Earnings Persistence and Financial Performance of Listed Firms in Nigeria

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ABSTRACT

The study focused on earnings persistence and financial performance of listed firms in Nigeria. Earnings persistence was measured using earnings persistence, discretionary accruals and earnings volatility. Financial performance on the other hand was measured using net profit margin. To achieve the objective of the study, *ex-post facto* research design was adopted. The data were collected through secondary source from annual report and accounts of the selected firms in Nigeria from 2015 to 2024. The population of the study comprised of all the 149 firms listed in Nigeria exchange group as at 2025. The sample size was derived using both purposive sampling and stratified sampling techniques and 70 listed firms were purposively selected. The data collected were analyzed using Panel GMM analysis. The findings revealed that discretionary accruals, earnings persistence and earnings volatility have no significant effect on net profit margin. Based on the findings, the study recommends that Analysts, investors, and stakeholders should incorporate earnings quality indicators (e.g., accrual quality, volatility) when evaluating the financial performance of Nigerian listed firms. Income smoothing practices can mask true financial performance. Using metrics beyond traditional profitability ratios can provide a more accurate assessment of financial health. Implement models like the Modified Jones Model to assess the level of discretionary accruals and uncover potential earnings management that would affect net profit margin of firms.

Keywords: Earnings persistence, discretionary accruals, earnings volatility, financial performance and net profit margin.

INTRODUCTION

Earnings persistence, a critical measure of earnings quality, reflects the extent to which a firm's current earnings are sustainable and can reliably predict future earnings. It is a vital indicator for investors, analysts, and stakeholders assessing the long-term financial health and performance of firms. In the context of Nigeria, an emerging market characterized by economic volatility, regulatory changes, and unique socio-political dynamics, understanding the impact of earnings persistence on the financial performance of listed firms is particularly significant.

Recent studies have highlighted that earnings persistence is influenced by factors such as sales volatility, cash flow stability, leverage, and corporate governance structures (Abogun, 2025). In Nigeria, the financial performance of listed firms has faced challenges due to macroeconomic instability, including foreign exchange fluctuations and the lingering effects of the COVID-19 pandemic, which significantly impacted earnings and operational efficiency (Kehinde, et al., 2025). For instance, research indicates that post-COVID-19, listed firms in Nigeria experienced significant declines in performance, underscoring the need for stable and persistent earnings to ensure financial resilience (Kehinde, et al., 2025). Moreover, earnings management practices, often employed to smooth income or meet regulatory requirements, have been shown to affect the persistence of earnings and, consequently, firm value in Nigeria's consumer goods sector (Abbas, 2023).

The focus on earnings persistence is crucial because high-quality, persistent earnings signal operational efficiency and strategic foresight, which are essential for attracting investor confidence in Nigeria's capital market. Studies suggest that firms with persistent earnings tend to exhibit better financial performance, as they are less likely to experience sudden financial distress or require aggressive earnings manipulation (Abogun, 2025). However, the Nigerian market's susceptibility to external shocks, such as policy changes and global economic trends, raises questions about how earnings persistence influences financial outcomes across different sectors. This study seeks to explore this relationship, contributing to the growing body of literature on earnings quality and financial performance in emerging economies.

Despite the importance of earnings persistence as a determinant of financial performance, there is limited empirical evidence on its specific impact on listed firms in Nigeria, particularly in the period from 2020 to 2025, which encompasses the economic disruptions caused by the COVID-19 pandemic and subsequent recovery efforts. The Nigerian market is characterized by unique challenges, including high inflation, currency devaluation, and regulatory inconsistencies, which may undermine the sustainability of earnings and, consequently, the financial performance of firms (Kehinde et al., 2025). While studies have explored earnings management and its effect on firm value (Abbas, 2023), the direct link between earnings persistence and financial performance remains underexplored in the Nigerian context.

Moreover, the volatility of the Nigerian economy raises concerns about the reliability of reported earnings and their ability to predict future financial outcomes. For instance, research has shown that factors such as sales volatility and leverage significantly affect earnings persistence in consumer goods firms, yet their broader implications for financial performance across other sectors are unclear (Oladipupo & Olanrewaju, 2023). Additionally, the role of corporate governance in enhancing earnings persistence and mitigating financial distress in Nigerian firms warrants further investigation, as weak governance structures may erode investor trust and affect market valuations (Abogun, 2025). It is on this ground that this study seeks to address these gaps by examining how earnings persistence influences the financial performance of listed firms in Nigeria.

Specifically, the study aim to:

(i) Determine the extent to which earnings persistence affect net profit margin of listed firms in Nigeria.
(ii) Examine the effect of discretionary accruals on net profit margin of listed firms in Nigeria.
(iii) Ascertain the extent to which earnings volatility affect net profit margin of listed firms in Nigeria.

LITERATURE REVIEW

Conceptual Review

Earnings Persistence

Earnings persistence refers to the tendency of a company's earnings to persist or continue over time (Kothari, 2021). It is a measure of the stability and sustainability of a company's earnings, and is often used by investors and analysts to evaluate the quality and reliability of a company's earnings (Sloan, 2016). Earnings persistence is an important concept in finance because it can help investors and analysts to distinguish between companies with high-quality earnings and those with low-quality earnings (Dechow *et al*., 2010).

There are several factors that can influence earnings persistence, including the company's industry, business model, and management team (Fama & French, 2020). Companies in industries with high barriers to entry and stable demand tend to have higher earnings persistence, while companies in industries with low barriers to entry and unstable demand tend to have lower earnings persistence. Additionally, companies with strong management teams and effective business models tend to have higher earnings persistence, while companies with weak management teams and ineffective business models tend to have lower earnings persistence (Jensen & Meckling, 1976).

Earnings persistence can be measured in several ways, including the use of statistical models such as autoregressive integrated moving average (ARIMA) models and vector autoregression (VAR) models (Box &

Jenkins, 1976). These models can help to identify the underlying patterns and trends in a company's earnings, and can provide insights into the company's earnings persistence (Hamilton, 2024). Researchers have also developed several metrics to measure earnings persistence, including the earnings persistence ratio (EPR) and the earnings stability ratio (ESR) (Kothari, 2021). The EPR is calculated as the ratio of the current year's earnings to the previous year's earnings, while the ESR is calculated as the ratio of the standard deviation of earnings to the mean earnings (Sloan, 2016). These metrics can provide insights into a company's earnings persistence and can help investors and analysts to evaluate the quality and reliability of a company's earnings. Earnings persistence is a feature of accounting information associated with contributing to future company income forecasts – assuming that persistent earnings are more useful in evaluating investments. As Dechow *et al*. (2010), explain, the logic behind persistence is intuitive: if Firm A presents more persistent earnings than Firm B in perpetuity, then Firm A's earnings are a more useful synthetic measure of future performance and annualizing its current earnings will result in fewer evaluation errors.

Different papers measure, by means of earnings persistence, the quality of information reported to external users. Miller and Rock (2015), Kormendi and Lipe (2017), and Lipe (2020), refer to persistence as the effect of innovations in earnings in the current period on the present value of revisions of expected future earnings, linking it with the impacts of innovations in earnings on expectations of market participants for future earnings. Baginski, *et al*., (2019), explain persistence based on the firm: companies make operational and investment decisions, which create conditions for sustaining current earnings and increases in them, leaving traces that investors seek to observe, expecting them to generate earnings that persist. Thus, according to the authors, persistence captures how a current impact should affect the whole flow of future achievements of a series of earnings. The authors use Lev (2013) as a base, which in turn addresses persistence as synonymous with non-randomness in earnings behavior.

Discretionary accruals

Discretionary accruals refer to the portion of a company's accruals that are subject to management's discretion and can be used to manipulate earnings (Dechow, *et al*., 2019). Accruals are accounting adjustments that are made to match revenues and expenses with the periods in which they are earned or incurred, rather than when cash is received or paid (Watts, 2023). Discretionary accruals are a type of accrual that is not strictly determined by accounting rules or industry norms, and can be influenced by management's judgments and biases (Healy, 2015).

Discretionary accruals can be used by management to manipulate earnings in several ways. For example, management may use discretionary accruals to overstate or understate revenues, or to overstate or understate expenses (Dechow, *et al*., 2015). This can be done by adjusting the timing or amount of accruals, such as by accelerating or delaying the recognition of revenues or expenses (Effiong, 2020). Discretionary accruals can also be used to manage earnings to meet or beat analyst expectations, or to achieve specific earnings targets (Effiong, 2018).

Earnings volatility

Earnings volatility refers to the degree of uncertainty or fluctuation in a company's earnings over time (Kothari, 2021). It is a measure of the variability or dispersion of a company's earnings, and is often used by investors and analysts to evaluate the risk and potential return of a company's stock (Sloan, 2016). Earnings volatility can be influenced by a variety of factors, including changes in the company's industry, business model, and management team, as well as macroeconomic conditions such as interest rates and economic growth (Fama & French, 2020).

There are several ways to measure earnings volatility, including the use of statistical models such as autoregressive integrated moving average (ARIMA) models and vector autoregression (VAR) models (Box & Jenkins, 2016). These models can help to identify the underlying patterns and trends in a company's earnings, and can provide insights into the company's earnings volatility (Hamilton, 2024). Additionally, earnings volatility can be measured using metrics such as the standard deviation of earnings, the coefficient of variation of earnings, and the earnings surprise (Desai, *et al*., 2024).

Earnings volatility is an important concept in finance because it can have a significant impact on a company's stock price and trading volume (Foster, *et al*., 2014). Companies with high earnings volatility tend to have higher stock price volatility and trading volume, while companies with low earnings volatility tend to have lower stock price volatility and trading volume (La Porta, *et al*., 2020). Additionally, earnings volatility can also impact a company's cost of capital, with companies with high earnings volatility tend to have higher costs of capital (Klein & Lederman, 2015). Researchers have also examined the relationship between earnings volatility and other financial metrics, such as return on equity (ROE) and return on assets (ROA) (La Porta, *et al*., 2020). Companies with high earnings volatility tend to have lower ROE and ROA, indicating that they are less efficient and less profitable (Desai *et al*., 2024). Additionally, earnings volatility is also related to the quality of a company's earnings, with companies with high earnings volatility tend to have lower quality earnings (Dechow *et al*., 2010).

Effect of earnings persistence on firm performance

The impact of earnings persistence on firm financial performance has been a topic of interest in the field of finance and accounting. Earnings persistence refers to the degree to which a company's current earnings are likely to continue into the future. Research has shown that earnings persistence is a significant predictor of firm financial performance, including stock returns, profitability, and growth. A study by Kothari (2021), found that earnings persistence is a significant predictor of stock returns, with companies with high earnings persistence tend to have higher stock returns. This is because earnings persistence can affect investors' expectations and perceptions of a company's financial performance, which can in turn impact the company's stock price. Another study by Sloan (2016) found that earnings persistence is also associated with changes in a company's profitability, with companies with high earnings persistence tend to have higher profitability ratios. This is because earnings persistence can reflect a company's ability to sustain its competitive advantage and maintain its market position, which can in turn impact its profitability. A study by Subramanyam and Wild (2016) found that earnings persistence is also associated with changes in a company's growth, with companies with high earnings persistence tend to have higher growth rates. This is because earnings persistence can reflect a company's ability to invest in new projects and opportunities, which can in turn impact its growth.

Earnings are a measure of the long-term evolution of the earnings chain. This coefficient has valuation effects both theoretically (Miller & Rock, 2015), and empirically (Kormendi & Lipe, 2017), (Lipe, 2020). As we all know, one of the main goals of accounting is to capture the business activities of the business, thereby providing useful information to those who are interested in decision making. In the process of researching financial indicators on reports and accounting books, researchers and investors are very interested in forecasting future earnings from the indicators and accounting figures published on the company's current financial statements system. However, forecasting future earnings and making decisions based only on short-term earnings often bring risks to investors. Baber, *et al*. (2018), has shown that the relationship between investor behavior and earnings depends very much on persistence rather than on current returns.

THEORETICAL REVIEW

The study is anchored on agency theory.

Agency theory

Agency theory was propounded by Alchian and Demsetz in 1972 and further developed by Jensen and

Meckling in 1976. The theory is based on the relationship between the principal (owners) and agents (managers). The separation of ownership from management in the modern organisation provides the contexts for the function of the agency theory. Amat and Gowthorpe (2015) noted that conflicts of interest inherent in agency relationships often were limited because owners (shareholders) overlooked and admit intentional manipulation of financial reports, which then become “Unwitting accessories to manipulation”. Agency theory is the main theory used in the area of manipulation of accounts on the assumption that managers are not neutral in presenting the financial statements.

In addition, Davidson, *et al*., (2003), argued that when management provided inaccurate financial reporting information, it introduced earnings management. As a result, managers could not be fully trusted. Therefore,

strict monitoring of managers (agent) by the owners (principal) through their representatives, such as a firm's board which served as a fundamental mechanism to protecting shareholder's interest from being compromised when managers' maximised their self-interest at the expense of the organisation's profitability, was necessary.

Generally, agency theory assumes a model of a manager who is individualistic, self-serving and opportunistic in nature. Njuguna and Morong (2013) observed that non-conforming information was one source of the problems of agency conflicts such that the organisation's good performance depended on the importance of knowledge possessed by a decision maker and such information would never be fully revealed on the part of the managers due to agency problems. Hence, it held that managers would not act to maximise the returns to shareholders unless appropriate governance structures were implemented in the large corporation to safeguard the interests of shareholders (Jensen & Meckling, 1976).

From this theory therefore, it can be deduced that negative income smoothing is a form of agency cost. This is so because the practice of smoothing income by managers toward achieving their target and consequently incentive bonus at all cost is a possible problem capable of affecting organizational outcome negatively. Organizational outcome is multidimensional

which may take the form of financial performance; operational performance; stock market performance and corporate failures. Since the opportunistic behavior of managers affects organizational outcome, it is expected that self-motivated income smoothing would affect firm value. Based on this expectation, this study hypothesized that: income smoothing has significant impact on the value of Nigerian listed firms. Furthermore, the determinants of organizational outcome are multi-dimensional in nature to include the effect of market risk. Therefore, this study also hypothesized that: market risk has moderating effect on the link between income smoothing and the value of Nigerian listed firms.

Empirical Review

Related empirical studies are reviewed below.

Rehuel and Ali (2024) investigated the effect of earnings persistence and leverage on the Earnings Response Coefficient (ERC) in companies listed on the Indonesia Stock Exchange. Based on the annual report data of 265 companies from 2011 to 2021, we show that earnings persistence has a significant and positive impact on ERC, while leverage has a limited impact on ERC. Further findings demonstrate that higher investor sentiment could lead to a larger impact of earnings persistence on ERC. These results imply that, as high earning quality Attracts high investor sentiment in the trading stock, great news can be processed into the price quickly and the price rises in a short period, while bad news could also lead to immediate price corrections with investors' attention. Thus, we find that a positive relationship between ROE and ERC, and investor sentiment helps strengthen the relationship. Our study adds the studies on price resilience and expands the understanding of the Indonesia Stock Exchange's features.

Karzan and Rizgar (2023) determined whether income smoothing procedures have an impact on the financial performance of return on assets (ROA) and return on equity (ROE). Data for this study came from a sample of banks that are listed on the Iraq Stock Exchange. The research sample consists of banks listed between 2015 and 2019 on the Iraq Stock Exchange. The model estimate is done using the panel data approach. Five banks match the required requirements, and the samples were chosen using a purposive sampling technique. This study employed Miller's model to distinguish between banks that used income smoothing and banks that did not, as well as certain statistical techniques to examine the data of return on assets (ROA) and return on equity (ROE). The findings of this study demonstrate that return on assets (ROA) and return on equity (ROE) have a considerable impact on income smoothing procedures, while variable volume has a significant positive impact as well. The researchers observed that there were statistically significant differences between banks with and without smooth income in terms of their returns on assets (ROA) and returns on equity (ROE). The result revealed that there is significant positive relationship between bank size, financial success, and income smoothing in our study.

Eze, et al., (2023) examine management performance and discretionary accrual measures in Nigeria. An expo facto research design was used to analyze Data from quoted companies that are listed in the Nigerian stock

exchange within the period of 2017-2021 and a total of 5 manufacturing companies were adopted as samples. Profitability, liquidity and firm's growth were the variables used to measure firm's performance as it relates to earnings management. The findings of this study demonstrate that profitability and liquidity have a positive relationship with discretionary accrual measure. However, company growth and discretionary accrual measure have a positive but no statistically significant association. Therefore, this study recommends that regulatory authorities should implement compliance with Accounting Standards, particularly the International Financial Reporting Standards (IFRS) in accounting disclosure such that financial information manipulations undertaken by firms to improve profit are eliminated.

Aguguom and Salawu (2022) investigated the impact of earnings smoothing on the market share price of listed companies in Nigeria. The study adopted ex-post facto research design using data sourced from published financial statements of selected companies. The population comprises 173 listed companies in Nigeria, covering a period of 2009-2020 as of 31st December 2020. 51 companies were purposively selected. The reliability and validity of the data are based on financial statements audited by the external auditors. The panel data is employed for the estimation using the Unobserved Effects Model (UEM), and Hausman test results to choose between random effect and fixed-effect models. The study found that earnings smoothing has a positive significant on market share price. This current study is specific to non-financial firms in Nigeria since findings from all listed companies cannot be applied to this sector.

Ikebujo, *et al*. (2021) investigated the effect of accrual-based earnings management on the financial performance of manufacturing companies in Nigeria. The research cut across all listed manufacturing subsectors in Nigeria. Thus, the sample consisted of thirty four (34) manufacturing companies listed on the Nigeria Exchange (NGX). Period covered was fifteen (15) years – from 2005 to 2019. Data was collected from the annual reports concerned companies and the Nigeria Exchange (NGX) data portal. The ordinary least square (OLS) method of analysis was adopted. Thus, in addition to the multiple regression method, Augmented Dickey-Fuller (ADF) unit root diagnostic method was implemented. From the data analyses, the following results were obtained: Results of data analyses showed that there was a negative and non-significant relationship between DACC and NPMG; However, DACC had a positive and non-significant relationship with EPSH. The study thus concluded that: DACC leads to deterioration in NPMG but enhances EPSH. However, the effects of DACC on financial performance is not sufficient to support the use of these earnings management methods. It was thus recommended among other things that: that managers are discouraged from embarking on earnings management practices for personal gain; Even where earnings management is embarked for benefit of the organization, managers should ensure that they can adequately guarantee the end result (all things being equal) to be achieved before embarking on the practice.

Potharla, *et al*. (2020) examined the impact of real earnings management on the future value of the firm and its persistence. The study also tests suspect firm effects on the relationship between real earnings management and the future value of the firm. The sample of the present study consists of all listed non-financial firms from the year 2011 to 2018. Real earnings management has been measured in three alternative ways viz., abnormal operating cash flows, abnormal discretionary spending, and abnormal production cost. Tobin's *Q* is used as a measure of firm value. The interaction term of real earnings management and Tobin's *Q* is used to test firm value persistence. The results of the analysis disclose that out of three measures of real earnings management, abnormal reduction in discretionary spending only has a significant negative impact on the persistence of firm value. Moreover, the suspect firm analysis reveals that when the underlying motive of real earnings management is to meet zero earnings, both abnormal increases in operating cash flows and abnormal reduction in discretionary spending have a significant negative impact on firm value persistence.

Dang, *et al*. (2020) investigated the impact of earnings quality on the value of the firm. The study has measured earnings quality by employing three proxies viz., earnings management, earnings persistence. The study was carried out using secondary data (through annual report and account of the selected firms) and the data were analyzed using multiple regression analysis. The study proved the positive impact of earnings quality on the value of the firm. The findings also disclose that variables like leverage, price-to-book ratio, growth of revenue have a negative impact on the value of the firm.

Anton and Carp (2020) assessed the effect of discretionary accruals on firm growth while controlling for firm characteristics and macroeconomic environment. Employing a large sample of 1.105 young and high-growth firms (gazelles) from 15 emerging European countries over the period 2006–2014, it has been found that the discretionary accruals negatively influence firm growth. The empirical results suggest that discretionary accruals are used as earnings management tools and this practice is more used over the high-growth period (2006–2009), with negative effects on future performance. Furthermore, the results of the quantile regression employed in the whole period suggest that the earnings management practices have a negative effect on firm growth. The results prove to be robust for different estimation approaches and different sub-samples of gazelles. The findings provide empirical evidence for the need for more detailed information provided by firms on the origin of the accruals, as well as for the use in the performance analysis of some indicators that eliminate the influence of accruals, such as cash flow based ratios.

Khuong, *et al*. (2020) investigated the relationship between accrual-based earnings management, real activities management and corporate cash holdings. The study was carried out using secondary data (through annual report and account of the selected firms) and the data were analyzed using multiple regression analysis. Findings suggested that real activities management has a positive impact on cash holdings, while accruals-based earnings management has a negative impact on this measure. The positive link between real earnings management and cash holdings implies that significant diminutions in discretionary production costs and selling expenses permit managers to mask the genuine performance of the firm, thus increasing information asymmetry. On the other hand, the inverse relationship between accruals based earnings management and cash holdings may prove that accruals can be helpful in alleviating the information differentials between the firm and other stakeholders.

Gap in literature

Previous studies have focused on earnings management and financial performance (Asuquo, et al., 2024; Karzan and Rizgar, 2023). Some also focused on income smoothing and financial performance has been conducted previously by different authors both local and international (Eze, et al., 2023; Hossein and Sahar 2007). However, there is limited study on the impact of earnings persistence on financial performance of firms in Nigeria and that is the gap this study intends to fill.

METHODOLOGY

Research design

The research design adopted *ex-post facto* design. This design was used because the researcher has no control over the exogenous variable and whatever happens occurred before the research.

Population/Sample size of the study

The population of the study is made up of all the 149 listed firms in Nigeria (Nigeria Exchange Group, 2024).

The study adopted both purposive sampling and stratified sampling techniques. Purposive sampling was used to select firms that reports data of the variables used in this study while stratified sampling was used to group the firms into strata (sectors). Therefore, the sample size of 70 listed firms was selected from the population which covers a representation of all the 11 sectors in Nigeria Exchange Group.

Method of data collection

The study collected secondary data from the annual reports of the sampled firms under review which include reports on discretionary accruals, earnings persistence, earnings volatility, and return on asset. These data were collected for a period of ten (10) years for each firm ranging from 2015 - 2024.

Data analysis technique

The data analysis involved three (3) stages namely, the pre-estimation test, the estimation test and the post estimation test. The pre-estimation test involves descriptive statistics which was used to check the normality of

the variable and the variance inflation factor which was used to check the multicollinearity. The estimation test used for this study is Panel Generalized Method of Moments (GMM). Panel GMM is a statistical method commonly used for estimating dynamic panel data models, especially when there is potential endogeneity. Finally, the post estimation test suitable for this study is Arellano-bond test.

Model specification

$NPM_{it} = \beta_0 + \beta_1 ENP_{it} + \beta_2 DA_{it} + \beta_3 ENV_{it} + u_{it}$ ……(1)

Instrument Specification =

@DYN(NPM (-2) ENP (-1) DA (-1) ENV (-1)……(2)

Where;

NPM = Net profit margin

ENP = Earnings persistence

DA = Discretionary accruals

ENV = Earnings volatility

β_0 =constant slope to be estimated

$\beta_1 - \beta_4$ = intercept to be estimated

U = error term

Description of variables

Table 3.1 Measurement of variables

Variables	Symbols	Measurement
PERFORMANCE (DV)		
Net profit margin	NPM	Net income divided by revenue
INCOME SMOOTHING (IV)		
Discretionary accruals	DA	Total accruals minus non-discretionary accruals
Earnings persistence	ENP	Change in reported earnings (Net income)
Earnings volatility	ENV	Standard deviation of earnings (Earnings per share).
Total accruals	TA	Net income minus cashflow from operation
Non-discretionary accruals	NDA	Sales minus receivables plus property, plant and equipment (PPE).

Data Presentation and Analysis

Data presentation

This s chapter presents the data extracted from the financial statement of the 70 listed firms in Nigeria (2015-2024). The data were obtained from the Nigerian Exchange Group website and was presented in appendix 1. The independent variable is earnings persistence and it is measured using earnings persistence (ENP), discretionary accruals (DA) and earnings volatility (ENV). The dependent variable is financial performance and its measured using net profit margin (NPM).

Data analysis

This section analyzes the data with the aid of E-View 13

Data validity test

In order to ensure that the results are robust, several diagnostic tests are conducted to enhance the validity of data and model specified for analyses. As such, data diagnostic test such as; the Unit root test is computed. Before that, the correlation analysis is done.

Correlation analysis

This section of the chapter presents in the table below the result of the correlation analysis between the independent variables to ascertain if there is sign of multicollinearity in model.

Table: 4.1 Correlations

	DA	ENV	ENP	AUDSIZE	FACM
DA	1.000000	0.118607	-0.121922	-0.109242	0.043507
ENV	0.118607	1.000000	0.029429	-0.014030	-0.019021
ENP	-0.121922	0.029429	1.000000	0.001523	-0.008670
AUDSIZE	-0.109242	-0.014030	0.001523	1.000000	-0.076942
FACM	0.043507	-0.019021	-0.008670	-0.076942	1.000000

Table 4.1 showed the correlation matrix of the independent variables employed in this study. Correlation considers two variables at a time to determine how they relate to each other. These types of checks are necessary because high correlation cause problems about the relative contribution of each predictor to the success of the model (Guajariti & Sangeeta, 2007). The correlation matrix above shows the absence of multicollinearity among the explanatory. All the variables show a low correlation with the highest correlation estimated at 0.118607. This is less than 0.75. According to Gujarati and Sangeeta, (2007); Berenson and Levine (1999), correlation matrix value of 0.75 is considered harmful.

Table 4.2: Variance inflation factor (VIF) for Multicollinearity test

Variables	Coefficient variance	Uncentered VIF	Centered VIF
C	0.000802	53.06742	NA
DA	1.57E-05	53.72617	1.029269
ENV	3.99E-06	1.618334	1.016669
ENP	8.35E-10	1.023635	1.016473

Source: Author's Computation using E-View

The variance inflation factor (VIF) is used to check the level of multicollinearity that exist between the independent variables. If the independent variables are highly correlated making it difficult to isolate the individual effect of the variables, it means that there is problem and the independent variables cannot give a dependable and reliable result. The criterion is that any time the centered VIF have values between 5-10, this implies that there is sign of multicollinearity. From the result, the centered VIF have values less than 5 which implies that the independent variables are free from multicollinearity. It should be noted that the centered VIF values below 5 are generally acceptable, and these results suggest that centering resolves the multicollinearity issues observed in the uncentered data.

Generalized Method of Moments (GMM) Estimates of the Effects of earnings persistence on financial performance.

Two approaches to Generalized Methods of Moments/Dynamic Panel Data (GMM/DPD) estimation exists in E-views - the First Differences and System Approaches. To select the most appropriate approach, three regressions estimates were estimated – the Pooled OLS, the Fixed Effect OLS and the First Differences transformation. The choice is based on the comparative value of the coefficients of the lag of the dependent variable in the three estimates. The results obtained from NPM regression models are respectively shown in tables 4.3.

Table 4.3: Selection Criteria between First Differences and System Panel GMM Regression for NPM Model

Regression Approach	NPM (-1) Coefficient	Remarks	Decision
Pooled OLS	0.345294	Upper bound	System panel GMM is preferred since 0.038330 *is* greater than -0.292779 (1st diff. GMM)
Fixed Effect OLS	0.038330	Lower bound	
1st Differences GMM	-0.292779	System GMM is preferred if NPM (-1) Coefficient from 1st Diff. GMM < lower bound coefficient, otherwise 1st Differences GMM is used.	

Source: Author's Computation using E-View

Since 0.038330 (Fixed Effect Coefficient of the lag of the dependent variable – NPM (-1) is higher than -0.292779 (1st Differences Coefficient of the lag of the Dependent Variable), System panel GMM is preferred as the result shows that this dynamic transformation of system panel GMM is equally not downward bias.

Effect of income smoothing on the net profit margin (NPM)

Table 4.4 provides the summary of the fixed effect test results of the effect of income smoothing on NPM based on fixed effect.

Table 4.4: Test result of the effect of DA, ENV and ENP on NPM of listed firms in Nigeria.

Dependent variable: NPM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPM(-1)	0.038330	0.035016	1.094643	0.2744
DA	0.066991	0.085452	0.783955	0.4336
ENV	0.039133	0.023547	1.661890	0.0974
ENP	-0.002283	0.003467	-0.658594	0.5106
C	-0.323913	0.594514	-0.544836	0.5862
Cross-section fixed (dummy variables)				
R-squared	0.617461		Mean dependent var	0.221870
Adjusted R-squared	0.545359		S.D. dependent var	0.577390
S.E. of regression	0.389317		Akaike info criterion	1.097156
Sum squared resid	57.89885		Schwarz criterion	1.758215
Log likelihood	-176.6031		Hannan-Quinn criter.	1.357585
F-statistic	8.563757		Durbin-Watson stat	2.209472
Prob(F-statistic)	0.000000			

Source: Author's Computation using E-View

Table 4.4, presents the regression result on the effect of income smoothing (DA, ENV and ENP) on net profit margin (NPM). From the model summary table above, the following information can be distilled.

The R^2 which measure the level of variation of the dependent variable caused by the independent variables stood at 0.617461. The R^2 otherwise known as the coefficient of determination shows the percentage of the total variation of the dependent variable (NPM) that can be explained by the independent or explanatory variables (DA, ENV and ENP). Thus the R^2 value of approximately 0.617 indicates that 61.7% of the variation in the NPM of listed firms can be explained by a variation in the income smoothing while the remaining 38.3% (i.e. 100-R^2) could be accounted by other factors not included in this model. The adjusted R^2 of approximately 0.545 indicates that if other factors are considered in the model, this result will deviate from it by only 0.072 (i.e. 0.617 – 0.545).

This result shows that there will be a further deviation of the variation caused by the independent factors to be included by 0.072%.

The regression result as presented in table 4.4 above to determine the relationship between DA, ENV & ENP and NPM shows that when all the independent variables are held stationary; the NPM variable is estimated at -0.323913. This simply implies that when all independent variables are held constant, there will be a decrease in the NPM of listed firms up to the tune of 0. 323913% occasioned by factors not incorporated in this study. Thus, a unit increase in DA will lead to an increase in NPM by 0.066991%. For ENV, a unit increase in ENV will lead to an increase in NPM by 0.0039133%. For ENP, a unit increase in ENP will lead to a decrease in NPM by 0.002283%. Finally, the result shows that there is a significant variation of Fisher's statistics (8.563757) with a probability value of 0.00000 which means the model as a whole is statistically significant at an autocorrelation level of 2.209472 (Durbin-Watson), which is less than 2.5.

Post estimation test to check for possible existence of autocorrelation problem in the model was conducted using the Arellano Bond Serial Correlation test and the results are shown in Table 4.5

Table 4.5: Arellano-Bond Serial Correlation Test on NPM Model

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.844591	-17.496015	20.715375	0.3983
AR(2)	-1.613794	-1.502810	0.931228	0.1066

Source: E-View output extracted from Appendix 4D

The values of m-statistic for both AR (1) and AR (2) of -0.844591 and -1.613794 are found to be insignificant at 5% level (p-values of 0.3983 and 0.1066 are both > 0.05). Accordingly, the null hypothesis that proposes absence of serial correlation is accepted and the study conclude that there is no serial correlation in the series.

Test of Hypotheses

Hypothesis one

The null hypothesis is restated as follows:

$H0_1$: There is no significant effect of discretionary accruals on net profit margin of listed firms in Nigeria.

HA_1: There is a significant effect of discretionary accruals on net profit margin of listed firms in Nigeria.

Results in table 4.9 indicates that the t-statistic for discretionary accruals (DA) of 0.783955 is not significant at 5% level (P = 0.4336 > 0.05). Accordingly, **$H0_4$** is accepted, and the conclusion is there is no significant effect of discretionary accruals on net profit margin of listed firms in Nigeria.

Hypothesis two

The null hypothesis is restated as follows:

$H0_2$: There is no significant effect of earnings persistence on net profit margin of listed firms in Nigeria.

HA_2: There is a significant effect of earnings persistence on net profit margin of listed firms in Nigeria.

Results in table 4.9 indicates that the t-statistic for earnings persistence (ENP) of -0.658594 is not significant at 5% level (P = 0.5106 > 0.05). Accordingly, **$H0_5$** is accepted, and the conclusion is there is no significant effect of earnings persistence on net profit margin of listed firms in Nigeria.

Hypothesis three

The null hypothesis is restated as follows:

$H0_3$: Earnings volatility has no significant effect on net profit margin of listed firms in Nigeria.

HA_3: Earnings volatility has a significant effect on net profit margin of listed firms in Nigeria.

Results in table 4.9 indicates that the t-statistic for earnings volatility (ENV) of 1.661890 is not significant at 5% level (P = 0.0974 > 0.05). Accordingly, **$H0_6$** is accepted, and the conclusion is earnings volatility has no significant effect on net profit margin of listed firms in Nigeria.

DISCUSSION ON FINDINGS

The findings from hypothesis one, two and three revealed that earnings persistence, discretionary accruals and earnings volatility have no significant effect on net profit margin of listed firms in Nigeria. The result is consistent with the result of Abogun and Adigbole (2021) who examined the impact of income smoothing on the value of firms in a regulated security market. Furthermore, the system generalized method of moments (Blundell–Bond) panel estimation technique was used for analyzing the data. The study found that income smoothing has a negative significant impact on firm value. On the contrary, a study by Kothari (2021), found that earnings persistence is a significant predictor of stock returns, with companies with high earnings persistence tend to have higher stock returns. Another study by Sloan (2016) found that earnings persistence is also associated with changes in a company's profitability, with companies with high earnings persistence tend to have higher profitability ratios. A study by Subramanyam and Wild (2016) found that earnings persistence is also associated with changes in a company's growth, with companies with high earnings persistence tend to have higher growth rates.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study was carried out on the effect of income smoothing on financial performance of listed firms in Nigeria. The independent variable income smoothing is proxy by earnings persistence (ENP), discretionary accruals (DA) and earnings volatility (ENV). The dependent variable financial performance is proxy by net profit margin (NPM). The study made used of 10 years ranges from 2015 to 2024. The data collected were analyzed using Panel GMM. The result revealed that:

i. There is no significant effect of discretionary accruals on net profit margin of listed firms in Nigeria.
ii. There is no significant effect of earnings persistence on net profit margin of listed firms in Nigeria.
iii. There is no significant effect of discretionary accruals on debt to equity ratio of listed firms in Nigeria.

Recommendations

Based on the findings, the following recommendations were made:

(i) Analysts, investors, and stakeholders should incorporate earnings quality indicators (e.g., accrual quality, volatility) when evaluating the financial performance of Nigerian listed firms. Income smoothing practices can mask true financial performance. Using metrics beyond traditional profitability ratios can provide a more accurate assessment of financial health. Implement models like the Modified Jones Model to assess the level of discretionary accruals and uncover potential earnings management that would affect net profit margin of firms.

(ii) Train financial managers and executives on the importance of long-term value creation versus short-term earnings manipulation. A focus on short-term performance metrics can incentivize aggressive income smoothing, which may harm the firm’s financial health and reputation in the long run. Encouraging ethical financial practices can improve performance (NPM and DER).

(iii) Earnings volatility is a critical indicator of income smoothing and can impact financial performance metrics like NPM and DER. High volatility may signal underlying operational risks, while artificially low volatility may indicate smoothing practices that obscure true performance. Therefore, firms and regulators should adopt sophisticated statistical tools (e.g., time-series analysis or variance decomposition) to assess earnings volatility accurately. Analysts should be trained to differentiate between natural and manipulated volatility.

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