

FIRM CHARACTERISTICS AND STOCK PRICES OF QUOTED NON-FINANCIAL FIRMS IN NIGERIA



¹Suberu Amuda Yusuf
(yusuftaru9@gmail.com)
+2348066229324

²Abdullahi Sani Rufai
(abdullahsanirufai@yahoo.com)
+2347060957441

³James Ike Ugwu
(ugwu.ji@ksu.edu.ng)
+2348063810702

^{1,2 and 3} Department of Accounting, Prince Abubakar Audu University, Anyigba, Kogi State, Nigeria

ABSTRACT

The study examined the firm characteristics and stock prices of quoted non-financial firms in Nigeria. The study used an ex-post facto research design. The population comprises all the 107 listed non-financial firms in Nigeria and a filtering sampling technique was used to arrive at forty-eight (48) sampled firms covering the periods of 2012 to 2022. The hypotheses were tested using Random effect regression model after conducting some diagnostics tests like Pearson correlation, Variance Inflation Factor, Heteroscedasticity, Breusch-Pagan Lagrangian Multiplier and Hausman Specification. The results show that firm growth (FG) and firm size (FS) have significant positive effects on market price of shares (MPS) of quoted non-financial firms in Nigeria for the period under review. However, the results also show that firm size (FS) and firm age (FA) have insignificant positive effects on market price of shares (MPS) of quoted non-financial firms in Nigeria for the period under review. The study recommends among others, that the management of non-financial firms in Nigeria should put the growth level of their firms into consideration by ensuring a consistent increase in the value of their revenues yearly to attract more investments from the equity investors in the capital market. Their five-year growth rate should also be provided to all the stakeholders in their financial statements. Also, the non-financial firms should consolidate their firms to form a large capital base that would make them take advantage of large-scale production to attract more equity investors to their firms in Nigeria.

Keywords: Firm Characteristics; Stock Prices; Non-Financial Firms

INTRODUCTION

The release of accurate financial reports plays a crucial role in enabling informed decision-making for investors and other stakeholders. Companies communicate information through both mandatory and voluntary channels. Mandatory disclosure encompasses financial reports and regulatory filings, whereas voluntary disclosure extends to additional disclosures beyond regulatory requirements, such as investor presentations and ad hoc announcements. According to the United Nations (2017), corporate information serves as a fundamental element for the proper functioning of efficient capital markets. Furthermore, it offers a broad audience, including stakeholders, valuable insights for evaluating stewardship, and aids in making informed economic and policy decisions.

Investors, both current and potential, closely evaluate the effectiveness of a corporation's directors in fulfilling their stewardship responsibilities. They rely on financial statements as a foundational element when deciding whether to retain or sell their shares, or to make new investments. These investment choices are intricately tied to expectations regarding the returns on investment, hinging on anticipated future growth and product demand. Corporate stakeholders leverage relevant information for its predictive and confirmatory values, influencing their decision-making processes. The value of faithful representation lies in the ability of corporate information to realistically portray the economic indicators it intends to convey. This realism aids in distinguishing more valuable information from less valuable, thereby facilitating sound investment decisions based on a clear understanding of a corporation's economic outlook.

Investors' perceptions of a company's risk-return profile play a crucial role in shaping their investment choices. Companies that align with shareholders' investment goals, utilizing publicly available information, are likely to attract favorable investments and experience a subsequent boost in their market share prices. Zager and Zager (2006) argue that corporate information serves the purpose of directing the interests of stakeholders.

Existing and prospective investors share a common interest in assessing various investment attributes of firms, such as risk, safety, liquidity, and growth prospects. The correlation between a stock's present value and expectations regarding its future value is influenced by available investment opportunities. Investors prioritize the safety of their investments, as evidenced by their attention to the financial health and operational performance of the company.

Many investors are interested in the growth potential of a company, and as a result, they actively seek information about the organization's resource acquisition and utilization. The effectiveness of management and their decision-making processes in obtaining and deploying resources also holds significant importance for investors. The manner in which management secures and manages resources can substantially impact investment decisions. Corporate-related details, such as the company's growth trajectory, size, and age, play a crucial role in shaping shareholders' decisions, ultimately influencing the market price of shares (Nirmala *et al.*, 2011).

Investors keenly assess the growth potential of companies as a crucial factor in their decision-making process before allocating their investment resources. This strategic evaluation aligns with their objective of securing favorable returns on investment. Companies demonstrating consistent growth tend to attract positive investment decisions from both domestic and international investors, consequently enhancing their market value through an increase in share prices on the capital market. Conversely, companies with erratic growth patterns face challenges in garnering favorable investor sentiments, both locally and globally. This lack of investor confidence can lead to a decrease in the firms' overall value, manifested by a decline in their market share prices. According to Gikonyo (2008), companies with poor growth prospects experience adverse effects on their overall firm value.

The size of a firm emerges as a pivotal factor in making meaningful comparisons between companies. Al-Mwalla *et al.* (2010) argued that larger firms provide investors with greater exposure to public information compared to smaller firms. Additionally, investors tend to adjust their expectations for larger firms more promptly than for smaller ones. The reactions of investors based on the size of a firm significantly influence their investment decisions, particularly in relation to the market price of shares.

The duration of a company's existence plays a crucial role in corporate information disclosure. As the number of years, a company has been operational increases, so does the availability of information that is disseminated to the public concerning its activities (Ghulam *et al.*, 2019). The motivation behind conducting this study stems from the desire to investigate the relationship between firm characteristics and stock prices of financial firms listed in Nigeria, specifically during the post-International Financial Reporting Standards (IFRS) implementation period. The implementation of IFRS in Nigeria has significantly altered the landscape of financial reporting in the country, prompting a need for a comprehensive examination of its impact on these financial entities.

Firm attributes play an important role in mitigating information asymmetry issues between managers and owners, thereby reducing agency problems (Diamond, 1985; Easley *et al.*, 2010). Essential in this context is corporate financial reporting, particularly through annual reports, serving as a crucial tool for communicating essential information about a company's financial status (Barako, 2007). Levi and Zarowin (1999) contend that there has been a systematic decline in the effectiveness of financial information for investors over the past two decades, evident in the weakening correlation between capital market value and financial characteristics.

Buzby (1974) contended that numerous items were insufficiently disclosed, leading to a disparity between users' informational needs and the content provided in companies' annual reports. The information gap between the managerial and stakeholder perspectives is exacerbated by the fact that users often require non-ratio financial information, such as insights into firm growth, management quality, firm size, and firm age. These aspects, crucial for comprehensive understanding, cannot be gleaned solely through conventional ratio analysis of financial statements. Consequently, this widening information gap hampers effective communication between managers and stakeholders.

Additionally, the size of a firm plays a pivotal role in determining the extent of information available to the general public. Smaller firms tend to grapple with inadequate information transparency, further amplifying the challenges faced by stakeholders in obtaining a comprehensive view of these entities. In contrast, larger firms are positioned advantageously with lower risks due to the availability of extensive public information. This informational advantage not only fosters transparency but also influences informed investment decisions, favoring larger firms over smaller counterparts.

In a related development, most of the studies (e. g. Idris *et al.*, 2019; Ugwu *et al.*, 2018) conducted in Nigeria combined the data for both pre and post IFRS implementation together which affect the findings as a result of changes made to financial reporting. Also, the empirical works have shown that some of the studies (e. g. Habib *et al.*, 2022; and Daneva, 2022) carried out in recent times regarding firm growth, firm size, firm age and stock prices in Nigeria and other countries of the world were not current in the data used for the analysis to reflect the current economic realities as all the data were within 2019 and below except the work of Obaje *et al.* (2023) whose data cover up to 2021.

Furthermore, these kinds of studies (Ardina and Isnailita, 2018; Kayode *et al.*, 2020; Obaje *et al.*, 2023) conducted in Nigeria were very scanty while most of these studies (Cory *et al.*, 2020; Daneva, 2022; Habib *et al.*, 2022; Mustafa, 2019; and Sukesti *et al.*, 2021) were mostly done in other countries of the world. These identified gaps in literature call for further study in this area

which necessitated this study firm characteristics and stock prices of quoted financial firms in Nigeria, to update the data up to 2022, use appropriate panel regression technique, cover only the periods of IFRS implementation in Nigeria and add to the scanty literature in this area in Nigeria.

The main objective of this study is to examine the firm characteristics and stock prices of quoted financial firms in Nigeria. This study is specifically intended to: (i) determine the effect of firm growth on share prices of quoted non-financial firms in Nigeria; (ii) evaluate the effect of firm size on share prices of quoted non-financial firms in Nigeria; and (iii) assess the effect firm age on share prices of quoted non-financial firms in Nigeria. The hypotheses are formulated for test in line with the specific objectives as follows: H₀1: Firm growth has no significant effect on share prices of quoted non-financial firms in Nigeria. H₀2: Firm size has no significant effect on share prices of quoted non-financial firms in Nigeria. H₀3: Firm age has no significant effect on share prices of quoted non-financial firms in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Framework

The conceptual framework for this as adapted from Cory *et al.* (2020) comprises three proxies (Firm Growth, Firm Size and Firm Age) representing independent variable and a proxy (Stock Prices) as a dependent variable.

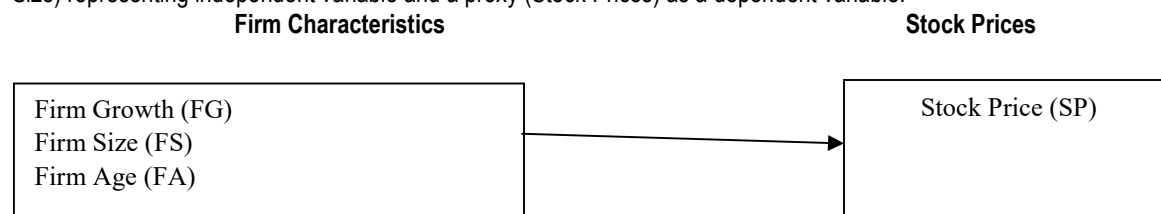


Figure 1: Adapted from Cory *et al.* (2020)

Firm Characteristics

Firm size refers to the magnitude or scale of a business entity, typically measured by various indicators such as the number of employees, total revenue, assets, or market capitalization (Peter *et al.*, 2020). The determination of firm size is crucial in understanding and categorizing businesses within an economy. It is important to note that definitions of firm size can vary across industries and countries, and different organizations and regulatory bodies may adopt distinct criteria for classification based on their specific contexts and objectives. Additionally, the dynamic nature of businesses may result in changes in firm size over time. Firm characteristics encompass the operational behaviors of a company, crucial in attaining its objectives over its operational lifespan. Additionally, these characteristics are reflected in the accounting information disclosed by firms within their financial statements, serving as a communication tool to convey their performance to diverse stakeholders (Zou & Stan, 1998). The specific attributes of a company vary across different business entities, and these traits are discernible through the pertinent information disclosed in their financial statements for a given accounting period (Stainer, 2006). The variables utilized in this study to assess firm characteristics include growth, size, and age of the firm.

Firm Growth

Firm growth is widely regarded as a key driver of shareholder value, as investors associate a company's expansion with improved performance and higher stock valuation. When actual growth falls below investors' expectations, it often leads to a decline in stock prices. According to Hampton (1993), growth can occur internally through increased sales, expansion of production capacity, market penetration, and product diversification, or externally through acquisitions of other firms' assets or operations. Growth is commonly measured by changes in total assets or operating profit, such as Total Assets Growth (TAG), which compares current and prior-year asset levels. In this study, firm growth is defined as an increase in firm revenue.

Firm Size

Firm size reflects the magnitude of a company's assets and is commonly measured using the natural logarithm of total assets. Larger firms tend to enjoy advantages such as easier access to capital, stronger bargaining power, and competitive superiority, which support better investment decisions (Muhammadi, 2014). They also benefit from economies of scale, higher sales, and improved access to debt financing, leading to greater financial transparency and stronger market performance (Khaoula & Ayed, 2013; Rego, 2003; Biddle & Hilary, 2009). Furthermore, larger firms are often more diversified, better managed, and more capable of handling risk, while smaller firms may face challenges such as information asymmetry (Berger & Bonaccorsi, 2006; Berger & Di-Patti, 2006). In this study, firm size is defined as the value of total assets reported in the statement of financial position.

Firm Age

Firm age refers to the number of years a company has been in operation, typically measured from the date of incorporation, and reflects its experience, maturity, and historical development. It influences corporate behavior, strategy, and performance, including disclosure practices. Empirical evidence suggests that older firms tend to provide more comprehensive sustainability and environmental disclosures due to accumulated experience, established stakeholder relationships, and increased pressure for transparency (Elijido-Ten, 2009; Cormier et al., 2005; Trencansky & Tsaparlidis, 2014; Haladu & Beri, 2016). However, some studies report an insignificant relationship between firm age and disclosure practices, indicating mixed findings (Juhmani, 2014; Akbas, 2014). In this study, firm age is defined as the number of years a firm has existed since incorporation.

Stock Prices

A market price of a share is a price at which the ordinary shares of an organization are traded at any particular point. A share price is often volatile since it is largely dependent on the expectations of buyers and sellers (Akbas, 2014). For this research, the closing prices of shares are taken to define market share price. Share price is regarded as the numerical expression of the market's collective valuation of a company's equity (Daneva, 2022). It is influenced by a combination of fundamental factors (such as earnings, dividends, and growth prospects) and market sentiment. Financial analysts often view share price as a reflection of a company's perceived intrinsic value and growth potential. They assess financial statements, industry trends, and macroeconomic factors to make projections about future earnings, which can impact the share price. Share price is a key concept in the Efficient Market Hypothesis (EMH), which posits that all relevant information is already reflected in stock prices. Researchers in this field study the efficiency of markets and how quickly new information is incorporated into share prices. From a corporate finance standpoint, share price is crucial in determining a company's market capitalization, which represents the total market value of its outstanding shares. It influences financing decisions, such as equity issuance or share buybacks.

Empirical Review

Firm Growth and Stock Prices

Empirical studies on firm characteristics and performance provide mixed evidence across different contexts. Habib et al. (2022) find that market capitalization, cash holdings, and ownership concentration positively influence firm efficiency, while insider and institutional ownership have negative effects. In Nigeria, Kayode et al. (2020) show that earnings per share and liquidity significantly improve stock returns in the financial sector, whereas return on assets has a negative effect. Similarly, Idris et al. (2019) report that dividend ratio, growth, liquidity, and book value significantly influence share prices of deposit money banks. Outside Nigeria, Ardina and Isnailita (2018) reveal that profitability and growth positively affect firm value, while liquidity and leverage have negative effects.

Other studies further highlight the role of firm-specific variables in explaining market outcomes. Ramji (2017) finds that leverage, market capitalization, and dividend-related variables positively influence stock returns, while book-to-market ratio and asset growth have negative effects. Ataünal et al. (2016) show that sustainable growth enhances shareholder value, while Altahtamouni and Alslehat (2014) report that accounting indicators, particularly earnings per share, significantly affect market value. Despite the use of robust analytical techniques, many of these studies are either outdated or conducted outside Nigeria, limiting their applicability and indicating the need for more recent, context-specific evidence.

Firm Size and Stock Prices

Recent studies on firm characteristics and market performance provide varying evidence across contexts. In Nigeria, Obaje et al. (2023) find that firm age has a significant positive effect on share prices of consumer goods firms, while firm size and leverage have insignificant negative effects. Similarly, Ugwu et al. (2018) report that firm size and profit after tax positively but insignificantly influence share prices of oil and gas firms. Daneva (2022), using data from the Macedonian Stock Exchange, shows that market capitalization, volatility, and risk indicators significantly affect stock returns, while Sukesti et al. (2021) reveal that debt-equity ratio and net profit margin significantly influence stock prices, with return on assets acting as a mediating variable.

Other empirical evidence also highlights the role of firm-specific variables in determining market outcomes. Cory et al. (2020) find that profitability positively affects stock prices, while firm size and dividend policy have negative effects. Mustafa (2019) and Agirman and Yilmaz (2018) show that firm size significantly influences stock prices and returns, while Hamzah (2017) identifies firm size and cash flow as key determinants of investment decisions in Nigerian manufacturing firms. Despite the use of robust methodologies, many of these studies rely on outdated data or are conducted outside Nigeria, limiting their generalizability and emphasizing the need for more current, Nigeria-specific evidence.

Firm Age and Stock Prices

Nyikyaa (2021) examined the combined effects of firm size, price-earnings ratio, firm age, and leverage on stock returns of quoted industrial firms in Nigeria using an ex-post facto design and OLS regression. The study, based on 14 sampled firms from 2009–2018, found that firm size and price-earnings ratio have significant effects on stock returns, while leverage has a positive

but insignificant effect and firm age has a negative insignificant effect. The study recommended policies that encourage dividend payments to enhance investor returns. Similarly, Donna (2020) investigated the effect of firm characteristics—firm age, size, liquidity, and leverage—on profitability of consumer goods firms in Indonesia and found that all variables have a significant positive effect on profitability.

Ghulam et al. (2019) explored the relationship between stock market performance and firm investment in China using a random-effects model and found that stock price is negatively related to sales and trading volume but positively related to market capitalization and leverage, with firm age and size playing a mediating role. Despite the use of robust analytical methods, these studies are either outdated or conducted outside Nigeria, limiting their generalizability and highlighting the need for more recent and context-specific evidence.

Theory underpinning the study

The signalling model was first postulated by Michael Spence in (1973). In this theory, financial information cannot be overemphasized to be one of the means through which the passage of information is successfully made to users (especially from managers to stockholders). A hypothesis was built by Fama *et al.* (1969) which suggest that the announcement of splits by a company could foster the reduction of any asymmetric information in existence between stockholders and management. The signalling theory is relevant to this study because the theory emphasized that the appropriate disclosure of information such as (firm growth, firm size and firm age) serve as a great signal to its users as there are used in making a more effective decision by the shareholders of companies. It also holds that financial information cannot be overemphasized to be one of the means through which the passage of information is successfully made to users (especially from managers to stockholders). This implies that the disclosure of corporate information guides equity investors in their investment decision making which reflect in the market prices of shares in the capital market.

METHODOLOGY

This study adopted an ex-post facto research design due to the quantitative nature of the variables and the need to examine the relationship between independent variables and the dependent variable. The population comprised 107 listed non-financial firms in Nigeria as of 31st December 2022, covering the period 2012–2022. Using specified filtering criteria, 48 firms were selected, including those listed on the Nigerian Exchange (NGX) at least one year before IFRS adoption in 2012 and actively traded during the study period. Data were sourced from audited annual reports, NGX factbooks, and company websites. The analysis employed a random effects regression model, based on the Hausman test result, and was conducted using STATA 15 software. The dependent variable is stock prices (SP) while the independent variable is firm characteristics proxies by Firm Growth (FG), Firm Size (FS) and Firm Age (FA). Specifically, the functional linear equation as adapted from Cory *et al.* (2020) is presented as follows:

$$SP = f(FG + FS + FA)$$

Econometrically, the above equation is rewritten into a model as follow:

$$SP_{it} = \beta_0 + \beta_1 FG_{it} + \beta_2 FS_{it} + \beta_3 FA_{it} + \mu_{it} \dots\dots\dots (1)$$

Where:

SP = an indicator representing stock prices (dependent Variable);

β_0 = Intercept term (a constant);

$\beta_1 - \beta_3$ = Coefficients of proxies of independent variable;

FG = a predictor representing independent variable (firm growth);

FS = a predictor representing independent variable (firm size);

FA = a predictor representing independent variable (firm age);

μ = Stochastic error term;

i = Firms

t = periods; and

f = Functional relationship.

A-priori Expectations: $\beta_1, \beta_2, \beta_3 > 0$

Operationalisation of Variables and Justifications

Table 1 below explains the variables under study

Variable	Acronym	Type of variable	Measurement	Justification
Stock Prices	SP	Dependent	Average annual price shares.	Raji (2017) and Sukesti <i>et al.</i> (2021)
Firm Growth	FG	Independent	Natural log of total revenue.	Ardina and Isnalita (2018); and Ataunal <i>et al.</i> (2016)
Firm Size	FS	Independent	Natural log of total assets.	Agirman and Yilmaz (2018); Hamzah (2017); and

				Ugwu <i>et al.</i> (2018).
Firm Age	FA	Independent	The total number of years the company has been in existence divide by the total sample firms.	Obaje <i>et al.</i> (2023) and Ghulam <i>et al.</i> (2019).

Source: Researcher's compilation (2023)

DATA PRESENTATION AND ANALYSIS

Data Presentation

The data of forty-eight (48) non-financial firms regarding the Stock Price (SP), Firm Growth (FG), Firm Size (FS) and Firm Age (FA) covering 2012 to 2022 are presented in appendix B.

Data Analysis

The data were analysed with the aid of Stata 15 software using Descriptive Statistics, Shapiro-Wilk Test, Pearson Correlation, Heteroscedasticity test, Breusch-Pagan Lagrangian Multiplier test, Hausman Specification Test and random effect regression model based on the data.

Descriptive Statistics

Table 2 summarises the descriptive statistics of the entire data set.

Variable	Obs	Mean	Std. Dev.	Min.	Max.
SP	528	35.36	133.33	0.2	1461
FG	528	6.83	0.94	3.02	9.30
FS	528	6.95	0.84	4.06	9.15
FA	528	49.69	19.26	17	99

Source: Researcher's Computation using STATA 15 software

Table 2 shows that the stock price (SP) has a minimum value of 0.2, a maximum value of 1,461 and a mean value of 35.36 that is within the minimum and maximum values indicating a good spread within the period studied. The Table also reveals that SP has a standard deviation of 133.33 that is more than the mean, which implies that it skews above the mean for the period under review. Table 2 also shows that firm growth (FG) has a minimum value of 3.02, a maximum value of 9.30 and a mean value of 6.83 that is within the minimum and maximum indicating a good spread within the period studied. The table also reveals that FG has a standard deviation of 0.94 that is less than the mean, which implies that it skews below the mean for the period under review.

Table 2 further shows that the firm size (FS) has a minimum value of 4.06, a maximum value of 9.15 and a mean value of 6.95 that is within the minimum and maximum values indicating a good spread within the period studied. The Table also reveals that FS has a standard deviation of 0.84 that is less than the mean, which implies that skews below the mean for the period under review. Table 2 finally shows that firm age (FA) has a minimum value of 17 a maximum value of 99 and a mean value of 49.69 that is within the minimum and maximum indicating a good spread within the period studied. The table also reveals that FA has a standard deviation of 19.26 that is less than the mean, which implies that skews below the mean for the period under review.

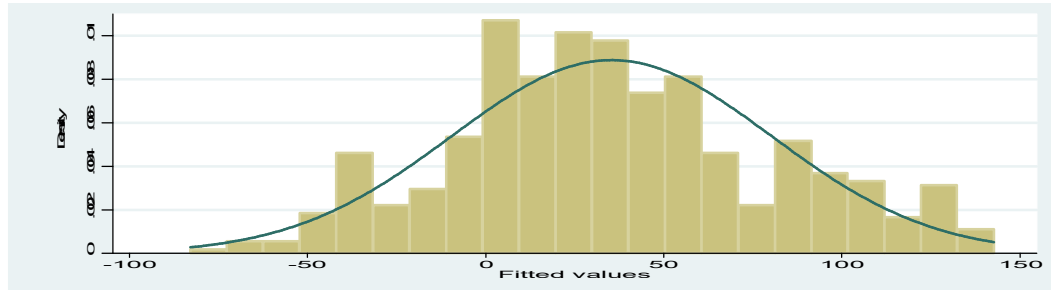
Shapiro Wilk Normality Test

Table 3 and figure 2 below presents the results of the normality test conducted with the use of Shapiro-Wilk normality test and normal distribution curve. The decision rule is if P-Value > 0.05, the residual is normally distributed but if P-Value is equal to or < 0.05, the residual is not normally distributed.

Variable	OBS	W	V	Z	Prob>Z
Residual	528	0.987	4.608	3.682	0.00012

Source: Researcher's Computation using STATA 15 software

Figure 2: Normal Distribution Curve



Source: Researcher's Computation using STATA 15 software

Table 3 above presented the residual and the z-value of 3.608 and the corresponding probability of value of 0.000 that is less than 0.05 which signifies that the residual is not normally distributed around the mean. This result is further collaborated by the normal distribution curve presented in figure 2 above. This implies that one of the basic assumptions of linear regression technique which allows only normally distributed residual has been satisfied.

Pearson Correlation

Table 4 below is the Pearson correlation matrix for the data set to show the extent of associations between the variables.

Variable	MSP	FG	FS	FA
MSP	1			
FG	0.3198	1		
FS	0.3078	0.7520	1	
FA	0.1127	0.2482	0.2272	1

* = Significant at 1%

** = Significant at 5%

Source: Researcher's Computation using STATA 15 software

The correlation matrix determines the degree of relationships between the proxies of an independent variable and the dependent variable. It is also used to show whether there is an association among the proxies of independent variable themselves, to detect if a multicollinearity problem exists in the model. The result from table 4 shows a 32% positively and moderate relationship between firm growth (FG) and stock prices (SP) of quoted non-financial firms in Nigeria, from a correlation coefficient of 0.3198. The table indicates 31% positively and moderate relationships between firm size and stock prices (SP) of quoted non-financial firms in Nigeria, from a correlation coefficient of 0.3078.

The table further indicates 11% positively and weak relationships between firm age and market price of shares (MPS) of quoted non-financial firms in Nigeria, from a correlation coefficient of 0.1127. Finally, the relationships between firm size and firm growth of approximately 75% which lead to a further test of Variance Inflation Factor to determine if the high relationship will inflation the over results.

Variance Inflator Factor (VIF) Results

Table 5: Variance Inflator Factor (VIF)

Variable	VIF	1/VIF
FG	2.35	0.428243
FS	2.31	0.432787
FA	1.07	0.934624
Mean VIF	1.91	

Source: Researcher's Computation using STATA 15 software

In a bid to further test the absence of multicollinearity problem among the exogenous variables, colinearity diagnostics test were observed as the Variance Inflation Factors (VIF) and the Inverse Variance Inflation Factors (1/VIF) values portray no multicollinearity problem in the data as their values are less than 10 and 1 respectively (Gujarati, 2003) as presented in table 5. This point to the fact that the variables are well selected and fitted in the same regression model because there is an absence of a multicollinearity problem in the model, which is one of the requirements for regression analysis.

Heteroscedasticity test**Table 6:** Heteroscedasticity test

Type of test	Chi2	P-Value
Heteroscedasticity Test	589.05	0.00

Source: Researcher's Computation Using STATA 15 software

To establish that the data for this study was robust for the model, a heteroscedasticity test was carried out. However, the study revealed that data is heteroskedastic; as such the basic linear regression model would not be reliable. This can be confirmed from the heteroskedasticity result in table 6 which revealed the chi2 value of 589.05 with a p-value of 0.00. To correct this anomaly, the robust linear regression technique was used as suggested by (Hoechle, 2007). As it fails to satisfy the classical linear regression assumption of homoskedasticity (constant error variance).

Pooled Effect vs. Random Effects Models: Breusch-Pagan Lagrangian Multiplier test

The Lagrangian Multiplier test examines the present of unobserved effects in the random effect model. If the calculated value of the test exceeds the critical value (in other words significant of chi-square), null hypothesis is rejected and the random effects model of panel data is chosen or vice versa.

Breusch-Pagan Lagrangian Multiplier Test

Table 7 below presents the result of the Breusch-Pagan Lagrangian Multiplier test conducted.

Variable	Chibar2	P-Value
FRL)	1642.77	0.000

Source: Researcher's Computation using STATA 15 software

Table 7 shows that the calculated Breusch-Pagan Lagrangian Multiplier test with chibar2 value of (1642.77) and the corresponding probability of (0.00) is equal to the critical value for all the models ($p=0.000$), thus the null hypothesis is accepted. The significance of the chi-square of the Lagrangian Multiplier test signifies that the variance of the random effect model is zero (0). Hence, Random Effect Regression Model (REM) is more suitable than of pooled effect Model.

Hausman Specification Test

The data for this study is panel and panel data can lead to an error that is clustered and possibly correlated over time. This is because each non-financial firm may have its entity-specific characteristic that can determine its information (i. e. unobserved heterogeneity). And this may bias the outcome variable or even the explanatory variables. As such there is need to control for that. The Hausman test shows that the random effect model is more appropriate. This can be confirmed from the Chi2 value of 1.47 with a p-value of 0.4801 in table 8 which is not significant at all levels of significance as suggested by (Hoechle, 2007).

Table 8 below presents the result of the Hausman specification test conducted.

Chi2	1.47
Prob. Chi2	0.4801

Source: Researcher's Computation using STATA 15 software

Firm characteristics and stock prices of quoted non-financial firms in Nigeria using Robust Random Effect Model (REM)

Table 9 below is the robust random effect regression model conducted for the estimation of this model.

Variable	Coefficients	z-value	Prob.
Cons.	-198.977	-2.38	0.017
FG	18.923	2.68	0.007
FS	12.058	1.10	0.270
FA	5.171	0.48	0.628
R-sq overall	0.6091		
F-Statistic	12.57		
Prob. >F	0.006		

Source: Researcher's Computation using STATA 15 software

Table 9 above indicated that 61% variation of the stock price (SP) is predicted by the combined effect of firm growth (FG), firm size (FS) and firm age (FA) with (Overall R-sq of 0.6091). This indicates that the model of the study is okay and the independent

variables are properly combined and used. The Fisher statistic value of 12.57 with a P-value of 0.00 signified that the model is fit for the study.

Test of Hypotheses

To examine the firm characteristics and stock prices of quoted non-financial firms in Nigeria, the formulated hypotheses were tested using a random effect regression model.

The results in Table 9 above showed that the z-value of 2.68 and the corresponding p-value of 0.007 shows that firm growth (FG) has a significant positive effect on stock prices of quoted non-financial firms in Nigeria for the period under review. Based on this, the null hypothesis one which says that firm growth (FG) has no significant effect stock prices of quoted non-financial firms in Nigeria is rejected.

Table 9 also indicate that the z-value of 1.10 and the corresponding p-value of 0.270 shows that firm size (FS) has an insignificant positive effect on stock prices of quoted non-financial firms in Nigeria for the period under review. Based on this, the null hypothesis two which says that firm size (FS) has no significant effect stock prices of quoted non-financial firms in Nigeria is accepted.

Table 9 equally revealed that the z-value of 0.48 and the corresponding p-value of 0.628 shows that firm age (FA) has an insignificant positive effect on stock prices of quoted non-financial firms in Nigeria for the period under review. Based on this, the null hypothesis three which says that firm age (FA) has no significant effect stock prices of quoted non-financial firms in Nigeria is accepted.

Discussion of Findings

This study revealed that firm growth (FG) has a significant positive effect on stock prices (SP) of quoted non-financial firms in Nigeria for the period under review. This implies that firm growth increases the stock prices (SP) of quoted non-financial firms in Nigeria. The finding is in line with the a-priori expectation of the researcher because firm growth (FG) positively enhances the stock prices of quoted non-financial firms in Nigeria. The finding is in line with the signalling information theory which asserted that appropriate disclosure of information serves as a great signal to its users as there are used in making an effective decision, which translates into the movement of the market price of shares. The firm growth (FG) has a significant positive effect on stock prices of quoted non-financial firms in Nigeria for the period under review. This finding agrees with the findings of Ardina and Isnailita (2018), Ataünal *et al.* (2016), Habib *et al.* (2022) and Idris *et al.* (2019). However, the finding does not support Cory *et al.* (2020) and Kayode *et al.* (2020) findings.

This study also revealed that firm size (FS) has an insignificant positive effect on stock prices (SP) of quoted non-financial firms in Nigeria for the period under review. This implies that an increase in firm size will increase the stock prices (SP) of quoted non-financial firms in Nigeria. The finding is in line with the a-priori expectation of the researcher because firm size (FS) positively enhances the stock prices (SP) of quoted non-financial firms in Nigeria. The finding is in line with the signalling information theory which asserted that appropriate disclosure of information serves as a great signal to its users as there are used in making an effective decision, which translates into the movement of the market price of shares. The firm size (FS) has an insignificant positive effect on stock prices (SP) of quoted non-financial firms in Nigeria for the period under review. This finding is in agreement with the findings of Obaje *et al.* (2023) and Ugwu *et al.* (2018). However, the finding is not in line with the findings of Cory *et al.* (2020), Daneva (2022), Mustafa (2019) and Sukesti *et al.* (2021).

This study finally revealed that firm age (FA) has an insignificant positive effect on stock prices (SP) of quoted non-financial firms in Nigeria for the period under review. This implies that long firm age will increase the stock prices (SP) of quoted non-financial firms in Nigeria. The finding is in line with the a-priori expectation of the researcher because long firm age (FA) positively enhances the stock prices (SP) of quoted non-financial firms in Nigeria. The finding is in line with the signalling information theory which asserted that appropriate disclosure of information serves as a great signal to its users as there are used in making an effective decision, which translates into the movement of the market price of shares. The firm age (FA) has a significant positive effect on stock prices (SP) of quoted non-financial firms in Nigeria for the period under review. This finding is in agreement with the finding of Nyikyaa (2021). However, the finding is not in line with the findings of Donna (2020) and Obaje *et al.* (2023).

CONCLUSION AND RECOMMENDATIONS

The management of non-financial firms in Nigeria must put the growth potentials of their firms into consideration by ensuring a consistent increase in the value of their revenues yearly to attract more investments from the equity investors in the capital market. Companies with a relatively consistent increase in their revenues will attract more equity investments from the investors and, therefore, commutates into a favourable stock price. The firm size is also one of the factors that are being considered by

most equity investors when making decisions on where to put their investments. The companies in the non-financial must merge to form a large capital base that would make them take advantage of large-scale production to attract more equity investors to their firms in Nigeria. This is because equity investors prefer to invest more in large firms than small firms as big firms are believed to disclose more information than small firms.

Firm age positively effects the stock prices of quoted non-financial firms in Nigeria. The age of a firm is a factor that contribute to the fluctuation or increase in stock prices for non-financial firms in the Nigerian market. However, it's important to note that the statement implies a nuanced perspective. While the effect of firm age on stock prices is deemed insignificant, a long firm age will increase stock prices.

Based on the above conclusion, the following recommendations are proffered:

- i. The management of non-financial firms in Nigeria should put the growth level of their firms into consideration by ensuring a consistent increase in the value of their revenues yearly to attract more investments from the equity investors in the capital market. The firms' five-year growth rate should be provided to all the stakeholders in their financial statements.
- ii. The non-financial firms should consolidate their firms to form a large capital base that would make them take advantage of large-scale production to attract more equity investors to their firms in Nigeria.
- iii. Investors and stakeholders should adopt a long-term perspective when evaluating the potential impact of firm age on stock prices while short-term fluctuations may not be significant, a longer firm age appears to have a positive association with stock prices.

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