

Effect of the Stock Market on Standard of Living in Nigeria. An ARDL Analysis

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Abstract

This study examines the effect of stock market performance on Nigeria's standard of living over the period 1993–2023. The HDI served as a proxy for the standard of living, while Market Capitalization, Number of Listed Companies, Turnover Ratio, and Traded Value represented indicators of stock market performance. Annual time-series data were obtained from the World Development Indicators (WDI) and UNDP. The analytical techniques included descriptive statistics, Augmented Dickey–Fuller (ADF) unit root tests, Autoregressive Distributed Lag (ARDL) bounds cointegration tests, ARDL estimation, and post-estimation diagnostics. The ADF results revealed a mixture of stationary and non-stationary variables, integrated at $I(0)$ and $I(1)$. The ARDL bounds test confirmed the existence of a long-run relationship between HDI and stock market performance indicators. The long-run ARDL estimates showed that Market Capitalization and Turnover Ratio had positive but statistically insignificant effects on HDI, while Traded Value exhibited a negative but insignificant effect. Conversely, the Number of Listed Companies demonstrated a statistically significant negative effect on HDI in the long run. The study concluded that the development of the Nigerian stock market has not yet translated into tangible improvements in human development, and recommended policy reforms aimed at tax incentives and procurement preferences to verifiable investments by listed firms in jobs, health, and education; scale HDI-linked/social bonds and mandate impact reporting so capitalization yields measurable HDI gains.

Key words: Human Development Index. Market Capitalisation, Turn Over Ratio, Traded Value, Number of Listed Companies, Standard of Living.

Introduction

Standard of living in Nigeria, proxied by the Human Development Index (HDI), has improved only gradually over the past two decades and remains in the “low human development” category. The United Nations Development Programme reports Nigeria's HDI at 0.560 in 2023, up from 0.557 in 2022, but still well below the global average; inequality-adjusted losses remain large, underscoring persistent gaps in health, education, and income. In parallel, Nigeria's equity market has undergone periods of expansion and retrenchment that make it a compelling candidate for explaining living-standard dynamics through the finance development channel. On size, market capitalization rose from about 9.80% of GDP in 2019 to roughly 10.59% in 2023, reflecting both

price gains and valuation effects; yet this remains far beneath deep markets where capitalization routinely exceeds GDP (World Bank, 2023). Liquidity, however, is thin: the turnover ratio hovered around 3–4% in recent years, and the value traded has typically been well below 1% of GDP, suggesting constraints on risk-sharing and investment scale (World Bank, 2024).

Theoretically, well-functioning stock markets can improve resource allocation, mobilize savings, diversify risk, and exert governance discipline, thereby fostering productivity and human development over time. Foundational cross-country evidence shows that stock market liquidity and size are robust predictors of long-run growth even after controlling for banking development (Levine & Zervos, 1998), while subsequent panel analyses confirm that both banks and markets independently matter for growth. African evidence specifically finds that stock market development has a positive and significant effect on growth in dynamic panels, though with heterogeneity across countries and time, which is highly relevant for Nigeria's market structure. In Nigeria, episodic surges in equity returns, such as the NGX All-Share Index's +37.65% gain in 2024, coexist with shallow trading and exposure to macro-financial shocks, raising the question of whether capitalization, value traded, turnover, and market returns translate into human development rather than merely financial wealth (NGX, 2025).

Statement of the Problem

Despite intermittent bull cycles and an expanding listings base, Nigeria's stock market has not consistently delivered the depth and liquidity associated with sustained improvements in living standards. Market size relative to the economy expanded sharply in 2024 (29% of GDP), yet liquidity indicators remain subdued: the turnover ratio was about 3.6% in 2022, and value traded has been a fraction of GDP, pointing to limited risk pooling and constrained capital reallocation (World Bank, 2024). At the same time, the HDI, while edging up to 0.560 in 2023, still signals lagging progress in health, education, and income; inequality-adjusted losses further erode effective human development. This disconnect raises an empirical puzzle: do improvements in market capitalization, value traded, turnover ratio, and stock market returns actually cause better living standards in Nigeria, or are equity booms largely financial cycles with weak development transmission? (UNDP, 2023) The literature suggests several mechanisms, lower cost of capital, enhanced corporate governance, and better savings intermediation through which stock markets can spur growth and, ultimately, human development (Levine & Zervos, 1998; Beck & Levine, 2002; Adjasi & Biekpe, 2006). Yet these channels may be impaired in contexts of macroeconomic volatility, currency shocks, and thin trading. Recent Nigerian episodes' rapid index gains alongside FX-driven valuation swings and fragile real-sector pass-through highlight the risk that headline returns do not translate into broad-based welfare absent depth and stable liquidity.

Consequently, the central problem this study addresses is whether Nigeria's stock market performance, measured by market capitalization, value traded, turnover ratio, and stock market returns, has a statistically meaningful and economically significant effect on the standard of living (HDI), once structural features and macro conditions are accounted for. This is not merely a growth-accounting question; it is a development question about the extent and reliability of financial-to-human-development transmission in an emerging, volatility-prone market.

Aim and Objectives of the Study

This study aims to examine the effect of stock market performance on the standard of living in Nigeria over the period 1993 to 2023. While specific objectives are to:

- i. Evaluate the effect of market capitalization on the Human Development Index (HDI) in Nigeria.
- ii. Examine how the influences on the value of listed companies affect the Human Development Index (HDI) in Nigeria.
- iii. Assess the impact of the turnover ratio on the Human Development Index (HDI).
- iv. Investigate the extent to which the value of shares traded affects the Human Development Index (HDI) in Nigeria.

Literature Review

Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH), proposed by Eugene Fama (1970), posits that financial markets are “informationally efficient,” meaning that stock prices fully reflect all available information at any given time. The core assumption is that investors act rationally, arbitrage opportunities are short-lived, and prices adjust rapidly to new data. Under this theory, stock market performance captured through indicators such as market capitalization, turnover ratio, value traded, and listed companies embodies the collective expectations of investors about firms’ future profitability and macroeconomic prospects. In the context of Nigeria, the EMH implies that a well-functioning stock market would allocate resources efficiently toward productive investments that enhance output and ultimately improve the standard of living, as measured by the Human Development Index (HDI).

Capital Market–Led Growth Hypothesis

The Capital Market–Led Growth Hypothesis, advanced by *Levine and Zervos (1998)*, argues that the development of stock markets fosters economic growth through improved liquidity, capital mobilization, and efficient risk-sharing. The assumption is that stock market indicators such as market capitalization and value traded reflect the depth and efficiency of financial intermediation. When markets are deep and liquid, firms can access long-term funds at lower costs, leading to higher investment, productivity, and income, which in turn improve human welfare.

Empirical evidence supports this view: Levine and Zervos (1998) found that stock market liquidity and size significantly predict long-term growth, even after controlling for banking variables.

Financial Intermediation Theory

The Financial Intermediation Theory, pioneered by Joseph Schumpeter (1911) and later expanded by Goldsmith (1969), asserts that financial systems, both banking and capital markets, play a crucial role in economic development by channeling savings to productive investments. The main assumptions are that financial intermediaries and markets reduce transaction and information costs, promote innovation, and enable capital accumulation. In the Nigerian context, efficient intermediation through the stock market allows savers to invest indirectly in productive enterprises via the purchase of equity. As Schumpeter emphasized, entrepreneurs drive economic progress when financial institutions provide funding for innovation. Similarly, Goldsmith observed that financial depth and economic development evolve together. Therefore, stock market indicators such as value traded and turnover ratio signify how effectively savings are transformed into investment that enhances income and living standards.

Keynesian Investment Theory

The Keynesian Investment Theory, proposed by John Maynard Keynes (1936), posits that investment decisions depend on expectations of future returns relative to the cost of capital. The key assumption is that when stock market returns rise, firms experience higher valuations and lower equity-financing costs, leading to increased investment. This, in turn, stimulates output, employment, and ultimately enhances living standards.

In emerging economies like Nigeria, buoyant market returns and capitalization can signal strong investor confidence, encouraging firms to issue new equity and expand operations. Conversely, market downturns increase uncertainty and reduce investment flows, which can depress income and welfare. Hence, the stock market serves as both a barometer and driver of macroeconomic activity, influencing human development outcomes.

Conceptual Review

Human Development Index (HDI)

The Human Development Index (HDI), created by Mahbub ul Haq and Amartya Sen (1990) under the United Nations Development Programme (UNDP), is a combined measure of human well-being that reflects three key aspects of living standards: a long and healthy life (life expectancy at birth), knowledge (average and expected years of schooling), and a decent standard of living (Gross National Income per capita). In principle, HDI values range from 0 to 1, with higher scores indicating greater human development. In this study, HDI serves as the proxy for standard of living, reflecting the degree to which economic progress, potentially influenced by stock market performance, translates into tangible human welfare. A rising HDI signifies improvements in life expectancy, educational attainment, and income levels, which together define the overall well-being of citizens.

2.3 Empirical Review

Ozegbe et al. (2025) examined the influence of stock market growth on the improvement of individual welfare in Nigeria, beyond Gross Domestic Product (GDP) expansion. Using annual time-series data from 2003 to 2022, the study analyzed how specific stock market indicators, such as market capitalization, liquidity, and volatility, affected comprehensive development measures, including real GDP per capita and the Human Development Index (HDI). Multiple regression analysis (OLS) was employed as the estimation technique. The findings revealed that market capitalization had a positive and significant impact on both real GDP per capita and HDI. However, stock market liquidity exhibited mixed effects not significant on real GDP per capita but significantly negative on human development. Stock market volatility, on the other hand, showed insignificant effects on both real GDP per capita and human development. The study concluded that market capitalization and liquidity were the major drivers of economic development in Nigeria and recommended that deliberate measures be implemented to further open the market and attract investors, while ensuring appropriate regulatory oversight to mitigate negative effects.

Njoku et al. (2024) investigated the effect of Nigeria's capital market on economic development. Secondary data were obtained from the World Bank and the Central Bank of Nigeria (CBN) Statistical Bulletin for the period 1991 to 2022. The Augmented Dickey-Fuller (ADF) unit root test was conducted to test for stationarity, the Johansen cointegration test was applied to determine long- and short-run relationships, and the Granger causality test was used to examine causal directions. The dependent variables were the Unemployment Rate and HDI, while the independent

variables included Market Capitalization, All-Share Index, Transaction Volume, and Transaction Value. The findings revealed that Market Capitalization and the All-Share Index were significantly correlated with HDI, whereas no significant correlation was found between HDI and either Transaction Volume or Transaction Value. In the second model, none of the independent variables showed significant relationships with the unemployment rate.

Dhungana (2023) utilized secondary data from 1995 to 2022, extracted from the Quarterly Economic Bulletin of the Nepal Rastra Bank. The Johansen cointegration test, Granger causality test, and VAR model were applied to examine the relationship between stock market development and economic growth in Nepal. The results revealed a long-term cointegration among stock market development indicators, gross national savings, market capitalization, gross capital formation, trading turnover, stock market index, and economic growth. Additionally, the Granger causality test demonstrated a unidirectional causal relationship from stock market development to economic growth. The study concluded that stock market development played a significant role in promoting economic growth in both the short and long run. Nnakee et al. (2024) analyzed the long-run relationship between stock market development and economic growth in Nigeria from 1980 to 2020. The variables included Market Capitalization, Number of Listed Companies, Total Value Traded Ratio, and Turnover Ratio. Using the Autoregressive Distributed Lag (ARDL) model, the findings showed that Market Capitalization and Turnover Ratio had positive and significant effects on economic growth. Conversely, the Number of Listed Companies had a negative and insignificant effect, while the Total Value Traded Ratio exhibited a negative and significant short-run effect on growth. However, the long-run positive but insignificant relationship between the traded value ratio and turnover ratio suggested that the Nigerian stock market remained growth-inducing, with liquidity serving as a key driver of economic performance. Ademola and Kemisola (2016) examined both the long-run and short-run causality between stock market development and welfare in Nigeria. The indicators of stock market development included Market Capitalization (CAP) and the All-Share Index (ASI), while welfare was measured using the HDI. Time-series data covering 34 years (1980–2014) were utilized. The variables were stationary at first difference, $I(1)$, which necessitated the use of the Johansen cointegration test, and the Vector Error Correction Model (VECM) was employed for estimation. The study found evidence of a long-run causality running from stock market development to welfare, with a speed of adjustment of approximately three years. The Wald test results indicated short-run causality running from both Market Capitalization and the All-Share Index to welfare in Nigeria.

Summary of Literature reviewed

A critical review of existing empirical studies on the nexus between stock market performance and living standards in Nigeria reveals that most prior works have primarily focused on the relationship between stock market development and economic growth, often proxied by real GDP, rather than on broader welfare indicators such as the Human Development Index (HDI). Studies by Dhungana (2023) and Alajekwu and Achugbu (2012) concentrated on output growth without integrating human-centered dimensions of development, leaving a gap in understanding how stock market performance affects overall well-being. Additionally, earlier analyses typically employed static models such as OLS, VAR, or co-integration techniques that failed to separate short-run dynamics from long-run equilibrium relationships. Through the integration of a human development measure (HDI), an advanced econometric technique (ARDL), and comprehensive long-term data (1993–2023), the study contributes new evidence on how stock market performance in Nigeria has

translated into tangible improvements in the standard of living, thereby filling a crucial empirical and methodological gap in the literature.

Methodology

Research Design

This study employed an ex-post facto research design in order to investigate the effect of stock market performance on the standard of living in Nigeria.

Data Collection Methods and Sources

The data for this study were sourced from the World Development Indicators (WDI) and the United Nations Development Programme from 1993 to 2023.

Model Specification

The modelling of this study was based on the Efficient Market Hypothesis (EMH), proposed by Eugene Fama in 1970. The functional and linear specifications of the model are as follows:

$$HDI = f(MKTC, NLC, TRATIO, VALT) \quad (3.1)$$

The linear regression equation for this study is specified as follows:

$$HDI = \beta_0 + \beta_1 MKTC + \beta_2 NLC + \beta_3 TRATIO + \beta_4 VALT + \mu_t \quad (3.2)$$

ARDL short and long-run:

$$\begin{aligned} \Delta HDI_t = & \alpha_0 + \sum_{i=1}^p c_1 \Delta HDI_t + \sum_{i=1}^q c_2 \Delta MKTC_{t-1} + \sum_{i=1}^q c_3 \Delta NLC_{t-1} + \sum_{i=1}^q c_4 \Delta TRATIO_{t-1} \\ & + \sum_{i=1}^q c_5 \Delta VALT_{t-1} + \lambda_1 HDI_{t-1} + \lambda_2 MKTC_{t-1} + \lambda_3 NLC_{t-1} + \lambda_4 TRATIO_{t-1} \\ & + \lambda_5 VALT_{t-1} + \varepsilon_t \end{aligned}$$

Where;

HDI = Human Development Index

MKTC = Market capitalization GDP (%)

NLC = Number of listed companies per 1,000,000 people

TRATIO = Turnover ratio (%)

VALT = Total value traded to GDP (%)

β_0 = constant parameter or the intercept.

$\beta_1 - \beta_4$ = are coefficients; μ_1 is the stochastic error term

Where: c_0 = constant parameter to be estimated; $c_1 - c_5$ = short run parameters; $\lambda_1 - \lambda_5$ = long-run multipliers; p = optimal lag for each of the dependent variables; q = optimal lag of the independent variables; Δ = first difference operator; ε_t = error terms

A priori Expectation

Based on economic theory, it is anticipated that the coefficients β_1 to β_4 will be positive.

Operational Measures of Variables

Dependent Variable

Human Development Index (HDI)

The Human Development Index (HDI) serves as the dependent variable and represents the standard of living in Nigeria. It is a composite index developed by the United Nations Development

Programme (UNDP) that measures average achievements in three key dimensions: a long and healthy life (life expectancy at birth), knowledge (mean and expected years of schooling), and a decent standard of living (Gross National Income per capita). HDI values range between 0 and 1, with higher scores indicating improved living standard.

Independent Variables

Market Capitalization

Market capitalization is operationally defined as the total value of all listed domestic companies' shares on the Nigerian Exchange (NGX), expressed as a percentage of Gross Domestic Product (GDP). It measures the size and depth of the stock market relative to the economy.

Value Traded

Value traded is defined as the total monetary value of all shares traded on the stock exchange over a given year, expressed as a percentage of GDP. It captures the liquidity and trading activity of the market, showing how easily investors can buy or sell securities without causing significant price changes.

Turnover Ratio

The turnover ratio measures market liquidity relative to size and is computed as the ratio of the total value of shares traded during a period to the average market capitalization, expressed as a percentage. It indicates how frequently listed stocks change hands, reflecting investor confidence and market efficiency.

Number of Listed Companies

This variable is measured as the annual number of listed domestic companies recorded at year-end and published by the World Development Indicators (WDI) of the World Bank, and the Nigerian Exchange (NGX) Statistical Bulletin.

Method of Data Analysis

The time series data in this study were estimated using the Autoregressive Distributed Lag (ARDL) bound testing approach, developed by Pesaran et al. (2001). This method was employed to explore the long-run relationship between the variables under investigation. The initiation of the ARDL method or bounds test can be credited to Pesaran and Shin (1999), with further development by Pesaran et al. (2001). Widely recognized for its flexibility in econometric analysis, the ARDL method is particularly useful when the research framework includes regime shifts and shocks. A key advantage of the ARDL method is its capability to handle varying lags in different variables, making it highly versatile and attractive. This characteristic ensures a more accurate representation of the data-generating process mechanism. Consequently, the ARDL method can be utilized regardless of whether the time series is stationary at levels $I(0)$, stationary at first differences $I(1)$, or fractionally integrated (Pesaran et al., 2001). It is crucial to note that within the ARDL framework, the series should not be integrated to order $I(2)$ as this would compromise the F-statistics and critical values established by Pesaran.

Data Presentation and Analysis

Descriptive Statistics

Descriptive statistics are essential in this study as they provide a clear summary of the data collected.

Table 4.2: Summary of descriptive Statistics for the variables

	HDI	MKTC	NLC	TRATIO	VALT
Mean	0.485161	11.95806	1.297419	8.501613	1.132258
Median	0.500000	10.77000	1.410000	7.890000	0.900000
Maximum	0.560000	30.80000	1.690000	34.79000	6.300000
Minimum	0.390000	2.490000	0.780000	1.070000	0.110000
Std. Dev.	0.052970	6.173468	0.324212	6.326408	1.288135
Skewness	-0.347820	1.163087	-0.342436	2.462697	2.946564
Kurtosis	1.840761	4.610993	1.509473	10.96596	11.57225
Jarque-Bera	2.360843	10.34158	3.475513	113.2999	139.7744
Probability	0.307149	0.005680	0.175915	0.000000	0.000000
Sum	15.04000	370.7000	40.22000	263.5500	35.10000
Sum Sq. Dev.	0.084174	1143.351	3.153394	1200.703	49.77874
Observations	31	31	31	31	31

Source: *Researcher's computation using E-views 12.*

The descriptive statistics presented in Table 4.2 provide an overview of the distributional characteristics of the variables over the study period. The Human Development Index (HDI) and Market Capitalization (MKTC) recorded mean values of 0.485 and 11.958, respectively, with fluctuations ranging from a minimum of 0.390 to a maximum of 0.560 for HDI, while Market Capitalization ranged from 2.49 to 30.80. The Number of Listed Companies (NLC) exhibited an average of 1.297, with values spanning from 0.780 to 1.690.

Furthermore, the Turnover Ratio (TRATIO) and the Value Traded (VALT) recorded mean values of 8.501 and 1.132, respectively. The Turnover Ratio ranged from a minimum of 1.070 to a maximum of 34.790, while the Value Traded fluctuated between 0.110 and 6.300.

The standard deviation results indicate that all the variables, except Value Traded, exhibit relatively low dispersion around their respective means. This inference is supported by the fact that their standard deviation values are smaller than their corresponding means, suggesting relatively stable series over time.

Finally, the Jarque–Bera statistics associated with the probability values indicate that HDI and the Number of Listed Companies follow a normal distribution at the 5% significance level.

Unit Root Test Analysis

Table 2: ADF Unit Root Test

Variables	ADF at Level	5% Critical value	First Difference	5% Critical value	Order of Integration
HDI	-1.762883	-2.967767	-8.733715	-2.967767	I(1)
MKTC	-2.992377	-2.960411	NA	NA	I(0)
NLC	0.373066	-2.963972	-5.514789	-2.967767	I(1)
TRATIO	-2.612841	-2.963972	-5.707657	-2.967767	I(1)
VALT	-2.711042	-2.963972	-5.386403	-2.971853	I(1)

Source: Researcher's computation using Eviews 12.

Note: The study used a 5% level of significance. An NA sign indicates that the variable is stationary at the level.

The outcomes of the Augmented Dickey–Fuller (ADF) unit root test presented in Table 2 reveal that only Market Capitalization (MKTC) is stationary in its level form. The ADF test statistic for MKTC is -2.992, which exceeds the 5% critical value in absolute terms. This implies that the null hypothesis of a unit root is rejected at conventional significance levels. Therefore, MKTC is integrated of order zero, I(0), and does not require differencing to achieve stationarity.

In contrast, the remaining variables, Human Development Index (HDI), Number of Listed Companies (NLC), Turnover Ratio (TRATIO), and Value Traded (VALT) were found to be non-stationary at their levels but became stationary after first differencing. Specifically, their ADF test statistics of -8.733715, -5.514789, -5.707657, and -5.386403, respectively, all exceed the 5% critical threshold in absolute magnitude at the first difference. These results indicate that the variables are integrated of order one, I(1), suggesting the presence of a unit root in levels that is eliminated through first differencing.

Given this mixture of I(0) and I(1) variables, the bound testing approach is considered appropriate for examining the existence of a long-run equilibrium relationship among the variables, consistent with the methodology outlined by Aninwagu and Momodu (2025)..

Table 3: Bounds Cointegration Test Results

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	6.980138	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Authors' computations using Eviews 12

Note: K denotes the number of independent variables

The bounds test results, as presented in Table 4.4, indicate a statistically significant long-run relationship between the dependent and the independent variables. With an F-statistic of 6.980138, the computed values exceed both the lower and upper bound critical values at the 5% significance level. This provides strong evidence of a long-run relationship between the dependent variable and the independent variables in the model.

Model Estimation

Table 4: ARDL short and long run results

Short-run results				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HDI(-1))	0.057278	0.087722	0.652951	0.5808
D(HDI(-2))	-0.183612	0.074053	-2.479477	0.1314
D(HDI(-3))	-0.709359	0.120614	-5.881219	0.0277
D(MKTC)	-0.000786	0.000182	-4.325039	0.0495
D(MKTC(-1))	-0.001975	0.000251	-7.868308	0.0158
D(MKTC(-2))	-0.001675	0.000170	-9.882033	0.0101
D(MKTC(-3))	-0.001108	0.000195	-5.698114	0.0294
D(NLC)	-0.094807	0.013107	-7.233286	0.0186
D(NLC(-1))	0.106557	0.009886	10.77866	0.0085
D(NLC(-2))	0.011163	0.016706	0.668207	0.5728
D(NLC(-3))	0.012224	0.010117	1.208254	0.3504
D(TRATIO)	0.000917	0.000284	3.229700	0.0840
D(TRATIO(-1))	-0.010230	0.001141	-8.967363	0.0122
D(TRATIO(-2))	-0.006785	0.000759	-8.944894	0.0123
D(TRATIO(-3))	-0.002174	0.000370	-5.880417	0.0277
D(VALT)	0.004493	0.001509	2.977788	0.0967
D(VALT(-1))	0.054766	0.006194	8.841759	0.0126
D(VALT(-2))	0.039446	0.004034	9.777750	0.0103
D(VALT(-3))	0.019304	0.002904	6.646704	0.0219
CointEq(-1)*	-0.834912	0.068960	-12.10714	0.0068
Long-run results				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MKTC	0.003295	0.004044	0.814986	0.5007
NLC	-0.120370	0.015059	-7.993018	0.0153
TRATIO	0.018961	0.009782	1.938387	0.1922
VALT	-0.087759	0.058012	-1.512780	0.2695
C	0.554343	0.065675	8.440688	0.0137

$R^2 = 0.985364$; Adj. $R^2 = 0.945639$

Source: Researcher's computation using Eviews 12.

Table 4.5 presents the ARDL short- and long-run estimates of the effect of stock market performance on the standard of living in Nigeria over 1993–2023.

In the short run, Market Capitalization (MKTC) in the current period and at lags 1–3 has a negative and statistically significant effect on HDI. By contrast, the long-run coefficient on MKTC is positive but not statistically significant, indicating that a one-unit rise in market capitalization is associated with a 0.003-unit increase in HDI. This pattern accords with the study's a priori expectation and with Fama's Efficient Market Hypothesis, which suggests that well-functioning markets allocate capital toward productive investment that raises output and, ultimately, living standards. It is also broadly consistent with empirical findings reported by Ozegbe et al. (2025) and Njoku et al. (2024), who document a positive and significant relationship with HDI.

For the Number of Listed Companies (NLC), the short-run results show a negative and statistically significant immediate period effect on HDI, whereas at lags 1–3 the coefficients become positive, with statistical significance at lag 1 only. The lag-1 estimate implies that a one-unit increase in NLC raises HDI by 0.106 units in the short run. In the long run, however, NLC exhibits a negative and statistically significant effect, implying that a one-unit increase in NLC reduces HDI by 0.120 units. These results align with the study's a priori expectation.

Regarding the Turnover Ratio (TRATIO), the short-run current year effect is positive but not statistically significant. At lags 1–3, TRATIO is significantly negative, indicating that a one-unit increase in the turnover ratio reduces HDI by 0.010, 0.006, and 0.002 units, respectively. Conversely, the long-run estimate is positive but not statistically significant, suggesting that, over time, a one-unit increase in TRATIO is associated with a 0.018-unit increase in HDI. These findings are consistent with the study's a priori expectation and with financial-intermediation theory (Schumpeter, 1911; Goldsmith, 1969), which posits that indicators such as value traded and turnover ratio reflect how effectively savings are transformed into investment that supports income and living standards. For Value Traded (VALT), the short-run current year coefficient is positive but not significant, while the lagged effects at lags 1–3 are positive and statistically significant, implying that a one-unit increase in VALT raises HDI by 0.054, 0.039, and 0.019 units, respectively. In the long run, VALT is negative and not statistically significant, indicating that a one-unit increase in VALT is associated with a 0.087-unit decrease in HDI. These long-run results do not support the study's a priori expectation or the capital-market-led growth hypothesis (Levine & Zervos, 1998). The error-correction term, $CointEq(-1)$, has a coefficient of -0.834912 , indicating that approximately 83.5% of any deviation from the long-run equilibrium is corrected within one year, confirming a rapid speed of adjustment.

Model diagnostics indicate a strong fit: The R^2 of 0.985 suggests that 98.5% of the variation in HDI is explained by the regressors, while the adjusted R^2 of 0.945 indicates that about 94.5% of the variation is explained after accounting for model complexity.

Residual Diagnostic Tests

Table 4.6: Post-estimation Diagnostic Test Results

Test Type		Null Hypothesis	Test Statistic	Prob. Value	Decision
Breusch-Godfrey	Serial	H_0 : Serial independence	11892.85	0.0665	Accept
Correlation LM Test					H_0

Breusch-Pagan-Godfrey heteroskedasticity test	H ₀ : Homoscedasticity	2.528870	0.2425	Accept H ₀
Jarque-Bera Normality test	H ₀ : Normal distribution of residuals	1.203294	0.547908	Accept H ₀

Source: Researcher's computation using Eviews 12, (2025).

The post-estimation diagnostic tests reported in Table 4.6 confirm that the ARDL model satisfies the key classical econometric assumptions. First, there is no evidence of serial correlation, as indicated by the Breusch-Godfrey Serial Correlation LM test statistic (11892.85), whose p-value exceeds the conventional 5% significance level. Second, the Breusch-Pagan-Godfrey test supports the assumption of homoscedasticity, with a p-value of 0.2425, leading to a failure to reject the null hypothesis of constant variance at the 5% level. Third, the Jarque-Bera test statistic (1.203294) confirms the normality of residuals, yielding a p-value of 0.547908, which is far above the 5% threshold. Collectively, these diagnostic results underscore the robustness and statistical adequacy of the estimated ARDL model.

Discussion of Findings

Table 4.5 reports ARDL short- and long-run estimates linking stock-market performance to Nigeria's standard of living (HDI) over 1993–2023. The estimates reveal pronounced short-run–long-run asymmetries across indicators, consistent with adjustment frictions and varying transmission lags from market activity to welfare outcomes.

First, Market Capitalization (MKTC) exerts a negative and statistically significant effect on HDI contemporaneously and at lags 1–3, but turns positive and statistically insignificant in the long run (point estimate $\approx +0.003$). The short-run negativity plausibly reflects valuation shocks, portfolio rebalancing, or distributional channels that do not immediately translate into broad-based welfare gains. Over longer horizons, the sign flips to positive, consistent with capital deepening and improved risk sharing, but the lack of significance suggests that capitalization alone, absent complementary depth and intermediation quality, does not reliably lift living standards. Second, the Number of Listed Companies (NLC) depresses HDI contemporaneously in the short run but becomes positive at lags 1–3, with statistical significance at lag 1 (0.106). This pattern implies near-term adjustment costs around new listings (compliance, reallocation, market learning) followed by a modest welfare dividend as newly listed firms access cheaper capital and expand. In the long run, however, NLC is negative and significant (−0.120), indicating that an expanding registry without parallel improvements in firm quality, investor protection, and secondary-market efficiency can dilute average market quality and weaken the growth-to-welfare pass-through. Third, the Turnover Ratio (TRATIO) is positive but not significant contemporaneously, then significantly negative at lags 1–3 (0.010, −0.006, 0.002). This suggests that bursts of trading activity may reflect noise trading or volatility rather than information production in the short run. The long-run coefficient reverts to positive but remains not significant (0.018), consistent with the idea that liquidity is a necessary but not sufficient condition: only when liquidity supports price discovery and lowers external finance premia does it translate into sustained welfare improvements. Fourth, Value Traded (VALT) is contemporaneously positive but insignificant; at lags 1–3 it turns positive and statistically significant (0.054, 0.039, 0.019), indicating a short-run liquidity channel whereby higher trading volumes are associated with incremental gains in HDI. Yet the long-run coefficient is negative and insignificant (−0.087), implying that volume expansions not anchored in productivity-enhancing investment may fade

or reverse as transaction-driven effects dissipate. Taken together, the ARDL results indicate that stock-market variables transmit to living standards primarily through short-run liquidity and financing channels, while their long-run effects are weak or unstable in the absence of robust market institutions. The evidence aligns with the notion that market development must be paired with effective intermediation and firm-level fundamentals for capitalization, listings growth, and turnover to yield durable welfare gains.

Summary, Conclusion, and Recommendations

Conclusion

This study examined the effect of stock market performance on human development in Nigeria from 1993 to 2023 using the ARDL model. The results confirmed a long-run relationship between HDI and stock market indicators, but revealed that most variables had weak or not significant long-run effects. Market Capitalization and Turnover Ratio showed positive yet not significant impacts, while Traded Value was negative and not significant. However, the Number of Listed Companies had a significant negative effect on HDI. Overall, the findings suggested that Nigeria's stock market growth has not effectively translated into improved living standards, emphasizing the need for policies that strengthen market efficiency and align financial development with inclusive human welfare.

Recommendations

Based on the findings, the study makes the following recommendations:

1. The government should tighten admission/continuing-listing standards and enforce timely delistings to counter the negative long-run effect of a higher Number of Listed Companies on HDI.
2. Tie tax incentives and procurement access for listed firms to verified investments in primary healthcare, basic education, and decent jobs; mandate HDI-aligned impact reporting so capitalization translates into welfare.
3. Reduce trading frictions (e.g., settlement lags, nuisance fees), introduce market makers/securities lending, and strengthen surveillance to ensure turnover supports price discovery rather than volatility capable of improving living standards.
4. Expand pension/insurance allocations and sovereign co-investment into HDI-relevant sectors via social/SDG bonds and infrastructure equities, shifting traded value from speculative churn to human-capital and productivity projects

References

- Ademola, J., & Kemisola, C.O. (2016). Stock market development and welfare in Nigeria: AVECM Approach. *Research Journal of Finance and Accounting*, 7, 145-150.
- Adjasi, C. K. D., & Biekpe, N. (2006). *Stock Market Development and Economic Growth: The Case of Selected African Countries*. *African Development Review*, 18(1), 144–161. [Wiley Online Library](http://www.wiley.com)
- Beck, T., & Levine, R. (2002). *Stock Markets, Banks, and Growth: Panel Evidence*. NBER Working Paper No. 9082. [NBER](http://www.nber.org/papers/w9082)
- Dhungana, B. R. (2023). *Stock market development and economic growth of Nepal*. <https://doi.org/10.3126/jbssr.v8i2.62132>
- Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance*, 25(2), 383–417
- Goldsmith, R. W. (1969). *Financial structure and development*. Yale University Press.
- Haq, M. (1990). *Reflections on Human Development*. Oxford University Press.
- Keynes, J. M. (1936). *The general theory of employment, interest and money*. Macmillan.
- Levine, R., & Zervos, S. (1998). *Stock Markets, Banks, and Economic Growth*. *American Economic Review*, 88(3), 537–558.
- Nigerian Exchange (NGX). (2025). *NGX ASI closes 2024 with +37.65% return*.
- Njoku, C., Ugwu, K., Nwaimo, C. E., Kekeocha, M., Nwoko, N. M., Onyechere, P. O., Chukwu, O. E., & Obieche, N. E. (2024). *Effect of capital market on the economic development of emerging economies: The Nigeria experience*. <https://doi.org/10.26668/businessreview/2024.v9i9.4795>
- Nnakee, U. N., Ngong, C. A., Onyejiaku, C., Moguluwa, S., Onwumere, J. (2024). *Examining the long-run relationship between stock market development and Nigerian economic growth*. <https://doi.org/10.1108/jfep-01-2024-0020>
- Ozegbe, R. O., Adedokun, F. A., Osinowo, A. D., & Oladele, T. C. (2025). *Does stock market growth translates to the broader economic development? annual time-series data insights from Nigeria*. <https://doi.org/10.5171/2025.713356>
- Schumpeter, J. A. (1911). *The theory of economic development*. Harvard University Press.
- UNDP Nigeria. (2024). *Insights from the 2023/2024 Human Development Report and Nigeria's HDI*.
- United Nations Development Programme (UNDP) (2024). *Human development insights*. https://hdr.undp.org/data-center/country-insights?utm_source=chatgpt.com#/ranks
- United Nations Development Programme (UNDP). (2024). *Human Development Report 2023/2024: Breaking the Gridlock*. UNDP, New York.
- World Bank (2024). *Stocks traded, turnover ratio of domestic shares (%) – Nigeria*. <https://data.worldbank.org/indicator/CM.MKT.TRNR?end=2024&locations=NG&start1993&u-tm=source=chatgpt.com&view=chart>