

Book value and share prices: The mediating effect of inflation in Nigeria

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Article History

Received on 7 November 2023

1st Revision on 28 January 2024

2nd Revision on 1 February 2024

3rd Revision on 19 March 2024

4th Revision on 27 April 2024

Accepted on 29 April 2024

Abstract

Purpose: This study examines the nexus between book value and the share price of listed firms in the Nigerian exchange group, considering inflation as a mediating variable.

Research methodology: The study used book value per share, share prices, and inflation rate as the independent, dependent, and mediating variables, respectively. The study uses regression analysis and a structural equation model for the effect and mediating effect, respectively, to analyze data collected from a company's financial statements and the capital market for 2011-2020.

Findings: The regression and structural equation model results show that book value per share has a negative and insignificant effect on share price, and inflation has a mediating effect on the relationship between book value per share and share prices.

Limitations: This study was limited to book value per share, share price, and inflation rate. The scope of this study was limited to listed firms in Nigeria from 2011 to 2020.

Contribution: This study contributes to the understanding of how inflation rates influence the relationship between book value per share and share prices in financial markets. By exploring the mediating effect of the inflation rate, this study sheds light on how changes in purchasing power affect the valuation metrics of companies, providing valuable insights for investors, policymakers, and financial analysts in making informed decisions amidst varying economic conditions. Moreover, this study contributes to the body of knowledge because there are limited studies in this area.

Keywords: Book Value, Share price, Inflation

How to Cite: Soje, B., & Tanko, U. M. (2024). Book value and share prices: The mediating effect of inflation in Nigeria. *International Journal of Financial, Accounting, and Management*, 6(1), 61-74.

1. Introduction

The concept of value varies across disciplines depending on their respective approaches, goals, and methodologies. In accounting, value is defined as book value, whereas economists focus on fair value (intrinsic value). Other stakeholders in the capital market emphasize the market value because of their utility. The book value of a company, found in its statement of financial position, represents the number shareholders would realize in a liquidation scenario. Investors seriously consider book value in their investment decisions to gauge whether a company is over- or under-valued relative to market value. High inflation rates worldwide necessitate studies on book value, given its historical cost information. This is crucial for guiding investors, particularly in the Nigerian Exchange Limited. The relationship between book value and share price has long been debated in developed markets, but it is increasingly relevant in emerging markets such as Nigeria, especially since Ohlson's (1995) model introduced a framework for understanding this relationship ([Makrani & Abdi, 2014](#)).

Investors in shares consider many reasons for making investment decisions, and the book value of equity is an important factor. Therefore, investors need to understand the established relationship between book value and share price to ascertain the appropriate price to pay for their investments.

Further, the overall riding effects of inflation also require investigation to diagnose the mediating effect of inflation on the expected relationship between book value and share price. Therefore, this study intends to contribute to the growth of the capital market by encouraging investors to participate by establishing the relationship between book value and market value, as well as establishing whether inflation has a mediating effect on the relationship. This will be significant to policymakers, as well as both local and foreign investors, and potential investors in their policy formulation as well as investment decisions. Based on the forgoing, the objectives of this study are:

1. To examine the relationship between book value and the share price of listed companies in Nigeria.
2. To evaluate the mediating effect of inflation on the relationship between book value and share prices of listed companies in Nigeria.

In line with the above objectives, the following hypothesis was stated in null form to guide the study:

H₁: Book value per share does not significantly affect share prices of listed companies in the Nigerian Exchange Limited

H₂: Inflation has no mediating effect on the relationship between book value per share and share prices of listed companies in the Nigerian Exchange limited

2. Literature review

2.1 Book Value

Book value is vital accounting information recorded in the statement of the financial position of firms that reveals the value of the company from the perspective of its assets and liabilities. It is the amount shareholders are entitled to when the company is liquidated. The expression "total assets less intangible assets less total liabilities" denotes the net tangible assets, which is crucial for valuation as it provides an objective assessment of a company's value, enabling investors to gauge its worth reliably.

Book value, according to [M. E. Alade \(2018\)](#), is the statement of the financial position measure of net assets that is responsible for generating earnings. It is considered to be the total assets (current and non-current) less the total liabilities (current and non-current). Similarly, the sum of the cumulative retained earnings and other entries under stockholders' equity is the book value of the entity's equity, which was reported by [Djalil and Tabrani \(2016\)](#) as the amount of shareholder equity reported, which is reduced by preference shares reported in the statement of financial position. In a related discuss, [Osundina, Jayeoba, and Olayinka \(2016\)](#) stated that book value per share represents the value of own funds of a company per share and it expresses the worth of each share in a company.

[Subramaniam and Tharshiga \(2013\)](#) note that book value per share is an essential variable in determining firm value. Book value is a reflection of past earnings, dividend distribution policy of the company, and investment decisions; hence, a high book value indicates that a company has huge reserves and is a potential bonus entity, while a low book value signifies a liberal distribution policy of bonuses and dividends, or a poor track record of profitability. Again, in deciding which share to buy and not to buy, investors often focus on the number of book values because it determines the actual, complete worth of a firm based on its assets, indicating the breakup worth of the firm in the case of liquidation. Book value per share is strongly entrenched in accounting, and can be easily ascertained. As a result, it is favorably debated that it connotes an unbiased measure, but contrary to this, opponents of this view point to some level of subjectivity and arbitrariness in the use of historical balance sheet figures, as it negates current economic value.

Book value per share connotes the ratio of equity available to common shareholders divided by the number of outstanding shares. It is calculated by taking the ratio of equity available to common shareholders to the number of outstanding shares. Compared to the current market value per share, it provides a clue on how a company's share is valued, but how does inflation influence this clue? This has created a gap in the literature as to whether inflation has any mediating effect on the factors responsible for how a company is valued in Nigeria, thereby necessitating a study of this nature that intends to examine the mediating effect of inflation on the nexus between book value and share price.

2.2 Share Price/Market Value of Shares

In general, the activities of the capital market are driven by the forces of demand and supply. It is a place for trading securities, and for every trading activity, there must be an exchange of value in the form of price. Share price or share value represents the price or value of a single share of the number of saleable shares of a company, derivative, or other financial assets. According to [Afolabi and Dada \(2014\)](#), the share price reflects the highest amount someone is willing to pay for the stock or the lowest amount it can be bought for. The upward or downward movements of a share's price depend on the supply and demand of the share at any given time. This demand and supply indicates the quantity of shares that investors and potential investors are ready to buy or sell, along with their ability to pay. The economic law of demand applies to share trading, meaning that when supply exceeds demand, the price of such shares tends to drop because of surplus. Conversely, when demand exceeds supply, the prices of these shares soar. The rise and fall in share prices form a continuum; thus, investors can gain or lose, depending on their timing of selling or buying shares.

[Varul \(2011\)](#) stated that the determination of a value in exchange or price can be traced back to the earliest trade in ancient times. Informal markets for livestock over 3,000 years BCE were evidenced by tablets in summer, used for counting sheep in cuneiform. The evolution of pricing for companies as a going concern began with prices for private forms expressed similarly to other commodity prices, but in different units. Share prices result from transactions between buyers and sellers on stock exchanges and markets. They further opined that an increase in demand for a share would result in a price increase ([Setiawan, Fitri, Muthohharoh, & Irfany, 2023](#)). The invention of double-entry principles by Pacioli in 1494 and its subsequent improvement led to the advent of three major units and resulting price ratios: price per unit of earnings based on the statement of comprehensive income, price per unit of net worth or book value based on the statement of financial position, and price per unit of cash flows based on the statement of cash flows. Although these pricings were not scientific in nature, they improved the pricing of shares. Subsequent advancements emphasized the pricing of shares of business ventures or companies, as opposed to the pricing of the entire company experienced in the preceding advancement in share pricing. This second era in the evolution of share pricing also witnessed the establishment of stock exchanges for the shares of joint-stock companies. The Amsterdam Stock Exchange in the 16th century was a major feature of this era of the evolution of share prices.

The third era of share price evolution is characterized by a shift from heuristic pricing to a scientific measure of pricing. Here, the Discounted Cash Flow (DCF) techniques, which is based on the theory of interest and time value of money, led to the Dividend Discounted Model (DDF). In specific terms, discounted cash flow techniques are not used to determine price but are used to determine the intrinsic value of an investment asset of an individual company at a point in time. It should be noted that the company valuation process differs from the share pricing process, but the discounted cash flow value can be used as a good estimate of fair prices for shares because discounted cash flow techniques of valuation are scientific, and scientific valuations are more rational and accord more relevance to information from them as compared to the non-scientific method.

The fourth stage of the evolution of share pricing stresses the shift from price ratios for pricing to the scientific model for pricing and from the pricing of shares of stock in one company to portfolio pricing of stocks in more than one company. This was the early stage of Modern Portfolio Theory (MPT) by Harry Markowitz in 1952 and the Capital Asset Pricing Model (CAPM) by Sharpe William in 1964. The MPT and CAPM are scientific in nature, but they are only applicable to portfolios of stocks instead of individual companies.

The fifth stage in the evolution of share prices moved from the scientific method of portfolio pricing to pseudo-scientific return models of stock portfolio pricing. Related to the second phase, this method of pricing portfolio stock followed what is obtainable in private markets for closely held companies, but with a variation from unit prices to price yields. This stage also shows that unit prices have company price as the numerator and price yields or yields on price have share prices as the denominator. This implies that price yields are the inverse of unit prices.

Unlike the phases in a biological evolution, the stages of share pricing do not follow a sequential and progressive order. The existence of one can coexist with the previous stage without extinction, and can be regressive. In addition, the signals of a company are said to be qualified if the worth of the company's shares resolves to continue to increase, which can induce potential investors to invest. Share prices are proxied by the price at the end of the accounting period ([Rahmawati & Hadian, 2022](#)).

2.3 Inflation

Inflation is a continuous increase in the general prices of goods and services that ultimately results in a reduction in purchasing power and economic disruption. Due to the destructive effects of inflation, including the redistribution of income to the benefit of property owners and the loss of wages and salaries, increasing uncertainty and instability in macroeconomics, a focus on it is imperative for every country of the world. The inflation rate is an indicator of the purchasing power of an economy's currency in a nation ([Egbunike & Oranefo, 2023](#)). This can influence a nation's economic growth. However, according to [Herlina and Romadhona \(2021\)](#), inflation is not only occurring only at the national level, however, it does occur at the regional level.

According to [Amadeo \(2022\)](#), inflation is a continuous increase in the prices of goods and services over time. In economics, inflation is considered a continual rise in the general price level of goods and services over a period of time. When the overall price level rises, each unit of currency can buy fewer goods and services. Thus, inflation reflects a reduction in purchasing power per unit of money, a loss of real value in the medium of exchange, and a unit of account within the economy.

The opposite of inflation is deflation, which is a sustained decrease in the general price level of goods and services. The common measure of inflation is the inflation rate, or the annualized percentage change in a general price index, usually the consumer price index, over time. Similarly, ([Chen, 2019](#)) states that inflation is a measure of the rate at which the general price level of goods and services increases in an economy over time. It is a constant rise in the general level of prices, where a unit of currency buys less than it did in prior periods. Often expressed as a percentage, inflation indicates a decrease in the purchasing power of a nation's currencies. [Kwofie and Ansah \(2018\)](#) stated that not all rise in price is inflation. He defined inflation as a persistent and appreciable increase in the general price level, and that for a rise in the level of prices to be considered as inflation, it must be enduring, constant, and sustained. This rise should affect almost every commodity in the market and must not be temporal.

[Fatukasi \(2003\)](#) gave the followings as approaches to measure inflation namely: Gross National Product (GNP) implicit deflator which is a measure of the price of all the goods and services included in gross domestic product (GDP); Consumer Price Index (CPI); and wholesome or producer price index (WPI or PPI). The period-to-period variation in the WPI and CPI is considered to be a direct measure of inflation.

The pervasiveness of inflation, especially in a developing country and its devastating effects on many economies, is one of the reasons for the relevance of inflation accounting ([Ilter, 2019](#)). In a similar development, [Kaplan \(2018\)](#) stated that South American countries experienced hyperinflation that soared thousands of percentage points higher annually, which ruptured economic activity and popular income in a way that has been unmatched by any business cycle fluctuations in recent times. Again, Zimbabwe recorded an inflation rate of 417.823% in March 2008 as a result of its return to a harmonized government that included presidential, senate, and parliamentary elections ([Coomer & Gstraunthaler, 2011](#)). These sets of hyper-inflationary rates put a big question on the relevance of financial statements prepared on the assumption of a stable monetary unit, thereby justifying the rising need for an inflation accounting reporting system. Furthermore, [Aziz \(2012\)](#) found that countries experiencing high inflation rates tend to devalue their local currency in an attempt to make their products competitive in international markets. Although this policy may have worked for countries, it is not always the case, especially in countries that are bound to the export of primary products such as petroleum ([Adeyemi & Ajibola, 2019](#)).

There are various dimensions of inflation classification. One such classification is based on magnitude. Generally, inflation can be classified into four types according to its magnitude. These include creeping, walking, running, and hyperinflation. In addition, [S. O. Alade and Tule \(2017\)](#) identified two causes of inflation, namely demand-pull and cost-push. However, historically, a great deal of economic literature has been concerned with the question of what causes inflation and its effect. There are different schools of thought regarding the causes of inflation. Most can be divided into two broad areas: quality theories of inflation and quantity theories of inflation. The quality theory of inflation rests on the expectation of a seller accepting currency to be able to exchange that currency at a later time for goods they desire as a buyer, whereas the quantity theory of inflation rests on the quantity equation of money that relates the money supply, its velocity, and the nominal value of exchanges.

Currently, the quantity theory of money is extensively recognized as a precise model of inflation in the long run. Thus, there is now a wide-ranging consensus among economists that, in the long run, the inflation rate is essentially dependent on the growth rate of money supply relative to the growth of the economy. However, in the short- and medium-term, inflation may be affected by supply and demand pressures in the economy and influenced by the relative elasticity of wages, prices, and interest rates.

2.4 Accounting Information (Book Value) and Share Price

Studies on value relevance across the world aimed at testing the validity of the [Ohlson \(1995\)](#) model have produced diverse outcomes, especially for book value and share prices. Dahmash and Qabajeh (2012) asserted in their study of the Jordanian stock exchange that accounting information, including book value, exhibited significant explanatory power over share prices. Their research, focusing on data from industrial and commercial companies, highlights the importance of non-accounting variables in value relevance, a factor not addressed by the Ohlson model. Inflation has emerged as a non-accounting variable. Similarly, [Ahmadi \(2017\)](#) conducted a comparative analysis of accounting value relevance, specifically examining book value and earnings on the Tunisian Stock Exchange. The study concludes that book value holds greater value relevance than earnings, and negative earnings lead to a decline in overall value relevance over time. [Makrani and Abdi \(2014\)](#) conducted an empirical investigation of 129 firms from the Tehran Stock Exchange from 2007 to 2012 to assess the impact of book value, net earnings, and cash flow on share prices. Their findings indicate that book value has a more pronounced effect on share prices, albeit diminishing over time. [Basuki, Pulungan, and Udin \(2020\)](#) explored the mediating effects of managerial ownership on the relationship between innovation and price-to-book value using manufacturing companies listed on the Indonesian Stock Exchange. Their analysis, employing partial least squares, revealed a significant impact of innovation on price-to-book value, with no mediating effect from managerial ownership. This study proposes introducing inflation as a mediating variable to examine its potential mediation of the established relationship between book value and share prices within the Nigerian Exchange Group Limited (NGX).

2.5 Inflation, Share Price and Book Value

[Konchitchki \(2011\)](#) reported a conclusion from a series of studies addressing the question of whether the effects of inflation are related to contemporaneous yearly and short-window share returns. The findings from these sets of studies show that inflation-adjusted data are inconsequential in making future financial decisions, thereby indicating that inflation has no significant impact on share prices in the markets. In his own study, taking a different approach by looking at the likelihood that inflation can have consequences over a longer period than the contemporaneous years. Specifically, the study discovered that if inflation gains and losses are made over a period of time, they tend to predict future cash flows of firms, and if stock markets do not fully reflect such implications for future cash flows, then inflation gains or losses can be related to future share returns. Furthermore, the study also provides insight into how investors process inflation-adjusted information to show how inflation affects future investment decisions.

The above finding implies that inflation can predict future cash flows and returns, although it depends on capital market expectations regarding these gains. If the capital market fully reflects information about inflation gains, share prices will reflect such gains for future cash flow, thereby resulting to a

situation where investors cannot “beat” the market by taking advantage of future abnormal returns. However, where inflation gains are not fully reflected in share prices, share prices may be mispriced and create an avenue for a possible future abnormal return for prospective investors. In this situation, investors “beat” the market.

In Thailand, [Forson and Janrattagul \(2014\)](#) investigated the relationship between macroeconomic variables, inclusive inflation, and share prices. Using Toda and Yamamoto’s augmented Granger causality test, we identify a unilateral causal relationship between consumer price index and share price, indicating that the Thai stock market is sensitive to inflation. Similarly, [Gregoriou and Kontonikas \(2006\)](#) studied the nexus between share price and inflation in 16 countries of the Organization for Economic Co-operation and Development (OECD) from 1970-2016. They subject the variables (share prices and inflation) to a two-way relationship by investigating the impact of inflation on share prices, as well as the impact of share price on inflation, using a panel co-integration test. The results indicate that when share price is used as the independent variable and inflation as the dependent variable, there is no co-integration of the variables. Based on this finding, we conclude that there is a causality relationship in which inflation influences share prices. Further, the study implies that there is a positive share price inflation relationship in the long term. This is in line with fishers’ hypothesis that shares can hedge against inflation.

[Bekaert and Engstrom \(2010\)](#) also used the vector auto-regression (VAR) approach to analyze the relationship between inflation and the capital market through the Fed and Gordon Growth models. They discovered that, from the United States’ post-war data, real share returns are highly correlated with nominal bond yields. Again, they opined that unfavorable economic climate mounts pressure on risk-averse investors to demand and require a high risk premium and high share returns correspondingly. In this case, with high inflation, the returns on bonds and shares are expected to be high, resulting in a positive relationship between share returns, bond yield, and inflation. It was further reevaluated to see if the stock return and inflation relation were due to inflation deception by reexamining the hypothesis using a longer sample period of US and international data. The inflation illusion hypothesis explained the post-war relationship well; it was not compatible with some features of the pre-war relationship. A major problem is that, while this hypothesis anticipates the underpricing of stock prices with high inflation, the study observed overpricing with high inflation in the pre-war period. This implies that the mispricing component plays an important role in the stock market and inflation relationship in both subsample periods.

Similarly, [Geetha, Mohidin, Chandran, and Chong \(2011\)](#) studied the relationship between inflation and share prices using a co-integration test to ascertain the number of co-integrating vectors and vector error correction modeling. The results show a long-run relationship between the variables, indicating that there is a long-run relationship between expected and unexpected inflation with share returns, but no short-run relationship between these sets of variables for Malaysia and the US, but exists for China.

In the Philippines, [Sucuahi, Alvarez, Gudes, and Parsacala \(2016\)](#) study the influence of inflation on share prices among diversified companies using a descriptive correlation design that is suitable for identifying the relationship between two or more quantifiable variables. A regression model was used to analyze and interpret the data collected from diversified companies. The outcome of this study indicates that although the inflation rate positively affects stock prices, this effect is not significant.

[Binz, Graham, and Kubic \(2023\)](#) studied the effect of inflation on accounting and stock market values and found that inflation has a strong positive relation to with accounting values and that the relationship is stronger for firm that have cost of capital changes. It was equally reported that compared with previous studies, inflation is of first-order importance in terms of the determinants of value relevance.

3. Research methodology

A descriptive research design was adopted in this study because of its nature. Descriptive research attempts to collect information from the existing record to explain what has happened in the past while

reviewing the present situation and possibly predicting the likely future outcome. Therefore, a descriptive research design is considered the most appropriate approach to use when trying to analyze the effect of book value on share price and the mediating effect of inflation on the relationship between book value and share price.

For the purpose of this study, quantitative data were collected from the financial statements of sampled companies in the Nigerian Exchange Group, as well as the statistical bulletin of the Central Bank of Nigeria (CBN). The data were analyzed using STATA 14 for both the regression and structural equation models (SEM) (Mondal, Akter, Moni, & Polas, 2023).

Model Specification

$$SP_{it} = \alpha + \beta_1 BVPS_{it} + \varepsilon_{it} \text{-----1}$$

$$INF = \alpha + \beta_1 BVPS_{it} + \varepsilon_{it} \text{-----2}$$

$$SP_{it} = \alpha + \beta_1 BVPS + \beta_2 INF_{it} + \varepsilon_{it} \text{-----3}$$

Where:

SP= share price

BVPS= book value per share

INF = annual inflation rate

ε = error term

4. Result and discussion

Table 1. Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Minimum	Maximum
Share price	687	13.4791	31.3248	0.17	275
Book Value Per Share	687	8.2604	17.7326	-9.19	120.28
Inflation Rate	687	11.6670	2.7179	8	16.5

Note. STATA 14 output (2023)

Table 1 displays the calculated values for the mean, standard deviation, minimum, and maximum for each of the research variables for the twenty-nine sampled firms among the NGX 75 firms during the period 2011–2020. However, some years were eliminated because of the unavailability of data for those years. Table 1 also shows that this study used 687 firm-year observations. The descriptive statistics show that, on average, the sampled firms have a share price of ₦13.4791, with a standard deviation of 31.3248. This suggests a wide variation around the mean because the standard deviation is far higher than the mean. This is supported by a maximum value of ₦275 and a minimum value of ₦0.17.

The mean book value per share of 8.2604 shows that, on average, the proportion of the value of assets to total shares is 826.04 percent. With a minimum of -91.9 and a maximum of 120.28, it is evident that the book value per share, as manifested in the financial reports of sampled firms, is widely dispersed. The standard deviation of 17.7326 lends credence to the spread of data. Table 4.1 also reveals that the inflation rate in Nigeria during the study period was 11.6670 and standard deviation of 2.7179, respectively. This suggests that the data are spread widely around the mean. This also indicates that Nigerian inflation was not stable throughout the study period. The study shows a minimum value of inflation rate of 8 and maximum of 16.5

4.1 Correlation Analysis

This section examines the strength of the connection between each predictor variable on one hand and share price. It also shows the extent of association between a pair of explanatory variables. Aside from this relationship, it also serves as a first-order test for the presence of significant multicollinearity among the explanatory variables. This section presents the correlation coefficients in Table 2 for all the samples for all the research variables.

Table 2. Correlation matrix

Variables	SP	BVPS	IFTR	VIF
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SP	1.0000			
BVPS	0.6778	1.0000		2.68
IFTR	-0.0509	0.0019	1.0000	1.05

Note. STATA 14 output (2023)

Table 2 shows the correlation coefficients between the dependent variable (share price) and the independent variables (book value), and the mediating variable (inflation) in the study. Furthermore, it shows the correlation matrix with the values displaying the Spearman correlation coefficient between all pairs of research variables. The choice of the Spearman correlation, over the Pearson correlation, ensue because the outcome of skewness and Kurtosis and Shapiro Wilk test indicate that the data are not normally distributed except for book value per share. BVPS has a probability value of 0.0973.

Table 2 shows that the sign of the pairwise correlation coefficient between the BVPS and share price is positive. This suggests that the higher the book value per share of the entity, the higher the price of the share. Moreover, the high coefficient of 68 percent points to the fact that BVPS correlates strongly with the share price. On the other hand, the inflation rate is negatively associated with share prices. However, the relationship was weak, with a correlation coefficient of 5%. This suggests that the inflation rate and share price moved separately. An increase in the inflation rate leads to an equal decrease in the share price.

4.2 Pre and Post Estimation Analysis

This section presents the results of the pre- and post-estimation tests to ensure that the results obtained are robust. The tests include the model specification test, multicollinearity test, heteroscedasticity test, normality test of the error term, and Hausman specification test.

Table 3. Linktest Result for Model Specification

Variables	Coefficient value	T	p>t
_hat	0.8059	5.27	0.000
_hatsq	0.0658	1.37	0.173
_cons	0.0588	0.52	0.605

Note. STATA 14 output (2023)

4.3 Model Specification

This study uses a link test to detect model specification errors likely attributable to the research variables. This is because the link test can detect misspecification errors related to omitted variables and check the exactness of the link function specification in the model. The results from the link tests in Table 3 show that the variable _hat for the model is significant at 1 percent, which implies appropriateness in the model specification. This is also supported by the p-value of _hatsq, which is not significant at the 5 percent threshold. Thus, it can be said that the research models were properly specified in line with the CLRM assumptions.

4.4 Normality of Residual

This study combines the Shapiro-Wilk test and graphical tests to validate the normality assumption of CLRM on the residuals obtained from the model. This study uses the Swilk test, which hypothesizes that the error term in the distribution is normally distributed. The result, as displayed in Table 4, shows that the p-value for the model is significant at the 1% level, indicating that the residual is normally distributed.

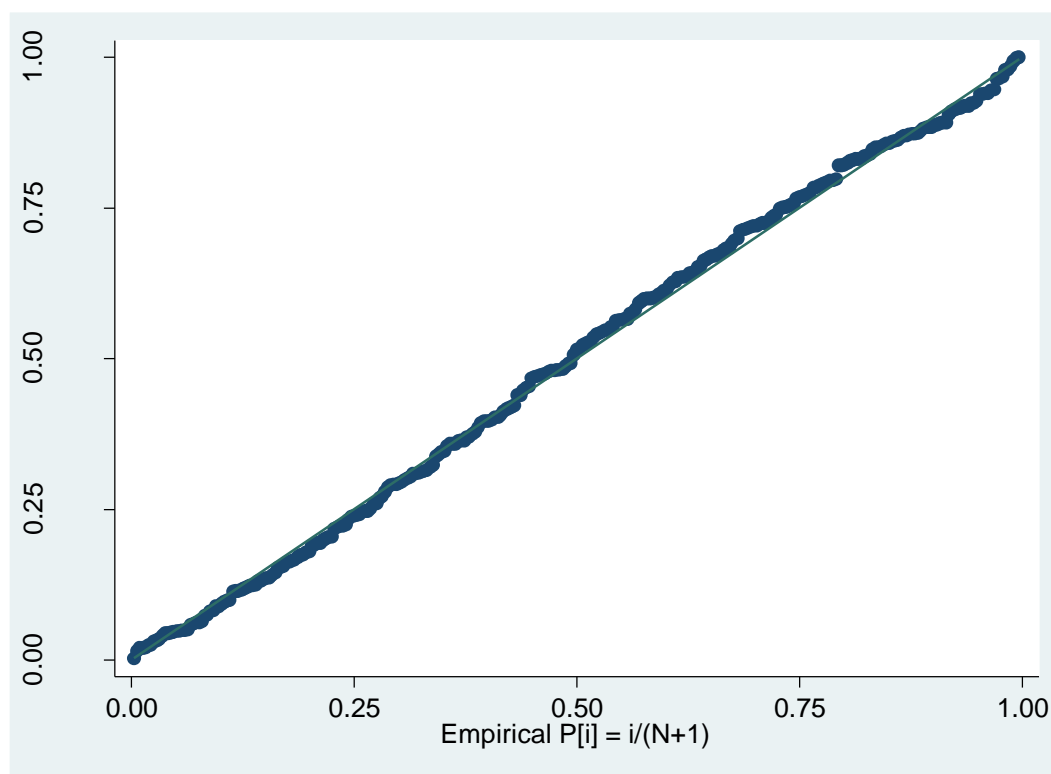
Table 4. Shapiro-Wilk W test for Normal Data

Variable	Observation	W	V	Z	Prob>z
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Residual	687	0.99749	9.020	6.166	0.06677
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Note. STATA 14.0 Output (2023)

In addition to the Shapiro-Wilk test, the study uses the standardized normal probability plot (p plot), which shows that the pnorm shows a slight sign of non-normality at the center of the distribution, which shows that the residual deviation from normality is negligible. Consequently, the study concluded that the residuals are normally distributed.



4.5 Multicollinearity

The correlation coefficients in Table 4 show that there is no perfect linear relationship between the predictors. This also indicates the absence of harmful multicollinearity, since none of the independent variables have a relationship between themselves of 0.8 ([Gujarati & Porter, 2009](#)). In addition to the correlation matrix, the study used the Collin command, as presented in Table 4, which revealed the absence of multicollinearity. Similarly, the minimum VIF obtained was 1.05 and the maximum was 4.68. No excess VIF of 10.

4.6 Homoscedasticity of the residuals

One of the assumptions of the CLRM is the homogeneity of variance (homoscedasticity) of the residuals. The error variance should be constant for all explanatory variable values. This study uses the Breusch-Pagan Godfrey test to confirm the research model's agreement with this assumption. The results of the Breusch-Pagan-Godfrey test for heteroscedasticity in Table 4 show that the p-value is insignificant at a probability value of 0.7428, implying that the variance of the residuals in the model is constant.

4.7 Hausman Specification Test

The study uses the Hausman specification test to determine the presence of endogenous explanatory variables in the models, as this can cause OLS estimators to fail. Consequently, Hausman specification tests were performed on the study's parsimonious model to choose a more consistent estimator between the fixed and random GLS effects. The null hypothesis states that unique errors correlate with regressors. The result of the test on the model shows that the unique error correlates with the regressors

owing to the chi-square probability, which is 0.0001, as shown in Table 5. Therefore, the results were interpreted using estimated values obtained using the fixed-effects model.

Table 5 displays the result of estimated coefficients, z-statistic, probability, coefficient of determination of research model 1

Table 5. Fixed Effect Model Regression Result for Accounting Information and Share Price

Variables	Coefficients	T	p>/t/
Constant	5.3035	5.56	0.000***
BVPS	-0.0613	-0.61	0.545
IFTR	0.4262	2.00	0.046**
Overall R ²	0.4815		
F-Stat.	161.84		
P>F	0.0000		
Hettest	0.7428		
Hausman	0.0001		

Note. STATA 14 Output based on data generated (2011-2020). **, *** indicate significance level at 5% and 1% respectively.

The Table depicts the estimated results of the FEM of the dependent variable (share price) and explanatory variables of the study. Consistent with the results obtained from the Hausman specification tests, the FEM is a consistent estimator for the model. Thus, the interpretation is based on the estimated results obtained from the FEM. Table 5 shows that the model has an R² value of 0.4815. This invariably connotes that 48 percentage of the variance in share prices is caused jointly by the explanatory variables. Instinctively, for the combination of R², the ovtest, and the linktest discussed in Section 4, it is apt to assert that the model is fit and the explanatory variables have been carefully chosen, combined, and estimated. The F statistic value of 161.84 at the 1% level of significance further confirms that the results are reliable, valid, and generalizable.

Table 5 shows the relationship between accounting information and share prices. The slope coefficients measure the marginal effect of a one percent change in book value per share and the inflation rate on the share price. Between 2011 and 2020. The beta coefficient of the variable indicates that book value per share has a negative and insignificant effect on the share prices of listed companies. The coefficient -0.0613 shows that holding all other variables constant, a unit change in the proportion of book value per share of assets will result in 6 units decrease in the sample firms' share price. This suggests that an increase in book value per share of total assets per share decreases the sample firms' propensity for share price to increase. This may be attributable to the value of the sampled firms' assets.

Consequently, the study shows that BVPS has an insignificant effect on share price. This suggests that the study did not provide sufficient evidence to reject the null hypothesis. Hence, this study fails to reject the hypothesis that BVPS does not have a significant effect on share prices.

Table 5 further shows that holding all other explanatory variables constant, a 1 percent rise in the inflation rate will result in a corresponding 43 percent increase in the share price capacity of the listed firms over the period 2011 to 2020. Additionally, the effect was significant at the 5% level. In addition, the positive coefficient suggests that, as inflation increases, firms pay more attention to increasing share prices.

However, the study provides enough evidence to reject the null hypothesis that states the inflation rate does not have a significant effect on the share price of listed Nigerian firms.

Table 6. Direct Effects (Accounting Information and Inflation Rate, Accounting Information and Share price)

Paths	Coefficients	Z	p>/z/
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BVPS	→	INFTR	0.0033	3.83	0.000***
INFTR	→	SP	-0.5074	-2.08	0.038**
BVPS	→	SP	0.7235	11.77	0.000***

Note. STATA 14 Output based on data generated (2011-2020). *, **, *** indicate significance level at 10%, 5% and 1% respectively.

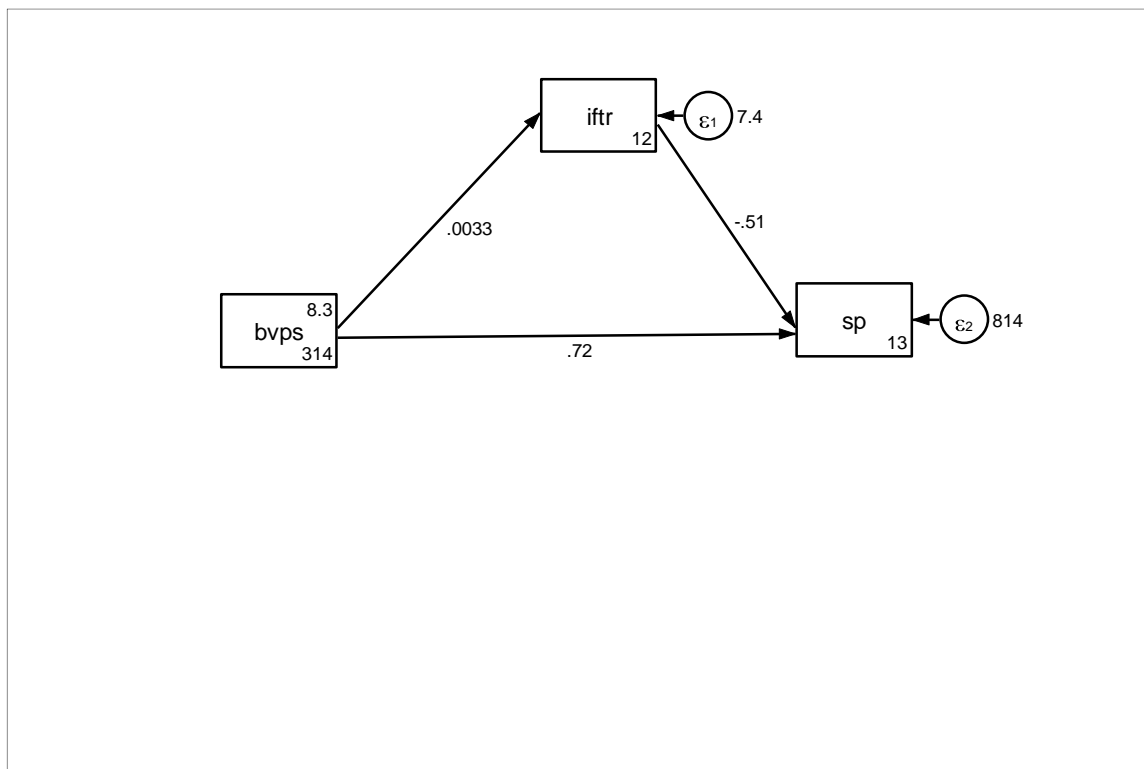


Table 6 shows that book value per share is positively and significantly related to the inflation rate of Nigerian listed companies. This implies that the BVPS determines the inflation rate of listed Nigerian companies. A p-value of 0.000 and a coefficient of 0.0033 show that a 1% increase in BVPS would lead to a 0.3% increase in inflation rate. This implies that an increase in firms' BVPS increases the firm inflation rate, which indicates that an increase in the firm inflation rate affects a firm's purchasing power.

Table 6 and figure "path b" also present the results on the relationship between accounting information, inflation rate, and share price using a Structural Equation Model (SEM). Table 6 and "path b" show that the value of inflation rates negatively affects share prices. Inflation has a negative and significant effect on a company's share price. This indicates that when the inflation rate declines, the company share price increases. However, the results show that the effects of inflation rates at 51% are strong enough and significant to affect company share prices.

The results also suggest that a 1% increase in the inflation rate would lead to a 51% decrease in the company share price. However, when the inflation rate increases, the price of goods increases. This results in the costs incurred by the company will also increase. This affects a firm's share price. Inflation cannot significantly affect the share price of the company because when a company has good performance, the company will not be unduly influenced by the effect of an increase in the rate of inflation.

The results of the BVPS variable show a positive direction and a significant impact on stock prices, as evidenced by the p-value $0.000 < (0.1)$ and the path coefficient of 0.7235. However, the result of the SEM is better than that of the FEM, which documents a negative and insignificant effect of BVPS on stock prices. This shows that BVPS contains useful information for investors to make decisions

reflected in share prices. The BVPS is considered better for measuring business accounting information. BVPS is a powerful tool for understanding investor expectations, which can be inferred from current share prices.

Table 7. Significance Testing of Indirect effect (Monte Carlo)

Paths		Coefficients	RIT	Z	p> z
BVPS	→ INFR →	-0.043	0.361	-2.048	0.035**

Note. [Zhao, Lynch Jr, and Chen \(2010\)](#) procedure for STATA 14.0 outputs (MEDSEM) based on data generated (2011-2020). ** indicate significance level at 5%.

The results presented in Table 7 in relation to the estimation path using the inflation rate as a mediator show that BVPS has a positive and significant effect on share prices due to inflation, with a coefficient value of -0.043 and a p-value of 0.035. This implies that an increase in the inflation rate negatively increases the effect of BVPS on stocks, which would result in a decrease in stock prices. An increase in the inflation rate causes investors to sell their shares in companies, as a further rise in inflation would cause the BVPS to lower the share price. In addition, the signalling theory explains that changes in the inflation rate send a signal to investors that the company's performance and share price could decline. Thus, the company should be able to take advantage of the change in the inflation rate, which will increase corporate profits. Increased operating profits attract investors to invest in a company. In addition, the RIT of 36% means that approximately 10% of the effect of BVPS on the stock price is mediated through inflation. However, the indirect effect significance test showed a p-value of 0.035. This implies that inflation is a major factor affecting the relationship between BVPS and stock prices.

Summarily, the results of the study provide an answer to the question of the relationship between book value per share and share price, as well as whether inflation has a mediating effect on the relationship. The finding therefore establishes that even though there is a relationship between book value and share price, this relationship is not significant, as indicated by the p-value of 0.545 in Table 5. Furthermore, the results indicate that inflation has a significant mediating effect on the relationship between book value per share and share price, as shown by a p-value of 0.046 at a 5% level of significance.

This finding differs from other value relevance studies of book value and share prices because of the inclusion of a mediating variable, thereby going further from establishing the effect of book value on share to justifying the effect of inflation on the established effect of book value and share price.

5. Conclusion

Based on the analysis of the data, the study concludes that book value has no significant effect on share prices in the Nigerian stock exchange and that inflation has a mediating effect on the relationship between book value and share prices in the Nigerian stock market. Therefore, the study does not provide enough evidence to reject Hypothesis 1, while the study provides sufficient evidence to reject Hypothesis 2. Going by the objectives of the study, which is to examine the relationship between book value and share price, and to ascertain the mediating effect of inflation on the relationship between book value and share price of companies listed in the Nigerian Exchange Group Ltd, the study has established that there is no significant relationship between book value share price, and that there is a significant mediating effect of inflation on the established insignificant relationship.

Based on this conclusion, the study recommends that too much emphasis should not be placed on book value as a major determinant of share price since it does not have a significant effect on share price if the company intends to increase its share price, while emphasis should be on the inflation rate whenever necessary because whatever the relationship is, the inflation rate has the potential to affect the established relationship.

Further research in this very important aspect of finance should also consider other macroeconomic variables such as interest rate and rate of unemployment as mediating variables to further justify the overall effect of macroeconomic variables on the value relevance of book value.

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