	92597233.1111	261	132688782.49677	8213229.44601
	AshaksCem Plc	9200535.0000	261	8050310.85409	498301.73216
	Austin Laz and Company Plc	18230400.3333	261	19825643.95277	1227176.55280
Pair 2	Avon Crown Caps and Containers	8265018.6667	261	10630994.98447	658042.06960
	Berger Paints Plc	25849620.8889	261	28096992.35944	1739160.16598
Pair 3	7UP	13373880.0000	261	12498619.76990	773645.14164
During -COVID 19					
Pair 1	African Paints Nigeria Plc	13718.9655	261	9494.03843	587.66623
	AshaksCem Plc	6145.6513	261	3231.38614	200.01778
Pair 2	Austin Laz and Company Plc	12460.5441	261	5652.80347	349.89975
	Avon Crown Caps and Containers	11457.9579	261	4554.83045	281.93693
Pair 3	Berger Paints Plc	14886.3180	261	8239.60143	510.01852
	7UP	34684.6360	261	17518.89230	1084.39221
Post -COVID 19					
Pair 1	African Paints Nigeria Plc	12.0000	261	6.21455	1.13462

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	AshaksCem Plc	114.5000	261	62.20032	11.35617
Pair 2	Austin Laz and Company Plc	13.6667	261	5.69533	1.03982
	Avon Crown Caps and Containers	133.9333	261	64.47610	11.77167
Pair 3	Berger Paints Plc	7.7667	261	6.20724	1.13328
	7UP	82.6333	261	59.49818	10.86283

Source: SPSS, 22.0 (2022)

Table 1 depicted that the mean score of the stock price movement of the manufacturing firms in the pre-Covid 19, during and post Covid 19. The table shows mean and standard deviation differences of stock price movement in the pre-covid 19, during covid 19 and the covid 19. The table shows the mean and standard deviations corresponding to each of the pairs in the sample. The coefficient of the pairs shows that the pairs are significant with high mean and low standard deviation. From the above we accept that the effect of the pre-Covid 19 is difference from the Covid 19 and during the Covid 19.

Table 2: Paired Samples Correlations

		N	Correlation	Sig.
African Paints Nigeria Plc	African Paints Nigeria Plc	261	.799	.000
AshaksCem Plc	AshaksCem Plc	261	.393	.000
Austin Laz and Company Plc	Austin Laz and Company Plc	261	-.420	.000
African Paints Nigeria Plc		261	.047	.446
AshaksCem Plc		261	.108	.083
Austin Laz and Company Plc		261	-.042	.504
Avon Crown Caps and Containers		261	-.044	.481
Berger Paints Plc		261	-.156	.012
7UP		261	-.674	.000
African Paints Nigeria Plc		261	.665	.000
AshaksCem Plc		261	.741	.000
Austin Laz and Company Plc		261	.809	.000
Avon Crown Caps and Containers		261	.556	.001
Berger Paints Plc		261	.785	.000
7UP		261	.684	.000

Source: SPSS, 22.0 (2022)

Table 2 revealed about the paired sample correlation between the pre-covid 19, during covid 19 and the Covid 19. The results disclosed that the correlation value is of -.553 before African Paints Nigeria Plc and AshaksCem Plc, this implies that there is negative correlation before Austin Laz and Company Plc and Avon Crown Caps and Containers in the pre-covid 19 while the covid 19 shows 16.5 percent over the periods. However, other pairs in the table have positive and significant relationship.

Table 3: Paired Samples Test

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		Paired Differences					t	df	Sig. (2-tailed)
Pre-Covid		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	African Paints Nigeria Plc	83396698.11111	126351111.65546	7820937.46930	67996255.48591	98797140.73631	10.663	260	.000
	AshaksCem Plc	9965381.66667	18451862.12265	1142141.59229	7716356.38921	12214406.94412	8.725	260	.000
Pair 2	Austin Laz and Company Plc	12475740.88889	35223940.77788	2180307.19823	8182432.56832	16769049.20946	5.722	260	.000
	Avon Crown Caps and Containers	-121016490.11111	257116518.90223	15915112.97615	-152355416.57931	-89677563.64291	-7.604	260	.000
Pair 3	Berger Paints Plc	-207051624.77778	975376884.70080	60374313.48487	-325936496.89307	-88166752.66248	-3.429	260	.001
	7UP	9965381.66667	18451862.12265	1142141.59229	7716356.38921	12214406.94412	8.725	260	.000
During the Covid 19									
Pair 1	African Paints Nigeria Plc	7573.31418	9883.04095	611.74488	6368.70898	8777.91937	12.380	260	.000
	AshaksCem Plc	1002.58621	6867.47010	425.08573	165.53715	1839.63527	2.359	260	.019
Pair 2	Austin Laz and Company Plc	-19798.31801	19667.17877	1217.36780	-22195.47348	-17401.16254	-16.263	260	.000
	Avon Crown Caps and Containers	3395.13410	26365.53979	1631.98594	181.54162	6608.72658	2.080	260	.038
Pair 3	Berger Paints Plc	-665260.58621	238574.25493	14767.37565	-694339.46867	-636181.70374	-45.049	260	.000
	7UP	9965381.66667	18451862.12265	1142141.59229	7716356.38921	12214406.94412	8.725	260	.000

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Post Covid 19

Pair 1	African Paints Nigeria Plc	-102.50000	58.25257	10.63542	-124.25187	-80.74813	-9.638	29	.000
	AshaksCem Plc	-120.26667	60.37808	11.02348	-142.81221	-97.72112	-10.910	29	.000
Pair 2	Austin Laz and Company Plc	-74.86667	54.60184	9.96889	-95.25533	-54.47800	-7.510	29	.000
	Avon Crown Caps and Containers	-60.70000	48.98005	8.94249	-78.98945	-42.41055	-6.788	29	.000
Pair 3	Berger Paints Plc	-63.37488	56.88528	7.45263	45.84793	-42.68423			.000
	7UP	-36.63922	73.88263	9.55374	55.26364	51.74295	-7.957		.000

Source: SPSS, 22.0 (2020)

Table 3 revealed a higher mean among the pairs in the pre-covid 19 and the covid. The standard deviation of the pairs is also found to be lower in the pre and covid 19. The concerned confidence intervals did not observe zero between them which we can interpret that the sample results are significant, the value of the t-test and t-significant of the shows that, the pairs are statistically significant.

Discussion of Findings

From hypothesis one, the study found that there is significant difference before the stock prices of the manufacturing firms in the pre-covid 19, during the covid 19 and the post covid 19. This is evidence as the t-test and t-significance is less than 0.05level of significance. The results disclosed that the correlation value is of -.553 before FCMB and Access bank. The hypothesis tested proved that there are significant differences in the stock price movement of the commercial banks within the periods covered in this study. The significant of movement in the stock prices of the commercial banks within the covid 19 periods confirm the expectations of the study and the findings of Chiang, Nam, and Li (2007) that there was a high correlation among sample Asian countries during the period of crises. Sun and Hou (2018) that in Southeast Asia, Malaysia, Vietnam, and Thailand were most financially integrated with China, Olapegba et al (2020) that some Nigerians have misconceptions about COVID-19 and the findings of Adenomon and Maijamaa (2020) results revealed a loss in stock returns and high volatility in stock returns during the COVID-19 period in Nigeria.

From hypothesis two, the study found that there is significant difference before the stock prices of the manufacturing firms in the pre-covid 19, during the covid 19 and the post covid 19. The findings of the study confirm our a-priori expectations; evidence from the hypothesis tested proved that there are significant differences in the volume of equity traded movement of the commercial banks within the periods covered in this study. The significant of movement in the liquidity of the commercial banks within the covid 19 periods confirm the expectations of the study and the findings of Ichev and Marinˇc (2016) that local media reporting also has a significant impact on local trading, and the

effect is more pronounced in smaller and more volatile stocks and less stable industries. DeLisle (2003) that the cost of the 2003 SARSoutbreak resulted in losses as high as in the financial crisis of Asia, Macciocchi et al., (2016) that average return was 0.90 per cent but on different occasions and countries it ranged from 0.90 percentto 4.87percent. Ming-HsiangChen, Shawn, and Gon (2017) that during the SARS outbreak period, seven publicly traded hotel companies experienced steep declines in income and stock price and the findings of Mei-pingChenet al., (2018) whose findings supported the existence of a time-varying co-integration relationship in aggregate stock price indices.

From hypothesis three, the study found that there is significant difference before the stock prices of the manufacturing firms in the pre-covid 19, during the covid 19 and the post covid 19. The findings of the study confirm our a-priori expectations; the significant differences within the covid 19 periods confirm the expectations of the study and the findings of Tesfaye (2020) that the pandemic has effect on both balance sheet and income statement of banks. Sansa (2020) that COVID - 19 had a significant impact on the financial markets from 1st March 2020 to 25th March 2020 in China and USA. The findings of HaiYue, Aqsa, CangYu, Lei and Zaira (2020)that the consequences of infectious disease are considerable and have been directly affecting stock markets worldwide, the findings of AlAli (2020) that who announcement had a more impact on the stock markets performance than the announcements of local health authorities' announcements.

Conclusion

From the findings, the probability coefficient of the t-test from the pairs is 0.0000 less that the critical of 0.05 at 5 per cent level of significance, the study accept the alternate hypothesis and concludes that there is significant difference in the stock prices of manufacturing firms in pre-covid 19 in Nigeria. The probability coefficient of the t-test from the pairs is 0.0000 less that the critical of 0.05 at 5 per cent level of significance, the study conclude that the alternate hypotheses that there is significant difference in the stock prices of manufacturing firms in during-covid 19 in Nigeria. The probability coefficient of the t-test from the pairs is 0.0000 less that the critical of 0.05 at 5 per cent level of significance, the study conclude that there is significant difference in the stock prices of manufacturing firms in post-covid 19 in Nigeria

Recommendations

1. The shock absorbing capability of each bank in the sector should be separately looked at for an effective remedial action. Comprehensive reform and finance sector restructuring programs should be thought of in order to accommodate such changes and speed up the recovery process. The study identified immediate liquidity need of liquidity that they can comfortably meet the regulation of the Central bank of Nigeria.
2. The manufacturing firms should intensify effort in developing more competence in formulating strategies of enhancing prices in the post Covid 19 periods. The manufacturing industries will require government bailout as Nigerian manufacturing are in a weak financial state, which has further been exacerbated by the Covid19 pandemic.
3. The Nigeria business model need to be significantly rethought and additional innovation needed. While it's clear that commercial banks are facing a liquidity crunch, and absent bailouts may quickly face insolvency, it is unclear what happens next.

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