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Do Capital Market Returns Actually Predict the Standard of Living of A Nation:Evidence from Nigeria

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Abstract
The study tried to resolve the disagreement in many quarters that the returns of the capital market do not predict or relate to the standard of living of a reporting nation. The position of the researchers in this study was taken by using Nigeria Stock Exchange data and world bank website from 1985 to 2021 and analyzed with Error Correction Mechanism, among others. The result of the cointegration test showed that long run relationship exists between the dependent variable-standard of living proxied by Per capita Gross Domestic Product and independent variables, All-Share Index, Value of Transactions and Volume of Transactions. Further analyses revealed that All Share Index significantly relate to standard of living, while other variables insignificantly impact standard of living in Nigeria. However, the Granger causality test showed that the Per Capita Gross Domestic Product granger causes the Value of Transaction in the Capital Market; implying that Standard of living in Nigeria that determines the Value of Transactions in the Capital Market and not the other way round. It is also observed that Per Capita Gross Domestic Product (standard of living indicator) is not autoregressive or does not reinforce itself; which statistically is confirmed evidence showing that standard of living in the past cannot predict future standard of living in Nigeria. It is on these premises that the researchers recommend among others that policies should be put in place to enhance the growth of the capital market which will ultimately impact on the standard of living of Nigerians.
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1. Introduction

Recently, the Federal Government of Nigeria through the Finance Act introduced Capital Gains Tax on the sale of securities (except for Government securities) that have cumulative proceeds of N100 million Naira and above in a year. Some players in the market have been commenting on the need to either increase the threshold or repeal it entirely. At this point one wonders the impact of the capital market on the Standard of living of the people. Osamwonyi and Anikamadu (2002) sees capital market as a group of interconnected organizations or institutions and procedures that are established for generating of funds and exchange of medium and long-term financial securities such as shares, bonds and derivatives for economic stability and development.

Capital Market encourages accumulation of outputs and imports which is reserved as what is included in the stock of capital goods. It is in the capital market that long term funds are raised to help both government and businesses source funds that are long term in nature for the expansion of businesses and the economy. The role of the capital market cannot be ignored or overemphasized in an economy. The Capital market is one of the financial markets that intermediates between the surplus and deficit units of the economy, which makes for efficiency of transfer of funds in the capital market and by extension facilitates growth of the economy. It is instructive to note that the misplacement of funds will negatively affect the standard of living of the citizens.

On the other hand, standard of living according to Akpunonu et al (2017) is the degree of level of life of an individual or group of people. If the standard of living of a people is high, it means that the economy of that country is developed. There is a correlation between developed economies and high standard of living. Many scholars such as Ewah et al (2009), Kolapo and Adaramola (2012) and Oke and Adewusi (2012) opines that the development of stock market which is part of the capital market stimulates economic growth. Furthermore, Akpuonu and Nwankwo (2014) sees standard of living as material goods, level of wealth and comfort that is accessible to the citizens of a country. In considering the standard of living of a country, there are many circumstances that should be considered. Such circumstances include level, quality and availability of employment, rate of poverty, quality of housing and its affordability, rate of inflation, rate of literacy, infrastructural development, healthcare services, political and economic stability, national growth, gross domestic product etc. Consequently, the role of the capital market is the efficient mobilization of long-term funds and its effective allocation, which at the end of the day impact on the economic growth of the country and by extension the standard of living. Aremu et al (2011) stated the roles of the Capital Market as follows:

i. Provision of borrowing opportunities for businesses that needs long term funds, which should be for

investment.

ii. Provision of platform for shares and other financial securities marketing to raise capital for expansion of businesses

iii. Proper avenue for allocation of financial resources by using the mechanism of capital formation and allocation of scarce resources for effectiveness and efficiency for economic growth.

iv. With the platform of the capital market, total reliance on short term funding for long term projects is reduced.

v. It helps government in the achievement of privatization agenda by handling the initial public offer (IPO) to the public.

vi. The capital market encourages foreign direct investment in the economy.

One of the justifications for the introduction of the Capital Gains Tax in the capital market for cumulative transactions of N100Million and above is that the stock market has developed compared to what the market used to be ten years ago. Despite the perceived growth in the capital market, the standard of living of an average Nigerian is still poor. One wonders whether it is the growth in the capital market that causes high standard of living or vice-versa, this in effect constitutes a gap in this area of research which the researchers will want to close. Consequently, this study will be investigating if there is a relationship between standard of living and the capital market, if there is which of them causes the other.

2. Literature Review

2.1 Conceptual Review

Investopedia defines Standard of living as ‘‘wealth, comfort, material goods, and necessities of certain classes in certain areas’’. By this definition, standard of living is therefore, the quality of life that individuals experience in their countries. Standard of living can be measured by income, employment opportunities, cost of goods and services, poverty, life expectancy, the inflation rate, or the number of paid vacation days, Quality and affordability of housing, hours of work required to purchase necessities, Gross domestic product (GDP), affordable access to quality healthcare, quality and availability of education, incidence of disease, infrastructure, National economic growth, economic and political stability, political and religious freedom. environmental quality, Climate, Safety. In developing nations, general levels of living tend to be very low for most people. This is true not only in relation to their counterparts in rich nations but often also in relation to small elite groups within their own societies.

Todaro and Smith (2003), state that low levels of living are manifested quantitatively and qualitatively in the form of low incomes, inadequate housing, poor health, limited education, high infant mortality, low life and work expectancies, and in many cases a general sense of malaise and hopelessness. The standard of living in any economy is dependent on the level of economic growth and development. Hence, governments usually strive to formulate policies and implement programmes that will lead to economic growth and development.

Economic growth is the increase in the value of goods and services produced by an economy. It is generally considered to be an increase in the wealth, or more income of a nation. In an economic sense, it refers to growth of potential output i.e., production at full employment rather than growth of aggregate demand/output. It is conventionally measured as the percent rate of increase in real Gross Domestic Product (GDP). The real GDP per capital of an economy is often used as an indicator of the average standard of living of individuals in that economy.

Iyoha, (2004) sees economic growth as an indicator of an increase in the average standard of living of individuals in that economy. He contended further that economic development, on the other hand, is a sustained increase in living standards that implies increase in per capital income, better education, and health as well as environmental protection. In the view of Todaro (1980), economic development is more fundamental than economic growth as it goes beyond the mere rise in real national income. It must manifest in improved standard of living for the citizens. One of the major institutions that act in propelling a prostate economy through sustainable investments toward growth and development is the capital market.

Osaze and Anao (1999) says that the capital market is the cornerstone of any financial system since it provides the funds needed for financing not only business and other economic institutions but also the programmes of government as a whole. Okereke-Onyiuke (2008) opined that the capital market plays a very vital role in stimulating industrial as well as economic growth and development. Okereke-Onyiuke (2008) is of the opinion that corporate recourse to the capital market got a boost from the Indigenization Programme, Deregulation of Interest Rates, Privatization Programme, and the recent Banking Sector and Insurance Industry reforms.

The Will Nigeria (2022) recorded that at the end of Programmed the first quarter of 2022, Market capitalization gained N3.012 trillion as the market closed positive with N24.322 trillion at the end of the quarter in the last week of March, as against N22.296 trillion at the first week of the month in January. Consequently, the All-Share Index (ASI) also recorded a positive market closure of 4,249 basis points reflecting a 10 percent

jump; the quarter opened with an ASI of 42,716.44 to close 46,965.48. From the above analysis the stock exchange market is growing in value while according to Business Day (2022 March, 17) the living standard of Nigerians is worsening with an increase in inflation to all time high of 15.7%, since 2017. In the same vein according to the World Bank report (2020), The National Bureau of Statistics (NBS) released the "2019 Poverty and Inequality in Nigeria" report, which highlights that 40 percent of the total population, or almost 83 million people, live below the country's poverty line of 137,430 naira ($381.75) per year. Similarly, the current World Bank report (2022) indicates that 4 out of every 10 (40%) Nigerians live below poverty line. This according to the report is as a result of sluggish growth, low human capital, labor market weaknesses, and exposure to shocks.
However, Taiwo (2016) opines that the Capital market is made up of the mechanisms and institution. It is through these two (institution and mechanisms) that the deficit and surplus units who are willing to transact, does that through the financial intermediation. The regulator that is in charge of the market is the Securities and Exchange Commission and the Nigerian Stock Exchange Market is the supervisor of the formal quoted market as a self-regulator.

2.1.1 The Nigerian Capital Market Structure

The Nigerian capital market in its operations is divided into three:

i. The Primary Market
ii. The Secondary Market
iii. The derivatives Market

The Primary Market: The primary market is responsible for initial public offers by channeling it through the stock exchange market or by private placements. Taiwo (2016) states that the operations of the primary market hinges on the following:

i. offer for subscription
ii. offer for sale
iii. right issue
iv. private placement
v. listing by introduction

The Secondary Market: This otherwise is known as the stock market. It is the platform for capital market operations which includes but not restricted to the purchase and sale of securities such as stock and shares, debentures, bonds and other long term financial securities. Taiwo et al (2016) indicates that the significant organizations that take part in this market are development banks, private companies, central bank of Nigeria and the treasury. Others that were categorized as minor participants are commercial banks and merchant banks, individuals, states and local governments. The secondary market provides a platform for the conversion of financial securities(investments) to cash and at the same time provide an environment for more investments (purchase of existing financial securities).

The derivatives Market: The derivative market according to Udo, Nwezeaku et al (2021) is that platform t where right to title behind a security or foundation of future title to securities, are traded. The derivatives market is still developing in Nigeria.

2.1.2 Trading Method in the Secondary Market.

The following trading methods in the Nigerian Stock Exchange market were identified by Store (2004), Alabede (2005) and SEC (2005) as follows:

Automated Trading System (ATS): This is a trading method whereby trading was conducted through technology where various traders'(stockbrokers') computers are linked such that any security for trading is broadcasted to all and offers are made through the same channel. Any offer accepted by the seller is the one recognized for payment of the security sold. This system replaced the call over system which was in existence before the introduction of the ATS. The call over system was manual based while the ATS was computer based and fast. The ATS came into being on the 27th of April 1999.

Central Securities Clearing System (CSCS): The Central Securities Clearing System (CSCS) came into existence in 1997, as a subsidiary of the Nigerian Securities Exchange Commission. However, it started operations on the 14th of April 1999. The Securities and Exchange Commission (2005) says that CSCS an interface platform, receives information(data) automatically from the Automated Trading System (ATS) to achieve a three-day (T-3) settlement period. Summarily, the CSCS is a devise for settlement (clearing) of trading transactions in the exchange market.

Online Trading System: This is a system of trading whereby stockbrokers/dealing clerks from various parts of the globe can be linked by the exchange to trade on the platform at the central server. Similarly, branches of the exchange in Lagos, Abuja, Kano, Yola, and Port Harcourt are integrated to be part of trading online.

Remote Trading: Remote trading was introduced by the Nigerian Stock Exchange in 2004. This is a system of trading that connects the main trading machine to the personal computers of the Stockbrokers. The implication of this is that stockbrokers can trade from the comfort of their homes or offices as they need not come to the floor of the exchange to trade. There is safe delivery of data from the main trading machine to the computers of the

stockbrokers. This makes the trading floor less compacted and eliminates the idea of everyone rushing to trade at the floor of the exchange.

Trade Alert System: This is a situation where notice of details of all transactions in a security holder's account that passes through the Central Securities Clearing System is sent to the holder's phone through SMS. The essence of this is to guard against fraudulent transactions before it takes place.

Bonus: This system entails bonuses being credited directly into the CSCS accounts of investors.

2.2 Theoretical frameworks

This study is anchored on the Efficient Market Hypothesis (EMH), also called Random Walk Theory (Kendall, 1953); a consideration that the equity value of a listed firm reflects all data regarding the business value. "Efficient market" as presented in 1965 by Eugene Fama, suggested that stocks always trade at fair value. This makes it impossible for investors to buy undervalued stocks or to sell stocks at overestimated prices. A market is efficient if prices adjust rapidly and, on average, without bias to new information. Thus, there isn't a reason to believe that prices are excessively high or low. So, in an efficient context it is impossible to beat the market. Investors pay a fair price. This means that market efficiency is consistent with a market in which there are no transactions costs in trading securities; all available information is costless to all market participants, and all participants in the market are rational in decision, suggesting that all agree on the implications of current information for the current price and distributions of future prices of each security (Fama, 1976). Rossi and Gunardi (2018) the stock market is an important principle used to measure the efficiency and the correlation between prices and all the information present in a market. These measures incorporate all quantitative and qualitative indicators that are streamlined into the standard of living of citizens of a nation. Based on this theory, an investor is not only concern is selecting a particular risk-returns trade-off, also on how market response to all the available or possible-to-know information. In reality, certain information may affect stock prices more quickly than other information.

2.3 Empirical Review

Ifeoluwa and Bolane (2015) investigated the stock market liquidity impact on economic growth of Nigeria. The researcher employed the e-view software, employing the ordinary least square method and applying the Augmented Dickey-Fuller technique to analyze the data of 1980 to 2012. The findings shows that all the factors (variables) were stationary at first difference, and the Johansen cointegration test shows that there is a co-integrating relationship. Consequently, it was revealed that stock market liquidity is not significantly related to Nigeria's economic growth within the period under review.

Alajekwu and Achugbu (2012) in their study of the role of stock market development and economic growth of Nigeria, discovered that the relationship between market capitalization, value traded ratios and economic growth is weak and negative. The researchers believed that Government policies that favours local investors will boost the activities of the stock market. In coming to the result of this study, the researchers tested 1994 to 2008 data using Ordinary least square method. On the other hand, Osho (2012) in the investigation of the Stock Market Role on Nigeria's Economic Development observed that there was a significant relationship between the development of the stock market, and financial intermediaries which ultimately culminates in economic growth. To arrive at this result, the researcher tested 1980 – 2010 data using multiple regression models to test all the variables, whereby they recommended that whenever Government raises money for investment in securities, that it should be channeled to the productive sector.

Idowu & Babatunde (2014) examined the effect of financial/capital market reforms on economic growth, employing Ordinary least square approach on 1986 to 2010 time series data. The findings revealed a relationship between the reforms and the liquidity of the stock market. On the other hand, advances to the private sector that proxied development in intermediation from the financial institutions showed no significant and negative relationship on the stock market. Ovat (2012) evaluated the role of stock market in driving growth using the Nigerian stock market as a case study. The unit root technique, Granger causality, and co-integration tests were employed and concluded that liquidity in the stock market has no relationship with growth of the Nigerian Economy. Furthermore, there it was observed that financial deepening causes economic growth.

Akpunonu et al (2017) investigated the performance of stock market indicators and standard of living in Nigeria, using the Ordinary Least Square technique over 1986 to 2014 data provided in the Central Bank of Nigeria (CBN) statistical bulletin. The findings revealed that the primary stock market has no relationship with standard of living in Nigeria. In conclusion the researchers concluded that the stock market has not made any meaningful contribution to standard of living in Nigeria despite its potentials. The recommendation of the study among others is that the stock market should be liberalized. Amu et al (2015) investigated the impact of growth in capital market on economic growth in Nigeria, employing regression analysis on time series data from 1981 to 2012. The regression analysis technique was deployed, and the result of the investigation shows that there was no relationship between capital market growth and the economy.

Edame and Okoro (2013) examined the capital market impact on economic growth using the time series data of 1970 to 2009. The study revealed that there is a significant and positive relationship between capital market and economic growth in Nigeria, hence making a recommendation of implementation of those policies that will enhance efficiency in the capital market. Oke & Adeusi (2012) investigated the impact of capital market reforms on the economic growth of Nigeria using OLS and the Johansen co-integration method were deployed in the analysis and the result indicated a significant relationship between economic growth and capital market reforms. The study thereby recommended a review of the existing laws with a view to effectively strengthening them for more objective reforms that will enhance economic growth.

Ohiomu and Enabulu (2011) evaluated the stock market effect on economic growth in Nigeria, deploying ordinary least square regression technique and x-raying 1989 to 2008 time series data. The study revealed a significant and positive relationship between economic growth and the stock market. The study went ahead to recommend that policies that will enhance swift expansion of the stock market should be put in place by the authorities. Olowe et al (2011) in their work on the efficiency of Nigeria Stock exchange and economic development using the data of 1979 to 2008, employed multiple regression technique of analysis to come up with the inference that there was no positive relationship between the ratio of turnover in the stock market and economic growth which was proxied by the Gross Domestic Product of Nigeria. The researchers were of the view that any policy that will favour investors that are rationale will turn around the situation.

Usman & Abdulmumini (2013) employed the Johansen Co-integration technique and Granger causality test to analyse the data of 1981 to 2010 to determine the impact of stock exchange market on economic growth in Nigeria. The study revealed a significant and positive relationship between value traded, market capitalization and economic growth in Nigeria. The researchers went ahead to recommend the institution of capital market to take care of global market shocks.

Akpunonu et al (2017) evaluated the stock market effect on the living standard of Nigeria. This study employed the Ordinary Least Square (OLS) and the Johansen Co-integration method using data from the Central Bank of Nigeria (CBN) statistical bulletin, et al from 1986 to 2014. The result of finding revealed a significant and long run relationship between market capitalization, market volatility and standard of living respectively. In conclusion, the study recommends that more profitable stock market is needed to assure potential investors of the security of their funds which on the other hand will guarantee economic growth and ultimately enhanced standard of living.

2.5 Research Gap

There have been various inferences on this topic both in the empirical work and in the theories. Moreover, there has not been any causal analysis of the topic. Consequently, this research will harmonize positions, at the same time do a causal effect of the study, while improving on the studies done in the past both in analytical tools and time series.

3 Material and Methods

The Ordinary Least Square (OLS) test and Error Correction model, ADF unit test, Pairewise Granger Causality test were used for the analyses of data collected from Nigerian Stock Exchange Statistical data and World bank Website, spanning from 1985-2021.

3.1 Model Specification

The functional form of the models tested is as follows:

$Y = f(a_0 + a_1X_1 + a_2X_2 + \dots a_n X_n)$

Where:

a_o; a_1; $a_2 \dots a_n$ are parameters estimated, X_1, $X_2 \dots X_n$ are independent variables, and Y is the dependent variable.

The form suitable for empirical testing of the above functional specification
is stated as follows:

$PCGDP = a_0 + a_1ASI + a_2VOLT + a_3VALT + u_i$

Where:

PCGDP = Per Capita Gross Domestic Product (GDP) as dependent variable. The explanatory variables (capital market indicators) for each of the model are:

ASI = All share index of the NSE

VOLT = Volume of Transaction on the NSE

VALT = Value of Transaction on the NSE

u_i = error term

a_0, a_1, a_2, a_3 = Coefficient of the appropriate research variables

PCGDP is proxy for standard of living while ASI, VOLT, and VALT represent the capital market variables.

3.2 Apriori Expectation

$a_0, a_1, a_2, a_3, > 0$

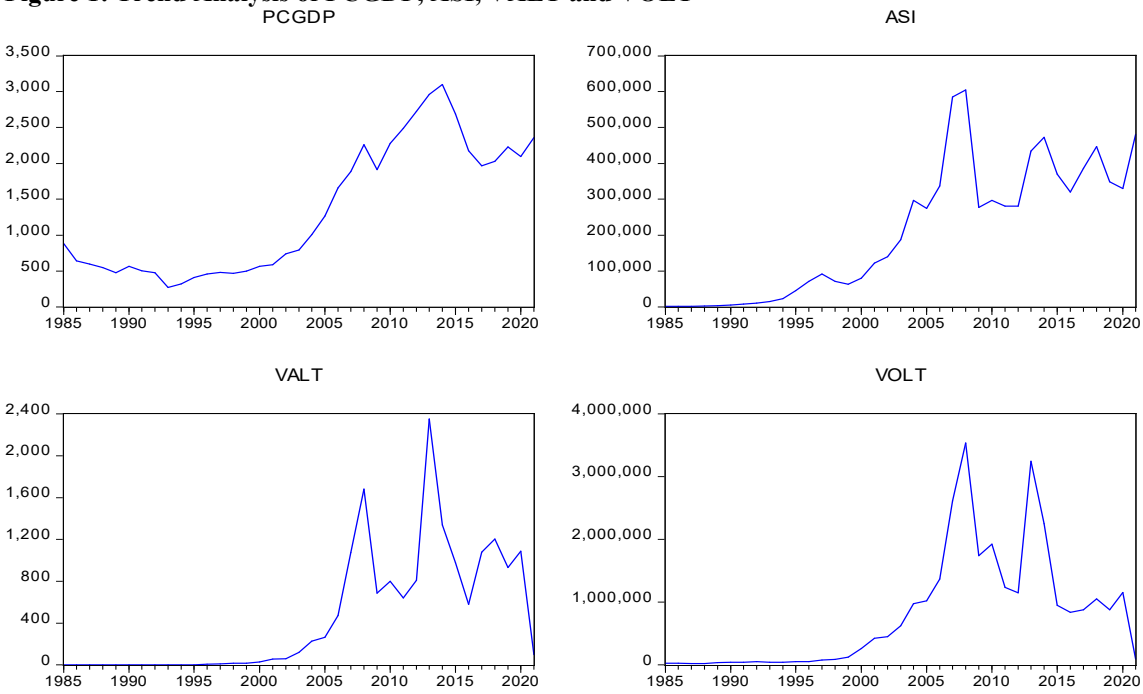
It is expected that the coefficient of all the independent variables (ASI, VOLT, and VALT) will be greater than zero.

4. Analysis and Interpretation

4.1 Trend Analysis of Data

The trend analysis is shown in figure I below. The figures below revealed that PCGDP, ASI, VALT and VOLT trended downward and upward with periods of peak and trough suggesting the expected non-stationarity of the variables.

Figure 1: Trend Analysis of PCGDP, ASI, VALT and VOLT



4.2 Description of Variables

Table 1 below shows the distributional characteristics of all the data. It is revealed that standard deviations of PCGDP, ASI, VALT and VOLT are 910.1079, 185614.5, 585.3745, and 935666.2 respectively, suggesting high standard deviation. PCGDP and ASI showed Kurtosis less than normal while VALT and VOLT recorded excess Kurtosis. All variables showed evidence of positively skewed distribution. PCGDP and ASI showed p-values of Jarque-Bera that are insignificant at 5%, evidence of normal distribution, whereas VALT and VOLT p-values of Jarque-Bera that are significant at 5%, suggesting of abnormal distribution.

Table 1: Descriptive Statistics for PCGDP, ASI, VALT and VOLT

	PCGDP	ASI	VALT	VOLT
Mean	1334.614	210005.3	448.8872	794044.3
Median	882.5000	186718.7	98.38570	451850.0
Maximum	3099.000	605096.4	2350.876	3535631.
Minimum	270.2000	1407.400	0.225400	20525.00
Std. Dev.	910.1079	185614.5	585.3745	935666.2
Skewness	0.429712	0.421620	1.318129	1.386299
Kurtosis	1.632711	1.979928	4.297134	4.312018
Jarque-Bera	4.020803	2.700381	13.30831	14.50506
Probability	0.133935	0.259191	0.001289	0.000708
Sum	49380.70	7770196.	16608.82	29379638
Sum Sq. Dev.	29818669	1.24E+12	12335880	3.15E+13
Observations	37	37	37	37

4.3 Multicollinearity Test

Table 2 below depicts the correlation matrix of the variables under investigation. It is revealed that the

correlations between PCGDP, ASI, VALT and VOLT range from 0.755281 to 0.894036, indicating that the variables are not linearly correlated; no problem with multicollinearity in the model.

Table2: Correlation Matrix

Variables	PCGDP	ASI	VALT	VOLT
PCGDP	1.000000	0.863324	0.849000	0.755281
ASI	0.863324	1.000000	0.822910	0.826767
VALT	0.849000	0.822910	1.000000	0.894036
VOLT	0.755281	0.826767	0.894036	1.000000

4.4 Stationarity Properties of the Variables

This procedure is important in macroeconomic time series analysis to know the appropriate technique to use in model estimation. This study employed Augmented Dickey Fuller (ADF) unit root test to examine the long run equilibrium links and causality between the variables. As seen from the table 3 below, all the variables did not attain stationarity at level, rather all achieved stationarity at first difference or differenced once to be stationary. Having confirmed that, next is co-integration test using Johansen co-integration test.

Table 3: ADF Unit Root Test at Level and First differenced Data

Variables	**Maxlag**	**Level**	**1st Difference**	**Remarks**
		ADF Statistics/P-value	**ADF Statistics/ P-value**	
PCGDP	9	-0.314883 (0.9129)	-4.285791 (0.0018)	@1(1)
ASI	9	-0.798235(0.8069)	-6.577858 (0.0000)	@1(1)
VALT	9	--2.392958 (0.1507)	--5.780297 (0.0000)	@1(1)
VOLT	9	-2.166740 (0.2213)	-6.179107 (0.0000)	@1(1)

4.5 Co-integration Test

This is important to determine if there exist equilibrium relationships between the variables; PCGDP, ASI, VALT and VOLT**,** Table 4 below showed the results of unrestricted rank tests (Trace and Maximum Eigenvalue) have one co-integration equation (both at none) each at 5% level of significance among the variables. This shows that long run relationship exists between the dependent variable, standard of living proxied by PCGDP and independent variables; ASI, VALT AND VOLT in Nigeria

Table 4: Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.619796	57.46955	47.85613	0.0048
At most 1	0.378133	23.62286	29.79707	0.2168
At most 2	0.180057	6.996836	15.49471	0.5780
At most 3	0.001388	0.048607	3.841466	0.8255
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.619796	33.84669	27.58434	0.0069
At most 1	0.378133	16.62602	21.13162	0.1904
At most 2	0.180057	6.948229	14.26460	0.4953
At most 3	0.001388	0.048607	3.841466	0.8255

4.6 Ordinary Least Square Test

Here, least square method is employed to estimate this relationship between standard of living and capital market. As seen in table 5 below, all measurement indicators are good, but Durbin-Watson statistics is 0.989945, showing presence of autocorrelation, suggesting the model cannot be used for further analysis and policy formulation. Then the researchers proceed to Error Correction Mechanism Test.

Table 5: Ordinary Least Square (OLS) Methods

Dependent Variable: PCGDP				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASI	0.002898	0.000684	4.236559	0.0002
VALT	0.962539	0.272354	3.534140	0.0012
VOLT	-0.000279	0.000172	-1.621300	0.1145
C	515.5169	103.0327	5.003432	0.0000
R-squared	0.819205	Mean dependent var		1334.614
Adjusted R-squared	0.802769	S.D. dependent var		910.1079
S.E. of regression	404.1856	Akaike info criterion		14.94343
Sum squared resid	5391078.	Schwarz criterion		15.11758
Log likelihood	-272.4535	Hannan-Quinn criter.		15.00483
F-statistic	49.84226	Durbin-Watson stat		0.989945
Prob(F-statistic)	0.000000			

From the least squares (ECM) results in table 6, it is observed that ASI at lag 2 significantly relate to standard of living in Nigeria, while other variables insignificantly impact standard of living in Nigeria. It is also observed that PCGDP (standard of living indicator) has probability of 0.0527 which is insignificant at 5% significant level, hence not autoregressive. Adjusted R-squared is 0.097, suggesting that capital market indicators only explain 9.7% of the total variation in the standard of living. Durbin-Watson (DW) statistics has 2.096439, suggesting absence of autocorrelation in this study.

Table 6: Error Correction Mechanism Test

Dependent Variable: D(PCGDP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (PCGDP (-1))	0.466266	0.229728	2.029643	0.0527
D (ASI (-1))	-0.000280	0.000685	-0.408760	0.6861
D(ASI(-2))	-0.001633	0.000713	-2.289333	0.0304
D(VALT(-1))	0.405042	0.258351	1.567799	0.1290
D(VALT(-2))	0.348737	0.259509	1.343832	0.1906
D(VOLT(-1))	-0.000285	0.000205	-1.392386	0.1756
D(VOLT(-2))	-0.000108	0.000184	-0.584786	0.5637
ECM(-1)	-0.221895	0.143846	-1.542581	0.1350
R-squared	0.288945	Mean dependent var		51.81471
Adjusted R-squared	0.097507	S.D. dependent var		213.9663
S.E. of regression	203.2672	Akaike info criterion		13.66924
Sum squared resid	1074256.	Schwarz criterion		14.02839
Log likelihood	-224.3771	Hannan-Quinn criter.		13.79172
Durbin-Watson stat	2.096439			

4.7 Causality Test

Causality test is a common tool used to check if causality exists or otherwise, between any two or more variables. From the table 7 below, it observed that PCGDP granger causes VALT, whereas VALT does not granger cause PCGDP suggesting a unidirectional causality between VALT and PCGDP. No causal relationship is established with ASI, VOLT and PCGDP.

Table 7: Pairwise Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
ASI does not Granger Cause PCGDP	35	0.21989	0.8039
PCGDP does not Granger Cause ASI		1.01947	0.3729
VALT does not Granger Cause PCGDP	35	1.33499	0.2783
PCGDP does not Granger Cause VALT		11.4649	0.0002
VOLT does not Granger Cause PCGDP	35	0.13088	0.8778
PCGDP does not Granger Cause VOLT		1.71679	0.1968

4.8 Residual Diagnostic and Stability Tests

This study is further exposed to diagnostic and stability tests; Serial correlation test, Heteroscedasticity test, and Recursive Estimates of the CUSUM (Cumulative Sum Control) Test

Table 8: Breusch-Godfrey Serial Correlation LM Test

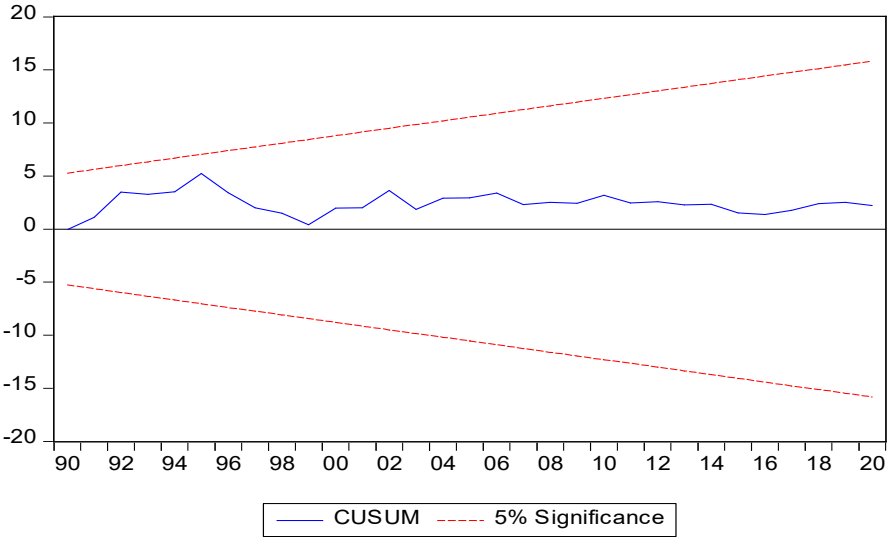
F-statistic	0.575877	Prob. F(1,25)	0.4550
Obs*R-squared	0.765558	Prob. Chi-Square (1)	0.3816

Table 9: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.121501	Prob. F (8,25)	0.3830
Obs*R-squared	8.979399	Prob. Chi-Square (8)	0.3440

Serial correlation test and heteroscedasticity Test on table 8 and 9 above disclosed that F-statistic and Obs*R-squared respective p-values are greater than 5% level of significance, for that, no problems with serial correlation and heteroscedasticity in the models used in this study.

Figure 2: Recursive Estimates of the CUSUM (Cumulative Sum Control) Test



Recursive Estimates of the CUSUM in figure 2 above revealed that the blue line falls between the two red lines showing the 5% significance level boundaries, suggesting the model is stable.

5 Conclusion and Recommendations

5.1 Conclusion

This study investigated the relationship between Standard of Living and Nigerian Capital Market and came out with the following empirical observations; that there is a long run relationship between Standard of Living and Nigerian Capital Market. It was remarkably found that of all the explainable variables employed, only the All-Share Index (ASI) relates significantly to the standard of living in Nigeria within the scope of the study. This observation contradicts the findings of Akpunonu et al (2017) that primary stock has no relationship with standard of living in Nigeria. However, the Granger causality test reveals that standard of living proxied by Per Capita Gross Domestic Product (PCGDP) granger causes the Value of Transaction (VALT) in the Capital Market; implying that Standard of living in Nigeria that determines the Value of Transactions in the Capital Market and not the other way round. It is also observed that Per Capita Gross Domestic Product (standard of living indicator) is not autoregressive or does not reinforce itself; which statistically is confirmed evidence showing that standard of living in the past cannot predict future standard of living t in Nigeria. This does not agree with efficient market hypothesis as reviewed in this study.

5.2 Recommendations

Sequel to the result of the study, the researchers are of the opinion that:

i. Policies should be put in place to enhance the growth of the capital market which will ultimately impact on the standard of living of Nigerians.
ii. the Capital Market should be further developed.
iii. there should be public enlightenment on the need for participation in the Capital Market;
iv. more products in the Capital Market should be introduced and developed.
v. review of laws with a view to favouring investors in the Capital market.

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