

# **LONG-RUN PERFORMANCE OF SHARE PRICES POST-INITIAL PUBLIC OFFERINGS AND ITS DETERMINANTS IN THE NIGERIAN EXCHANGE (NGX)**

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## **Abstract**

This study empirically investigated the long-run performance of share prices post-initial public offerings and its determinants in the Nigerian Exchange (NGX). A sample of 36 Initial Public Offerings (IPO) issuing observations over the period 2004 to 2014 was used. Employing the standard event market adjusted buy-and-hold-abnormal-returns (BHARs) estimation approach to find out the long-run performance of IPOs, and descriptive statistics, correlation analysis, pooled OLS and multivariate panel regression technique to investigate the determinants of IPOs' long-run performance, the results revealed a positive and significant long-run share price performance of IPOs during the period, thus, outperforming the market benchmark, the Nigerian Exchange All Share Index. This implies that investors who bought shares on the IPO listing day, who nevertheless may be earning negative returns in the short-run, up to 12 months (1 year) from the listing date, earned positive market-adjusted return thereafter. The multivariate panel regression results for the determinants of long-run performance of IPOs reveal, that initial return, IPO volatility, firm's size, firm's age, IPO size and market capitalization are significant determinants of IPOs' long-run performance. The impact of market volatility is however found to be negative and weak. Against the backdrop of these findings, we recommend sound financial and investment management policies that will enhance the long-run performance of IPOs in the Nigerian stock market. In particular, policies to enhance market capitalization, firm's size, initial return of IPOs and IPO size should be put in place, while those that will reduce the volatility of the market and IPO volatility in order to create market stability are imperative. These should be supported with optimal regulatory framework and institutional mechanisms to enhance the operations of the stock market as well as a stable macroeconomic and political environment.

**Key words:** Long-run/aftermarket performance, Initial public offerings, Share prices, Returns

**JEL Classification:** G10, G14, G40

## 1. INTRODUCTION

Initial public offerings (IPOs) have been of interest to financial researchers for many years and financial economists have intensely debated the performance of IPOs using data from various markets. Various studies carried-out in the United States (US) and numerous other countries have acknowledged several anomalies in IPO pricing and a series of hypotheses, theories and explanations have been proposed to clarify these anomalies. Ibbotson and Jaffe (1975) and Ibbotson (1975) as well as Ritter (1984, 1991) have documented short-run underpricing, cyclical “hot” and “cold” markets phenomenon and long-run/aftermarket underperformance.

The weight of international evidence on IPOs in general suggests significant IPO underperformance in the aftermarket or long-run. After Ritter (1991) documented that IPOs underperform in the long run, it has remained a puzzle for academics and investors over the years and various scholars have tried to replicate the similar studies in various countries. Most of these studies of IPOs yielded similar outcomes that IPOs underperform in the long-run (Levis, 1993; Aggarwal, Leal & Hernandez, 1993; Loughran & Ritter, 1995; Ritter & Welch, 2002; Kooli, L’Her, & Suret, 2003; Kooli & Suret, 2004; Chi, McWha & Young, 2008; Mumtaz, Smith & Ahmed, 2016) and almost every financial market across the world has it. However, some studies have yielded conflicting findings of outperformance/overperformance in the long run (including Kim, Krinsky & Lee, 1995; Sehgal & Singh, 2008; Chong, 2009).

More importantly, the magnitude of returns varies by country and market scenario, with the same pattern of aftermarket performance (Khan, Anuar, & Malik, 2014). Also, aftermarket performance differs across various IPOs and performance estimation methodologies, regardless of the regulation or the placement system (Mario, 2010). Evidently, there are international differences in observed performances, and more research appears to be necessary. These international differences are attributable to the contractual arrangements and characteristics of firms going public, which are linked to the causes of aftermarket performance. They are as well due to the methods used to quantify performance, which directly influences the size and power of the statistical test. Furthermore, most of the research on IPO long-run performance focuses on underperformance. And because underperformance is such an unusual occurrence, many authors look for answers in financial market flaws. However, in recent years, the focus has switched away from underperformance and toward long-run performance in general. This leads to a search for explanations other than financial market inefficiencies for underperformance or outperformance (von Eije, de Witte & van der Zwaan, 2004).

The literature on this subject is still growing and even though several researches internationally have probed issues regarding the IPO long-run performance across countries, there are limited studies in Nigeria. Moreover, the 2008 global financial crisis have changed both the value and volume of companies going public and this demands further investigation. This environment-specific research therefore makes an important input to the growth of literature on IPOs by supplying more facts on the long-run performance of IPOs and its determinants in the Nigerian Exchange (NGX).

## **2. LITERATURE REVIEW**

### **2.1 REVIEW OF LITERATURE ON LONG-RUN PERFORMANCE OF INITIAL PUBLIC OFFERINGS**

The value of IPO shares often declines after becoming public, which is a puzzle in the IPO literature (Ramlee & Ali, 2012) and researchers have questioned if it is advantageous for investors to hold on to IPOs for prolonged lengths of time following their first offering (Mumtaz et al, 2016). This question became pertinent because a huge volume of studies have shown that investors buying IPOs receives a huge positive abnormal return in the short-run but the gains from early price increase are not enough to recompense for the losses that crop up all through ensuing price declines (Kooli & Suret, 2002).

A major contentious topic among scholars is IPO long-run performance. Distinct from short-run performance, long-run IPO performance is linked to underperformance (Khan et al, 2014). Furthermore, different studies from across the world demonstrate that IPO underperformance is associated with every capital market. The phenomenon is not just restricted to developed countries but also extends to developing countries and emerging stock markets. Ritter (1991) confirmed IPO underperformance phenomenon, Spiess and Affleck-Graves (1995) studies and most markedly by Loughran and Ritter (1995) who labeled the long-run performance of newly issued stocks as a puzzle.

Ritter (1991) studied a sample of 1,526 US companies that entered the market between 1975 and 1984 using cumulative abnormal return (CAR) and buy-and-hold-abnormal-return (BHAR) approaches. His findings show that from the first day closing price through their three-year anniversaries, new issues significantly underperformed a sample of matched corporations. The average return for the sample following the companies going public was around 34.47 percent during a three-year holding period, while a control sample of 1,526 quoted equities matched by industry and market value generated a return of 61.86 percent over the same three-year holding period. This mean that the IPO firms underperformed a matching-firm index by 27.5%. By the close of the third year, Ritter (1991) also discovered a large mean market-adjusted return of 29.13 percent. According to Ritter (1991), underperformance is prevalent among newer organizations and those

that went public during high-volume years. Indeed, there is no long-run underperformance for the well-known corporations going public, or for those who went public in the light-volume periods of the mid and late 1970s. IPOs that are not backed by venture capital and do not have access to top-tier investment bankers typically perform poorly. Furthermore, Ritter discovered that companies with huge adjusted initial returns had the weakest post-IPO performance and that this pattern was more prominent among smaller IPOs than the large ones. He found significant variance in underperformance across industries and from year to year in the same surveys, with firms that went public in high volume period having the worst performance. According to Ritter (1991), when investors invest at the close of the first day trading and maintain the portfolio for about three years, they will only have 83 percent of their original worth. The matching companies and IPOs from the New York Stock Exchanges were used.

Loughran and Ritter (1995) used the BHAR model to study a sample of 4753 U.S. IPOs covering the period 1970 to 1990 and found underperformance for 5 years following the first trading day. In the sixth year, however, they discovered less underperformance. For the five years after the issuance, subscribers received an average return of only 5% per year, whereas if they had invested at the same period in a non-issuing company with identical market capitalization and held it for similar period, they would have received a mean return of 12% per year. They also discovered that corporations that did a routine rights issue underperformed implying that long-run IPO underperformance is not only due to IPO effects. Only a small fraction of the low returns is due to market-to-book (M/B) effects. To obtain the same level of wealth as an alternative investment, an investor would need to invest 44 percent more in an IPO or rights issue. The wealth relative is 0.80 over the three-year period (Ritter, 1991 reported 0.83), falling to 0.70 by year five. The mean BHAR earned by IPOs is 15.7 percent, compared to 66.4 percent for their matching companies. Discovering that underperformance occurred in the long run for both rights issues and IPOs, Loughran and Ritter (1995) claimed that subscribers are overly optimistic about IPO issuing firms. In fact, Loughran and Ritter (1995) investigated whether size and M/B ratio are proxies for risk and are capable of explaining returns on share price better than the usual measure of risk beta, based on the findings of Fama and French (1992). The cross-sectional regression outcomes support Fama and French (1992) conclusions that IPO underperformance can be attributable to (but not fully) the tendency of companies with high M/B ratios to generate low returns. Their three-factor time series regressions, on the other hand, are unable to explain IPO underperformance. If beta, size, and M/B variability cause IPO underperformance, the intercept of the model ought to be zero, according to Loughran and Ritter (1995). They discovered, however, that the intercept is negative and significant, indicating that IPOs underperformed once again.

In several countries, the long-run performance (underperformance) of IPOs has been verified (Loughran, Ritter, & Rydqvist, 1994). Ritter's (1991) results have been validated by most studies that used huge and extensive sample periods in US and elsewhere. Nevertheless, the results on IPO performance are mixed. Some scholars do not find underperformance with IPOs (Brav & Gompers, 1997), while there are companies that even show long-run outperformance including several software and internet related firms ( von Eije et al, 2004).

In general, the conclusion of the literature is that IPOs are underpriced (Sapusek 2000; Drobetz, Kammermann, & Wälchli, 2005) and show long-run underperformance (Vithessonthi, 2008). However, not all studies have proven new issue underperformance in the long-run, and the global proof is mixed (Loughran et al (1994). The discrepancies are attributable to variances in rules, contractual procedures, and features of firms that go public around the world (Firth, 1997). More studies into IPO long-run performance in various market circumstances appears to be necessary.

## **2.2 REVIEW OF LITERATURE ON THE DETERMINANTS OF LONG-RUN PERFORMANCE OF INITIAL PUBLIC OFFERINGS**

The performance of IPOs in the long run is dependent on the market conditions in which they are issued (Ibbotson & Jaffe, 1975; Ritter, 1984). More so, the literature on long-run underperformance suggests that firms' attributes or characteristics around the IPO date may be pertinent for future performance. Typical explanatory conditions, factors, characteristics and attributes include IPO volatility, initial returns, firm's size, firm's age, IPO size, market volatility, market capitalization, among others.

- a) *IPO volatility* – The post-listing volatility of IPOs is a vital factor to test ex-ante uncertainty and predict long-run underperformance phenomenon. This has been corroborated in the work of Kumar, 2015.
- b) *Initial returns* - Loughran and Ritter (2000) used data covering 1990 to 1998 and established that IPOs' initial returns averaged about 15 percent which was equivalent to roughly US\$27 billions of potential IPO proceeds that were 'left on the table' as a result of underpricing. More recently, another observation by Ritter (2002) documented that during the two-year period from 1999 to 2000, about US\$65 billion was 'left on the table' from the IPOs raised. Jelic, Saadouni and Briston (2001) using 182 IPOs on the KLSE Main Board over the period January 1980 to December 1995 documented that the degree of underpricing appeared to be exceptionally evident during the 'hot issue' periods of 1983-1985 and 1993-1995.
- c) *Firm size* - Firm size is one of the proxies to investigate ex-ante uncertainty and predict long-run underperformance. This has proven in the works of Fama

- and French, 1992; Kooli and Suret, 2002; Gounopoulos, Nounis, and Stylianides, 2007.
- d) *Firm's age* – The age of a firm preceding companies going public is another contributing factor to examine long-run underperformance. This has been established in previous studies including Kooli and Suret, 2002 and Gounopoulos et al., 2007. It is evident that for firms with a great operating history, there would be a great deal of certainty. On the other hand, the lesser the operation history of a firm, the higher would be the level of uncertainty (Kooli & Suret, 2002).
  - e) *IPO size* - In earlier researches, Keloharju (1993) and Goergen, Khurshed, and Mudambi (2007) have shown better long-run performance for large IPOs. A positive relationship between issue size and long-run performance is also consistent with Levis (1993) and other studies of the US markets.
  - f) *Market volatility* – Paudyal, Saadouni and Briston (1998) has argued that market volatility has an impact on the offering price of a newly issued common stock. When the market condition is highly volatile, the underwriters are likely to set the offering price lower than that of a stable market. In doing so, the underwriters safeguard a minimum possible profit margin for the issuing firm even if the market is at its worst condition. Indeed, the underwriters ensure that the “true value” of an IPO would not fall below the issuing price. From the investor’s perspective, this price setting trend may lead to a higher initial return. Based on these premises, the perceived market condition is one of the vital factors at the time of price setting (Paudyal et al., 1998) and it subsequently impact the long-run performance of IPOs.
  - g) *Market capitalization* - This is the IPO company total market capitalization prior to going public. It is the market value of all outstanding shares of a publicly listed corporation. The share price multiplied by the number of outstanding shares equal market capitalization. Capitalization can be used as an indicator of public opinion of a company's net value and is a determining element in various forms of stock valuation because outstanding stock is bought and sold in public markets and this can impact the long-run performance of companies’ IPOs. This has been corroborated in the work of Ahmad-Zaluki and Kect (2012).

### **3. DATA AND METHODOLOGY**

#### **3.1. DATA**

This study investigated the long-run performance of IPOs and its determinants in the Nigerian Exchange (NGX) for a period of eleven years, starting from year 2004 to 2014. Data for this study was generated from secondary sources consisting of the annual financial statements of the sampled quoted companies, IPO prospectus of the sampled quoted companies, the Securities and Exchange Commission (SEC), and the Nigerian Exchange (NGX), the Central Bank of

Nigeria (CBN), investment banks and other licensed capital market operators. Indeed, the structure of the research involved coalescing cross sectional data with time series data to form a panel (pool) data. Analogous to Ritter's (1991) findings, IPO volume in the Nigerian capital market has generally been fluctuating. The peak concentration of IPOs took place during the Central Bank of Nigeria (CBN) directed bank consolidation/recapitalization of 2004 which fueled the bull market of 2004 and 2005 while the smallest concentration happened within the global recession period of 2007 to 2010 caused by the global financial crisis and up to 2014. There has been no IPO by way of offer for subscription in Nigeria since 2015 till date (as at November, 2021). The period chosen is enough to observe the long-run performance of IPOs and its determinants in the Nigerian Exchange (NGX). The length of the chosen period is similar and consistent with earlier studies. However, the sample size was restricted to exclude delisted, bankrupt and liquidated companies as well as companies that could not survive beyond their fifth birthday after their IPOs. Also, banks and insurance companies that failed consolidation and recapitalization exercises as well merged and acquired companies were removed. In addition, companies with any missing observations for the considered period were excluded. In all, a total of sixty-seven (67) companies carried-out IPOs between 2004 and 2014. And the final sample size was thirty-six (36) IPOs.

### **3.2. THEORETICAL FRAMEWORK**

Two theories were adopted in this study to explain IPO long-run performance. They are Miller's (1977) divergence of opinion hypothesis and Shiller's (1990) fads or impresarios' hypothesis. An explanation for IPO long-run performance is the divergence of opinion between optimistic and pessimistic investors. According to Miller (1977), the principal buyers in an IPO are the subscribers who are most confident about the IPO company's prospects. As a result of uncertainties surrounding an IPO's value, optimistic and pessimistic investors will provide a variety of prices. Because optimistic buyers are more likely to buy the shares, the offering price will be greater than the "fair" price. The share price will approach (reduce to) the "fair" price with time and as more information becomes accessible. As a result, Miller (1977) forecasts that IPO shares, particularly the riskier ones, will underperform over time.

Shiller (1990) provided a different explanation for IPOs' weak long-term performance. He claimed that the market for IPOs is subject to fads, in which investors behave irrationally by overvaluing newly listed companies, causing prices to fall with time as more data and information about the accurate value of the shares becomes accessible in the market and that investment banks act as the issue's "impresarios." One strategy for attracting investors is to underprice new securities. This indicates that companies may strategically time IPOs, implying that they might foresee when market over-optimism is likely to occur, allowing them to

secure favorable offer pricing. Investors modify their initial overvaluation as new information becomes available, lowering long-term rewards (Schlag & Wodrich, 2000; Aggarwal & Rivoli, 1990; Loughran et al., 1994). Shiller's "impresario" hypothesis, like Miller's, essentially projected that IPO underperformance will occur in the long run.

### 3.3. MODEL SPECIFICATION

According to Kooli and Suret (2001), one of the biggest issues with IPO long-term performance is that distribution of returns is not standardized. To Barber and Lyon (1997), several common approaches to calculating long-term returns are conceptually faulty and result in biased test statistics. Kooli and Suret claim that the CARs are a poor predictor of long-term BHARs, and that tests aimed at detecting long-term abnormal returns should instead use BHARs. As claimed by Mitchell and Stafford (2000) and Bravman (2000), BHAR is more susceptible to the problem of cross-sectional dependency across sampled companies. As observed by Lyon, Barber, and Tsai (1999), the BHARs approach is widely used by academics interested in determining whether stock market offerings achieved anomalous returns over time, "measuring precisely the investor experience".

In line with Barber and Lyon (1997) and Lyon et al. (1999), this study uses the market-adjusted BHAR model to calculate abnormal return to study the long-run performance of Nigerian IPOs. The market adjusted BHAR which is the excess return for the IPOs over and above the market return is specified as:

$$BHAR_{iT} = \left[ \prod_{t=1}^T (1 + R_{it}) \right] - \left[ \prod_{t=1}^T (1 + R_{mt}) \right] \quad (3.1)$$

where  $BHAR_{iT}$  is the buy-and-hold abnormal return for IPO  $i$  in period  $T$ ,  $R_{it}$  is the monthly return for each IPO at time  $t$ ,  $R_{mt}$  is the return on the Nigerian market in event month  $t$  as measured by the return on the Nigerian Exchange All Share Index (ASI),  $T$  is the period of time for which we compute the  $BHAR$  which is the return a subscriber would have had if they had bought the stock on the day it was listed and held it until the five-year anniversary.

The mean  $BHAR$  for the full sample is also estimated to determine the IPOs portfolio's general performance over time. The arithmetic mean of abnormal returns for all IPOs in a sample of size  $N$  is used to calculate the mean  $BHAR$ . The mean  $BHAR$  is specified as:

$$\overline{BHAR} = \frac{1}{N} \sum_{i=1}^n BHAR_{iT} \quad (3.2)$$

A positive BHAR for a specified period indicates that the IPOs outperformed the benchmark for that period. That is, if BHAR is positive, the IPO outperformed the market, and if it is negative, the IPO underperformed the market. We calculated five-year BHARS by assuming that equities are held from their time of issue to the five-year anniversary of the offering.

We also used adjusted returns to compute long-term stock market returns for IPOs, considering market returns and variations. During the five-year period, closing equity prices were adjusted to accommodate for share capital appreciation and stock splits. Adjusted return ( $AR$ ) for issue  $i$  is calculated by subtracting the raw return ( $R_{it}$ ) from the matching market return ( $R_{mt}$ ) for the same time period used in raw return computation:

$$AR_{it} = R_{it} - R_{mt} \quad (3.3)$$

An evenly weighted arithmetic mean of the adjusted returns on a collection of  $n$  stocks for event month  $t$  is the mean adjusted return.

$$AAR_t = \frac{1}{n} \sum_{i=1}^n AR_{it} \quad (3.4)$$

To test the hypothesis if the mean or average BHAR is equal (different) from zero for the IPO sample, a conventional t-statistic is employed:

$$t = \frac{AR_T}{\frac{\sigma(AR_T)}{\sqrt{n}}} \quad (3.5)$$

The next stage entails the use of multivariate regression (OLS) to establish the determinants of cross-sectional variation in long-run performance of share price after IPOs. This method is employed to examine the impact of the explanatory variables on long-run performance as evaluated by BHAR. Previous researches have revealed several potential factors, thus the variables or factors for the cross-sectional analysis were chosen based on those results. We focused on factors with some theoretical hypothesis and proven predictive potential for explaining long-run performance when identifying predictors. When companies opt to go public, the IPO long-run performance is determined by the state and quality of their companies and markets. We used several characteristics (IPO volatility, initial return, firm's size, firm's age, IPO size, market volatility and total market capitalization). These have previously been employed as proxies for firm quality and reputation, as well as market quality and condition. The OLS multivariate regression model is specified as:

$$BHAR = a + \beta_1 IVol + \beta_2 IRet + \beta_3 FSize + \beta_4 FAge + \beta_5 ISize + \beta_6 MVol + \beta_7 MCap + e_i \quad (3.6)$$

where *BHAR* equals buy-and-hold abnormal return for IPO shares computed with regard to listing and offering prices; *IVol* is IPO volatility proxied by the standard deviation of the market price of the IPO for the first twenty days of trading including the listing day; *IRet* is initial returns estimated from initial excess returns of IPOs; *FSize* is firm's size measured by net asset which is total assets less total debts in the year before going public; *FAge* is firm's age prior to the IPO and was estimated as the difference between the company's registration or incorporation date and the date it went public and was rounded up to whole number in years; *ISize* is IPO size estimated by the logarithm of market capitalization of the offering and calculated as the product of offer price and the number of IPO shares offered; *MVol* is market volatility calculated as the standard deviation of daily market returns (All Share Index) over the two months (40 days) prior to the end date of subscription to purchase shares of firms; *MCap* is total market capitalization of the IPO company prior to going public; and  $e_i$  is the error term. The a priori expectations are:  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 > 0$ .

This study employed panel regression analysis approach and the model stated in equation (3.7) is based on it. The fundamental benefit of panel data analysis includes the fact that it considers all the individual features of the many firms in this research. It is widely accepted that firm-level behavior has a significant role in determining the long-run performance of IPOs and its determinants and therefore, this discrimination may result to endogeneity bias in the estimation. Panel data analysis aids in the correction of this intrinsic estimation flaw. Models that are amenable to panel approaches are as follows:

$$Y_{it} = f(X_{it}, \beta) + \delta_i + \gamma_t + \epsilon_{it} \tag{3.7}$$

We have a linear conditional mean specification as the leading case, such that we have:

$$Y_{it} = X_{it}'\beta\delta_i + \gamma_t + \epsilon_{it} \tag{3.8}$$

where  $Y_{it}$  equals the dependent variable,  $X_{it}$  equals a vector of regressors, and  $\epsilon_{it}$  equals the error terms for  $i = 1, 2, \dots, M$  cross-sectional units observed for dated periods  $t = 1, 2, \dots, T$ . The  $\alpha$  parameter represents the overall constant in the model, while the  $\delta_i$  and  $\gamma_t$  represent cross-section or period specific effects (random or fixed). The assumption that the random effects are uncorrelated with the explanatory factors is a key assumption in random effects estimation. The Hausman (1978) test, which compares the fixed and random effects estimates of coefficients, is a standard approach for evaluating this assumption. This test is utilized in this research to find out the randomness of the data distribution. The test would be used to decide on the suitable model for the work.

### 3.4. ESTIMATION PROCEDURE

To analyze the data for this study, two major procedures were used: statistical and econometric techniques. Descriptive statistics and correlation analysis are the statistical tools used. Descriptive statistics were utilized because it produces the initial characterization of the data set by providing statistical summaries about the samples and their measurements. Furthermore, correlation analysis was employed in the study to evaluate the early interactions among the variables of the empirical analysis. The degree to which one variable is linearly related to another is described by correlation analysis. This study was able to determine the degree of connection between the variables by using correlation analysis. For the purpose of empirical analysis and hypotheses testing, this study adopted the multivariate panel data regression technique to analyze the individual effects of every independent variable on the dependent variable. The quality and amount of data can be improved by using panel data. It enables us to find several effects that were not detectable using time-series analysis. Three estimators are available for panel data regression. A pooled estimator which takes  $\alpha$  as the same across all cross-section units. The fixed effects models approach takes  $\alpha_i$  to be a group specific term. The random effects approach takes  $\alpha_i$  as a group specific disturbance.

## 4. RESULTS AND DISCUSSION

### 4.1 ANALYSIS OF LONG-RUN PERFORMANCE OF SHARE PRICES POST-INITIAL PUBLIC OFFERINGS

Table 4.1 shows the results of long-run performance of IPOs in the Nigerian Exchange (NGX), up to the 5<sup>th</sup> year anniversary of the IPOs (that is, aftermarket price performance, which is the listing day performance, followed by an evaluation of long-run performance over a period of five (5) years from the day of listing).

**Table 4.1.** Mean Buy-and-Hold-Abnormal-Return (BHAR) of IPOs

Mean Buy-and-Hold- Abnormal Return (BHAR)								
Year	Day 1	20 Days	1 Month	1 Year	2 Years	3 Years	4 Years	5 Years
2004	-0.124	-0.014	0.18	-0.67	0.265	0.023	1.24	1.34**
2005	-0.108	0.021	0.222	0.023	-0.071	0.185	0.772	1.78***
2006	0.205	0.158	-0.092	0.108	-0.15	0.197	0.053	0.265***
2007	0.212	0.026	0.167	0.261	0.037	0.121	0.174	0.178
2008	-0.167	0.058	-0.12	0.158	0.143	0.183	0.384	2.132**
2009	-0.182	-0.171	0.097	0.172	0.195	0.621	0.269	-3.121***
2010	-0.173	-0.125	-0.0.18	0.073	0.215	0.164	0.153	1.071*
2011	0.015	-0.016	-0.221	0.324	0.196	0.721	0.212	0.219***
2012	0.022	0.028	-0.05	0.252	-0.144	0.314	0.174	0.311
2013	-0.342	0.183	0.09	0.198	0.029	-0.173	0.088	1.794*
2014	0.06	0.104	-0.208	-0.175	0.011	0.192	0.215	-3.132*

Note: \* \* \* \*\* denotes significance at 10%, 5% and 1% level

Source: Author's Computation (2021) using E-view 9.0

An examination of table 4.1 indicates that the mean BHAR performance on the listing day and 20 days are negative and positive for 1 month period. The mean BHAR is positive for 2006 and 2007. This implies that the IPOs performed better compared to the market benchmark in the long run except for 2009 and 2012. The poor performance could have been induced by the global economic and global uncertainties that characterized the investment environment, particularly at the outset of the global economic recession, which began as a financial recession in 2007, whose effect however began to manifest in Nigeria in 2009. The magnitude of the reverberations in the Nigerian stock market began manifesting in the late 2008 and 2009. This evidence of negative BHAR corroborates the findings of Kumar (2015). For the 20 days period following the offer, the BHAR is negative for 2004, 2009 and 2011, with corresponding negative performances of 1.4 percent, 1.7 percent and 1.6 percent. Invariably, the performance of the IPOs, followed an initial deterioration, after which the performance improved, given proper information dissemination with respect to the offers. The improvement in information dissemination apparently induced greater investing public in the stocks. This evidence of initial deteriorating performance, followed by an improvement in the long-run performance of stocks is also buttressed by Kirkulak (2008). For the 1 month post-initial offer performance, the BHAR is negative, an indication of underperformance. This clearly suggests that most IPOs are overpriced, resulting in circumstances where returns are high on the first day but decline over time. The finding supports previous evidence by Mumtaz et. al. (2016). In line with researches, information asymmetry, institutional reasons, ownership/control issues, behavioral reasons, risk and uncertainty, and divergence of opinion can all affect IPO performance. For the one year, two years, three years, four years and five years after-market performance, the BHAR largely indicate positive values for most of the years; an indication of outperformance, denoting better share performance in the long-run as listings became matured. This result is consistent with the studies of Dawson (1987), Sehgal and Singh (2008) and Chong (2009). This improvement could be due to reduction of information asymmetry and other distortionary forces in the market, stronger regulatory and supervisory framework and other institutional settings that tends to gear up the performance. Invariably, long-run performance of share prices post-IPOs tend to follow a successive progression in terms of performance, in which the accruable benefits in form of investment through IPO subscription is extended to the late subscribers and thus is entirely unexhausted on the listing day. IPOs therefore tend to be more stable and perform better over a longer period of issuance. In general, IPOs long-run performance tends to follow a successive pattern in the market. This argument supports the impresario or fads hypothesis, which states that the process of IPO issuance does not define the value of new stocks immediately. As a result, overvaluation of stocks means abnormally high excess returns for investors at the commencement of market trading. When investors obtain higher returns on the first day of trading, the overpricing is corrected, resulting in reduced long-term returns

(Mumtaz et al., 2016). This finding supports the results of Espenlaub, Gregory and Tonks (2000) that over a longer time period, the abnormal returns of an IPO, becomes less dramatic.

#### 4.2 DESCRIPTIVE STATISTICS

**Table 4.2.** *Descriptive Statistics of Variables*

	BHAR	IVol	IRet	FSize	FAge	ISize	MVol	Mcap
Mean	3.017821	0.261850	0.802711	35.16000	36.30000	178.60000	27.15175	38.53121
Median	4.153202	0.358212	0.632661	42.19064	20.10000	124.00000	22.20000	42.30000
Maximum	129.6327	5.123213	2.165732	162.10000	65.00000	1105.1100	56.19000	76.22000
Minimum	-1.030002	0.268534	-0.257198	0.890000	5.280000	23.160000	1.450000	5.230000
Std. Dev.	4.81267	4.389401	1.903726	28.26142	21.40000	6.6720000	7.358021	10.26190
Skewness	-1.06222	1.780621	2.180241	1.753292	2.252189	2.809106	5.165221	5.165831
Kurtosis	3.25772	3.25081	3.072154	6.10842	3.77190	4.788525	5.891702	8.216902
J-B	269.7772	31.17123	343.2201	75.2261	32.30261	42.798021	88.23185	121.25304
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

*Source: Author's computation (2021) using E-view 9.0*

Table 4.2 presents the summary statistics for all the variables used in this study. The descriptive statistics show the average BHAR for the cross-sectional firms during the IPO period. The mean value of BHAR of 3.02 is less than the median value of 4.15. This divergence between the mean and median value indicates that a lesser number of issues outperformed the average performance in the issuing periods. Apparently, the performance of most of the IPOs offer period had wide cross-sectional variation from the observed values. This implies that heterogeneous performances over the period due perhaps to several determining variables, such as firm size, IPO size, market capitalization of the firm, etc. The maximum and minimum values are 129.6 % and -1.03 % respectively. This large disparity and further considerable difference involving the maximum and minimum values along with a huge standard deviation of 4.81 implies extensive variations and further buttresses the differential (heterogeneous) rates of performance of the shares in the sampled offer period and firms. Without doubt, performances of IPOs have been somewhat diametrical among the cross-sectional firms in the various listing years. This again may be explained by individual firm peculiar characteristics. The skewness value of -1.06 and a significant J-B value suggest non-symmetric distribution as most of the performance exogenous explaining variables series were concentrated on the mean value. And the kurtosis value which is greater than 3 is an indication of the extreme values which possibly will produce heteroskedastic patterns in the data. These values all points to the existence of a density function that is not symmetrically distributed.

The mean value of IPO volatility is 0.26, and median value of 0.35 suggests that the volatility of IPOs in the cross-sectional listing years have marked differences. Thus, the volatility of IPOs tends to extremely low in some of the firms, while being extremely large for other firms. This implies that many of the firms were characterized by variable IPOs which were not convergent to the average variability. The maximum and minimum values of 5.12 and 0.26 shows

pronounced difference in the level of variability in IPOs of the cross-section of listing firms. The mean values for initial returns, firm size, firm age, IPO size, market volatility and market capitalization are 0.80 percent, 35.2 percent, 36.3 percent, 178.6 percent, 27.2 percent and 38.5 percent, respectively.

However, descriptive statistics reveal that most long-run share performance determinants have substantial variability, are leptokurtic, and have strong J-B values. Individual business' unique qualities appear to be important in explaining share performance after IPO. The significance of the Jarque-Bera statistic at the 1 percent level in particular, is an apparent sign that the hypothesis of normality in the distribution cannot be accepted. Thus, individual firm' internal variables are critical in the explanation of long-run performance of equities of the corporations. This implies that the data series may have endogeneity issues, demanding the use of multivariate panel data analysis to account for the time-varying, and time-invariant cross-sectional characteristics as well potential endogeneity.

### 4.3 CORRELATION ANALYSIS

In econometric analysis, it is important to ensure that the independent variables in the models do not have excessive correlation patterns so as to make the results tenable. Thus, a preliminary examination of the nature and extent of relationships amongst the study variables is important. Correlation analysis is used to conduct these investigations. Strong correlation among the independent variables may cause our estimation technique's working assumptions to be violated, resulting in incorrect findings. The result of the pairwise correlation matrix tests are shown in Table 4.3.

*Table 4.3. Correlation Matrix*

	<i>BHAR</i>	<i>IVol</i>	<i>IRet</i>	<i>FSize</i>	<i>FAge</i>	<i>ISize</i>	<i>MVol</i>	<i>MCap</i>
<i>IVol</i>	-0.025 (0.1210)	1						
<i>IRet</i>	0.184 (0.0113)	0.102 (0.1921)	1					
<i>FSize</i>	0.321 (0.2415)	-0.243 (0.0241)	0.06 (0.2910)	1				
<i>FAge</i>	0.385 (0.1042)	0.333 (0.1629)	0.272 (0.1089)	0.025 (0.8015)	1			
<i>ISize</i>	0.305 (0.0492)	0.025 (0.7145)	0.271 (0.0000)	0.23 (0.1753)	0.341 (0.0016)	1		
<i>MVol</i>	-0.264 (0.0324)	0.189 (0.0157)	0.313 (0.0060)	0.26 (0.3190)	0.442 (0.1842)	0.153 (0.4316)	1	
<i>Mcap</i>	0.532 (0.1262)	-0.351 (0.0350)	0.543 (0.0032)	0.457 (0.0113)	0.272 (0.0074)	0.418 (0.2533)	0.193 (0.2520)	1

*Source: Author's computation (2021) using E-view 9.0*

In the correlation matrix table, a positive relationship is seen between BHAR and all the explanatory variables (with the exception IPO volatility and market volatility). This implies that apart from IPO volatility and market volatility,

there seems to be a co-movement among these variables, an implication that they grow together. Invariably, increases in initial return of shares, firm's size, firm's age, IPO size and market capitalization tend to stimulate the long-run post-IPO performance of shares. In particular, greater degree of market capitalization, firm's size and firm's age tend to enhance the long-run performance of shares. Without doubt, the greater the market value of a firm and its size, the greater it tend to sway investors into investing in it, as large and well-capitalized firms are more immune to systemic crises and are able to deploy their market value resource advantage into higher share performance. Conversely, greater market volatility (instability) tend to be associated with lower performance of shares as it induces greater risk and uncertainty into the market, the effect which is to diminish the performance of stocks.

In terms of the correlation among the explanatory variables, firm size is negatively correlated with IPO volatility and market volatility; implying that larger firms tend to be stable as internal forces in the market begin to play out. Such firms, due to their entrenched position and size advantage tend to be able to withstand market variability and other exogenous forces that may likely deteriorate the market performance. Firm age and firm size are positively correlated; implying a possible co-movement, which shows that the longer the age of the firm, the larger the size it tends to have. Given that it reveals the extent of operational history of the IPO company, companies with better history of IPO performance, tend to have larger size as the investing public tend to be influenced into investing in them on account of the goodwill and entrenched credibility. In the same vein, market capitalization is positively correlated firm size, firm age and initial return. This implies that well-capitalized firms tend to be large firm and such firms are usually associated with better initial share returns. Invariably, large capital base implies large firms, and this tends to enhance the initial returns of firms' stocks.

A broad examination of the correlation coefficients' results reveals that multi-collinearity is not a significant issue in the empirical estimates since none of the correlation value exceeded 0.90 percent or had perfect correlation.

#### **4.4 EMPIRICAL RESULTS ON THE PANEL ANALYSIS**

Having conducted preliminary statistical examination of the variables, we proceeded to conduct the econometric analysis to explore the determinants of cross-sectional variation of long-run performance. The multivariate regression panel data technique is employed to examine the weight of the explanatory variables on the long-run performance, calculated by BHAR. In doing this, the pooled OLS estimates of the long-run determinants, as well as the multivariate results are analyzed and interpreted. We begin by presenting the general OLS estimation of the relationship for the pooled data. Table 4.4 reports the results for

the long-run determinants, where we apply least squares to our baseline regression to the empirical analysis.

A. *Least squares estimation*

An evaluation of the results shows poor goodness of fit for the BHAR model, indicated by the weak coefficient of determination and other statistical diagnostics; an obvious signal of low predictive and explanatory power of the model. These results are to be expected, given that the Hausman test for uncorrelated randomness is conducted before the pooled OLS approach is used. The BHAR model has a low coefficient of determination (R-squared) value of 0.21, suggesting that the selected explanatory variables explained only 21 percent of the systematic disparities in the long-run performance of share prices post-IPOs for the cross-sectional sampled firms.

**Table 4.4.** OLS Estimates for BHAR Model

<i>Variables</i>	<i>Coefficients</i>	<i>T-Ratio</i>	<i>Prob.</i>
<i>IVol</i>	-0.122	-0.932	0.35
<i>IRet</i>	0.026	1.276	0.18
<i>FSize</i>	0.252	2.23	0.03
<i>FAge</i>	0.035	2.591	0.01
<i>ISize</i>	0.445	1.409	0.14
<i>MVol</i>	-0.004	-0.302	0.76
<i>MCap</i>	1.259	1.43	0.15
R <sup>2</sup> = 0.21 DW = 0.76			

*Source: Author's computations (2021) using E-view 9.0*

A cursory examination of the individual coefficients of the explanatory variables reveals that the coefficient of firm's size is positively and significantly linked to share performance at the 5 percent level. Thus, increase firm's size tends to stimulate the performance of shares in the equity market. The coefficients of the firm's age, initial return, market capitalization and IPO size are positive, while those of IPO volatility and market volatility are negative. Nevertheless, only the t-ratio of firms' age passes at 5 percent level of significance. Apparently, the larger the age of firm, the better the capacity of its share price to outperform the market in terms of positive return. In theory, more matured firms, with track history of improved investment, tend to have higher share prices since the investing public tends to rely on their credibility and goodwill. Such long standing tends to translate to better share performance advantage. The results therefore suggest that size and age of a firm are critical factors in the determination of the long-run performance of share prices post-IPOs. The coefficients of initial return, market capitalization and market volatility failed the significance test at the 5 percent conventional level. Since their respective t-values are greater than unity, we may infer that they explain long-run IPO performance, but their impacts are weak.

B. *Multivariate panel data technique estimation*

The OLS estimates reported above are not robust for policy directions, given that the estimates essentially have endogeneity problems. To overcome this challenge, the panel data analysis procedure is used in re-calculating the relationships. As stated previously, a typical test for the technique of panel analysis to adopt is the Hausman test for correlated random effects. The outcomes of the test for the BHAR model is reported in table 4.5.

**Table 4.5.** Summary of Hausman test for Cross-section Random effects

<i>Test cross-section random effects</i>			
<i>Model</i>	<i>Chi-Sq. Statistic</i>	<i>Chi-Sq. d.f.</i>	<i>Prob.</i>
<i>BHAR</i>	1.903	10	0.49

*Source: Author's computations (2021) using E-view 9.0*

From the results, the Hausman test (Chi-Square statistic) for the random argument of 1.903 with a probability value of 0.49 is less than the critical chi-square value of 10, and thus, fails at 5 percent level of significance. Hence, we accept the null hypothesis that overlooked firm specific heterogeneity is unconnected with the regressors. This implies the existence of a random effect among the variable. The analysis was thus based on the estimates supplied by the random effect strategy, as the fixed effect estimation, will be biased, inconsistent and untenable.

**4.5 RANDOM-EFFECT RESULTS FOR DETERMINANTS OF LONG-RUN PERFORMANCE OF SHARE PRICES POST-INITIAL PUBLIC OFFERINGS (BHAR MODEL)**

The result of the random effect model for the BHAR model, showing the determinants of share prices post-IPO is presented in table 4.6. An examination of the empirical results reveals impressive, the goodness of fit and diagnostic statistics, matched against the OLS estimates. The adjusted R-squared value of 0.87 indicates that over 87 percent of the systematic differences in performance of shares of the cross-sectional variant firm are explained by explanatory variables in the model. This explicitly shows a good predictive power of the model. Thus, the explanatory variables have strong influence in the explanation of long-run performance of shares post-IPO. At the 1% level, the F-value of 52.2 is highly significant, indicating that the hypothesis of a significant linear relationship between the long-run performance of firms' IPOs and exogenous (independent) variables is correct. As a result, long-run stock performance variables are jointly significant in explaining companies' equity issuance performance. The model has no serial correlation, as indicated by the Durbin Watson statistic of 1.77, meaning that it can be utilized for policy and structural analysis.

**Table 4.6.** Random-effect Results for BHAR

<i>Variables</i>	<i>Coefficients</i>	<i>T-Ratio</i>	<i>Prob.</i>
<i>Constant</i>	-0.286	-1.409	0.15
<i>IVol</i>	0.151	2.246	0.03
<i>IRet</i>	0.037	1.727	0.08
<i>FSize</i>	0.417	2.179	0.03
<i>Fage</i>	0.167	2.681	0
<i>ISize</i>	0.034	2.242	0.02
<i>MVol</i>	-0.09	-1.156	0.25
<i>Mcap</i>	2.712	1.681	0.09
Adjusted R <sup>2</sup> = 0.872      F = 52.72 [0.00]      D.W = 1.77			

*Source: Author's computations (2021) using E-view 9.0*

From the individual performance of the explanatory variables of the model, the result shows that all the coefficient of the explanatory variables have the expected apriori signs except for market volatility and IPO volatility. Focus is particularly on the significance of the coefficients of the explanatory variables in the model to determine their influence on the dependent variable (long-run performance of IPOs - indicated by BHAR).

The results reveal that the coefficient of IPO volatility is negative and significant at the 5 percent level, that is, a significantly negative relationship exists between IPO volatility and long-run performance. The coefficient of initial return is positive in tandem with theoretical evidence and statistically significant at the 10 percent level implying that a positive and significant relationship exist between initial returns and IPOs long-run performance over the period. The coefficient of firm size is positive as expected and passes the significance test at the 5 percent level, that is, firm size is a positive and significant determinant of the long-run performance of IPOs. The coefficient of firm age is appropriately positive and passes the significance test at the 1 percent level, that is, the age of firms is positively and significantly connected to IPOs long-run performance. The coefficient of IPO size is positive and statistically significant at the 5 percent level, that is, a positive and significant relationship exists between IPOs size and long-run performance. The coefficient of market volatility is negative, but fails the significance test at the 5 percent level, that is, market volatility is negatively and not significantly related to IPOs long-run performance. Market capitalization has a coefficient that is positive in consistency with economic expectation and is significant at the 10 percent level, implying that market capitalization has a positive and significant association with IPOs long-run performance.

#### 4.6 DISCUSSION OF FINDINGS AND POLICY IMPLICATIONS

The findings obtained from this study are far reaching and have significant policy implications. Empirical evidence points to the existence of a positive and significant IPO long-run performance in the Nigerian Exchange (NGX). This implies that five-year BHAR estimates of the cross-sectional firms show that the shares of IPOs outperformed the market bench-mark which is the Nigerian All Share Index, assuming that shares are held from their offering period to the five-year anniversary of offering. This finding is in line with the findings of Dawson (1987), Kunz and Aggarwal (1994), Foerster and Karolyi (2000), Chen (2001), Sehgal and Singh (2008), Chong (2009) and at variance with the result of Seshadev and Prabina (2010). This finding also shows that the IPOs' long-run performance were characterized by three periodic variations, the banking consolidation era (2004-2006), the global financial and economic recession period (2007-2009) and post economic crises era (2010-2014). Thus, the long-run performance of shares apart from being influenced by internal market factors, tend to be influenced by exogenous macroeconomic and financial dynamics. More so, the results depict marked variation and heterogeneity in terms of IPO long-run performance among the cross-sectional offering (listing) firms. This implies that equity performance tends to be dissimilar among the listing firms during the period. The implication is that individual, and contextual policy perspective is important to stimulating IPO's long-run performance in the Nigerian Exchange (NGX). Thus, the individual determinants of IPOs' long run performance need managerial critical attention.

The study also found that a negative and significant relationship exists between IPO volatility and long-run performance. This implies that volatility in IPOs tend to have a destabilizing effect on its long-run performance. This finding is consistent with the divergence of opinion hypothesis. The result corroborates the findings of Kumar (2015) and Mumtaz et al. (2016). This is an indication that fluctuation in IPOs tend to adversely affect the long-run performance of shares prices. Invariably, instability in IPO tends to carry some uncertainty, which may necessitate an investor 'wait and see' disposition before making any investment decisions with respect to the public offers. Such occurrence has the effect of reducing the long-run performance of share prices post initial offer. More so, instability in the size and volume of IPOs tend to induce some measure of variability in the market such that potential subscribers to the offers made by companies may become uncertain in terms of investment decisions. This has the effect of generating unfavorable market patterns that may adversely affect stocks, future prospect of IPOs and potential growth opportunities of the stock market in general.

Also, a positive and significant relationship was also found between initial returns and IPOs long-run performance over the period. This implies that the IPOs' long-run performance during the period was significantly influenced by past

returns of the IPOs and better initial returns tend to stimulate the performance of future IPOs. This finding is consistent with the results of Kumar (2015) and Emasari and Tamara (2010). Thus, agglomeration effect of investment tends to occur, as investors tend to be attracted to offers in firms with better prospect, which has the effect of enhancing stock issuance performance. Investors may view the performance of shares (equities) in terms of previous performances as good signal or favorable prospect to investing in them too.

Firm size is found to be a positive and significant determinant of the IPO long-run performance. This implies that the greater the size of the firms, the better the IPO performance in the Nigerian capital market. This finding is in line with theoretical expectation and in consonance with the findings of Goergen *et al.* (2007), Osamwonyi and Emeni (2008), and Kumar (2015). This suggests that large firm size tend to have better equity issuance performance, as they usually outperformed the benchmark. Thus, increased firm size tends to induce better share performance. Apparently, large firms tend to have better equity offers and investments from prospective investors, given that such firms have larger economies of scale, better managerial efficiency in terms of resource utilization, and greater growth opportunities that tend to stimulate share offers.

Moreover, the age of firms is positively and significantly related to IPOs long-run performance in the Nigerian Exchange (NGX). Thus, firms with longer history and long standing tend to have improved IPO performance in the long run. The findings buttress the findings of Kirkulak and Davis (2005) and contrast with that of Osamwonyi and Emeni (2008). This implies that, the longer the age of a firm, the better the long-run performance of its share prices post-IPO. In practice, long standing firms tend to have higher share prices since the investing public tends to rely on their credibility and goodwill and entrenched performance. Such long standing tends to translate to better share performance.

Also, a positive and significant relationship exists between IPOs size and long-run performance in the Nigerian Exchange (NGX). Accordingly, the greater the size of the IPOs, the better their performance. The finding supports the results of Keloharju (1993) and Goergen *et al.* (2007) that superior long-run performance for huge IPOs tend to influence by IPO size. Moreover, the greater the capitalization of the IPO company, the better the performance of the IPOs in terms of its long-run post initial investment values.

However, market volatility is negative and not significantly related to IPOs long-run performance in the Nigerian stock market. Since its t-ratio is greater than unity, we may deduce that market volatility determines the long-run post-initial performance of shares in the Nigerian stock market, but the impact is weak. This implies that volatility in the market tend to have a destabilizing and detrimental impact on the long-run performance of post-initial offered shares in the capital market. The finding supports previous evidence by Emasiri and Tamara (2010) and

contrasts the results of Kumar (2015). Volatility in the market generates unpredictable and speculative patterns that are detrimental to the overall performance of the stock market. In fact, such undue vacillations could subject the stock market to highly risky situations and consequently have detrimental impact on the post initial performance of stocks if appropriate and articulate steps are not taken to forestall such dampening effects. The credibility in the stock market by potential investors and subscription to new offers depends largely on the stability of the market. This, therefore, calls for articulate and market-stabilizing forces that will build investors' confidence in the stock market, particularly in the subscription to new offers.

Furthermore, market capitalization has a positive and significant relationship with IPOs long-run performance in the Nigerian Exchange (NGX). This finding is in consistency with economic expectation and in line with the results of Ahmad-Zaluki and Kect (2012). Thus, well-capitalized firms tend to have better long-run post-IPO performance. Moreover, well-capitalized firms tend to have better financial resource advantage and other non-pecuniary benefits which have the effect of stimulating the long-run post initial offer performance of shares in the capital market. With good capital base, such firms tend to be less vulnerable to financial and systemic crises and other global economic and financial uncertainties, the result of which induces greater stock performance.

Finally, the empirical evidence tends to suggest that exogenous forces may influence the long-run performance of IPOs in the Nigerian stock market. Since capital markets are globally inter-connected, external macroeconomic and financial influences and their associated variability may be translated to the domestic capital market. An example of such is the global economic and financial meltdown that started in the US in 2007, which spread to other economies of the world. Greater policy and managerial attention is therefore required by financial and investment managers and the supervisory and regulatory authorities in devising effective measures aimed at minimizing the potential detrimental effects of such exogenous factors and global uncertainties, particularly with respect to market risk, liquidity risk and other risks.

## **5. CONCLUSION**

Empirical results points to the existence of a positive and significant long-run performance of IPOs in the Nigerian Exchange (NGX). This implies that five-year BHAR estimate of the cross-sectional firms show that the IPO shares outperformed the market; assuming that the IPO shares are held from their offering period to their fifth birthday. Moreover, initial return, firm's size, firm's age, IPO size and market capitalization are found to be a positive and significant determinants of IPOs long-run performance. Nonetheless, IPO volatility and

market volatility are insignificant determinants of the long-run performance of IPOs in the Nigerian Exchange (NGX).

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