

An Investigation of firms' characteristics on share prices of quoted firms in Nigeria

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Abstract

This study examined the extent to which share prices are determined by changes in individual firms' characteristics factors. Secondary data on six individual firms' factors for 96 active firms from 2010 to 2016 were employed. The Panel model was used to examine the impact of individual firms' factors on share prices. This model was considered appropriate for its ability to combine both the time series and cross sectional data and Hausman test was used to navigate between fixed effect and Random effect. The empirical findings of the study revealed that individual firms' factors (Earnings per share, Dividend per share and Liquidity) have significant impact on share prices. The study therefore concluded that the major individual firms' factors that have impact on share prices in Nigeria stock market are Earnings per share, Dividend per share and Liquidity. The researchers then recommended that a consistent market focused policy that encompasses liberalization of most sectors of the economy and a monetary policy that allows for market determined interest rate.

Keywords: Impact, Individual firms' factors, Share prices, Nigeria

1.0 BACKGROUND TO THE STUDY

The stock market serves as an important channel in the mobilization and allocation of savings among competing uses which are critical to the growth and efficiency of the economy (Alile, 1984). Through this channel of mobilization of resources, the stock market promotes economic growth by providing avenues to pool large and long term capital formation through issuing of shares for companies in dire need of additional capital to expand their businesses. Thus, the overall performance of stock market has a direct relationship with the overall growth and development of the economy. Asaolu and Ogunmakinwa (2011) reported that empirical evidences from developed economies have proved that the development of the stock market is sine qua non for economic growth. While developed economies have fully explored the mobilization of resources and capital formation through the capital market, developing countries are yet to fully tap into the benefits of raising capital via the capital market.

Fundamental determinant approach posit that determinant of share prices are in three categories, macroeconomic, industry and companies analysis. Many scholars such as Nwokoma (2002), Maku and Atanda (2009) and Asaolu and Ogunmakinwa (2011) have used macroeconomic factors to explain changes in share prices. These scholars did not looked at the company factors. This study intends to bring into the analysis the company factors.

Chandra (2010) found that changes in share prices can be attributed to the followings factors: Macroeconomic factors 40%, Industry factors 20% and Company factors 40%.

Motwani (2013) in his study of fundamental determinants of equity investments among small scale investors believed that the stock market plays a pivotal role in the growth of the industry and commerce of a country and that it eventually affects the economy of the country.

Empirical evidences from developed countries (Diacogiannis, Tiritakis & Malonas, 2001; Mukhopadhyay & Sarkar, 2003; Robert, 2008; Sharma, 2011; Aurangreb, 2012; Motwan, 2013; Malhatra & Tandon, 2013) have shown that fundamental determinants (macroeconomic factors, industry factors and individual firm's factors) have a great impact on share prices but the factors used were not analyzed using the economy-industry-individual firm sequence as specified by the fundamentalist theory of share prices. On the converse

in Nigeria, the few empirical evidences have only focused more on the macroeconomic which have produced mixed results. Maku & Atanda (2009) posited that all share index is more responsive to changes in macroeconomic factors, whereas Asaolu & Ogunmakinwa (2011) asserted the opposite.

In view of this, some questions still arise: to what extent and in what ways can changes in share prices be determined by changes in individual firm's factors in Nigeria? Secondly, do individual firms' factors have significant impact on share prices in Nigeria? It is in an attempt to answer these research questions that the study examining the impact of individual firms' factors on share prices in Nigeria using panel data from 2010 to 2016. The findings from this study will help the company management to know the impact of individual firms' factors on share prices in Nigeria.

2.0 EMPIRICAL REVIEW

The impact of an announcement of (EPS) on share prices had often been the centre of interest to researchers, shareholders and rational investors. This is due to the fact that earning per share is one of the basic instruments used to measure the financial condition and performance of a firm in the short and long run. Sharman (2011) in his study determinants of equity share prices in India using panel data agreed that the higher the earnings per share declared by firms, the higher the share prices of the selected firms (Share prices of the selected firms adjusted to the announcement of earnings per share) which is line with Iyiegbuniwe (1999), Singh & Sharman (2006), and Graves, Davis and Mendenhall (2010). On the other hand, Armstrong (1983) in his study relative accuracy of judgmental and extrapolative methods in forecasting annual earnings believe that announcement of earnings per share have nothing to do with changes in share price which is in line with Ellifren, Khilusfla & Saettman (1999).

Return on assets a measure of profit per naira of assets. It is measured by dividing net income with total assets. It is one of the best known and most widely used of all financial ratios because it measures how efficiently the firm uses its assets and how efficiently the firm manages its operation. Paviz & Abolghasem (2012) aims at investigating return on assets rate impact on share prices of the companies accepted in Tehran stock exchange using panel data. The findings indicated strong impact and relationship between return on assets and share prices.

In relation to assets of a firm, liquidity generally relates to the current assets dividend by current liabilities and how often an asset can be sold immediately after purchase without incurring losses of any kind. Archarya & Pedersen (2005) in their study asset pricing with liquidity risk using multiple regression analysis showed that liquidity had great impact on movement of share prices which is in line with the comment of Amihud & Mendelson (1986) in their study asset pricing and the bid-ask spread using simple regression model.

Theoretically finance believed that leverage is one of the sources of financial risk in a firm because the higher the leverage in a firm, the higher the financial risk and vice versa and the immediate implication of this proposition was that the return on equity is a major proponent supporting capital and it is an increasing function of leverage. Modigliani & Miller (1958) argued that the higher the debt in a firm's capital structure, the higher the riskiness of the share and hence equity shareholder will demand a higher return on their shares. The effects of leverage on changes in share prices are in two folds. Some researchers such as Bhandari (1988) showed the existence of a positive relationship between leverage and changes in share prices while some researchers such as Kortweg (2004) and Penman, Richardson and Tuna (2005) reveal that returns decreases with leverage (negative relationship between leverage and changes in share prices).

Over the last few decades, much debate has arisen regarding the fundamental determinants of the micro factors or individual firm's specific factors that helps to explain the changes in share prices. Size of a firm which is been measured by the total value of a firm's total assets. Banz (1981) used beta and size of the firm to explain cross section of stocks listed on New York stock exchange over the period 1927-1975 as the first research on this subject and found out that greater impact on movement of share prices after controlling or adjusting for risk. Other proponent of this were Reinganum (1982), Fama and French (1992) & Dicheu (1998). Major criticisms of Banz were Amihud (2002) & Srinivasan (2012). They argued that the systematic risk estimates of return are bias downward meaning that size of a corporate firm has nothing to do with changes in share prices.

The impact of an announcement of (DPS) on share prices had often been the centre of interest to researchers, shareholders and rational investors. This is due to the fact that dividend per share (dividend announcement) is one of the basic instruments used to convey information about the future prospects of the firms. Due to the information content in dividends, DPS declared by firms were taken as a signal of the firms' good position that will cause changes in share prices. Modigliani and Miller (1961) believe that in a perfect market situation, dividend payout are irrelevant (does not affect the movement of share prices). Prior to the Modigliani and Miller theory, Litner (1975) presented a model that shows that most firms were reluctant to decrease dividend payout so that it will not send a wrong signal to investors. Supporting Litner's position were Bhattacharya (1979), Brickley (1983), Miller and Rock (1985), Lazo (1999), Sen & Ray (2003), Sharma (2011), Adaramola (2012), and Malthotra & Tandon (2013) show that dividend announcement convey information about future prospect of the firm which will affect the share prices. Based on the above empirical evidences, it shows that all the empirical review did not combine the individual firms' characteristics on share prices is the major gap in the literature that this research seeks to fill.

3.0 Method

Data and Sampling Technique

This study relies on the secondary data source from quoted firms and the Nigerian Stock Exchange fact books covered from 2010 to 2016 for individual firms' factors.

As at 2007, there were two hundred and three (203) equity stocks in the Nigerian stock market. However, as a result of the various political, social and economic problems and policies, many of the companies have either been acquired or ceased to be in existence. Again some were either not active in the market or lacked consistent data. Therefore, the sample is made up of all the ninety six firms that were consistent and active in the market throughout the period 2010 to 2013. This technique is purposive as used and applied in the work of Komaran (1976); quoted in the work of Nweze (2002), and Adaramola (2014).

MODEL

In line with the objectives of the study and research, the model is specified to explore the impact of individual firms' factors on share prices in Nigeria.

The estimated regression model using a pool is hereby specified as:

$$SP_{it} = \gamma_0 + \gamma_1 DPS_{it} + \gamma_2 EPS_{it} + \gamma_3 SIZ_{it} + \gamma_4 LIQ_{it} + \gamma_5 LVR_{it} + \gamma_6 ROA_{it} + \mu_{it} \text{ ----- (3.3)}$$

Where:

SP_{it} = Share price of Firm i at year t, which is the dependent variable.

EPS_{it} = Earnings per share for Firm i at year t measured as PAT divided by Outstanding Shares

DPS_{it} = Dividend per share for Firm i at year t measured as Gross Dividend divided by Outstanding Shares

SIZ_{it} = Size of Firm i at year t measured as log of total asset

LIQ_{it} = Liquidity of Firm i at year t measured as Current Liabilities divided by Current Assets

LVR_{it} = Leverage of Firm i at year t measured as Total Liabilities divided by Total Assets

ROA_{it} = Return on Assets of Firm i at year t measured as Net Income divided by Total Assets

γ_0 = is the constant U_{it} = is the stochastic error term.

γ_{1-6} = are the co-efficients of the individual Firms' factors.

i = Firm i (1-96)

t = period in year (2010 - 2016)

The model was estimated using the pooled data fixed effect estimation technique. The random effect technique however could not be used based on Hausman test. This model estimated the impact of individual firms' factors on share prices.

Apriori Expectation

The researcher expects a positive relationship between ASI_t and $GDPT_t$, BRM_t , OIL_t and negative relationship with EXR_t , INF_t , INT_t in model one. The researcher expects a positive relationship between SPI_{it} and SBC_{it} , PPI_{it} , SCI_{it} in model two. The researcher expects a positive relationship between SP_{it} and EPS_{it} , DPS_{it} , LIO_{it} , $SIZE_{it}$, ROA_{it} and negative relationship with LVR_{it} . This is shown in the table below.

Variables	Aprior Expectation
EPS _{it}	+
DPS _{it}	+
ROA _{it}	+
LVR _{it}	-
LIQ _{it}	+
SIZE _{it}	+

4.0 Results and Discussions

The variables for this study include Earnings per share (EPS) Return on asset (ROA), Liquidity (LIQ), Leverage (LVR) Firm size (SIZE), dividend per share (DPS), and share price of individual firms (SP). The results obtained are presented in Tables 4.1, 4.2 and 4.3.

Descriptive Statistics

The descriptive statistic is used in this section for data exploration in order to examine the different characteristics of the individual firms' data sampled.

Table 4.1: Individual Firms' Factors Descriptive Statistics

Variables	Mean	Max	Min	Std. Dev	Jarque-Bera
EPS	1.34	26.67	-12.66	3.04	61.04(0.00)**
ROA	0.05	0.83	-0.43	1.1	23.79(0.00)**
LIQ	-1.4	7.56	0.12	0.9	35.12(0.00)**
LVR	-0.61	1.68	-2.53	0.29	25.73(0.03)**
DPS	0.7	12.93	0	1.9	96.92(0.00)**
SIZE	7.34	9.59	5.43	0.98	38.41(0.04)**
All observations	449				

Source: Computations by the author (2017)

Table 4.1 shows the mean (average) for each of the variables, their maximum values, minimum values, standard deviation and Jarque-Bera (JB) statistics (normality test). the Jarque-Bera (JB) statistics in Table 4.1 shows that all of the variables are normally distributed at 5% level of significance. This suggests that the data collected were free from bias and are reliable for drawing generalization. In examining the association among the variables, the study employed the Pearson correlation coefficient (correlation matrix) and the results are presented in Table 4.2

Pearson Correlation Matrix

The Pearson correlation matrices are used to study the extent of association among the variables and to test for the possibility of perfect relationship among variables.

Table 4.2: Individual Firms' Factors Pearson Correlation Matrix

	EPS	ROA	LIQ	LVR	DPS	SIZE
EPS	1					
ROA	0.07	1				
LIQ	-0.09	0.01	1			
LVR	0.01	-0.96	-0.05	1		
DPS	0.74	0.06	-0.1	0.01	1	
SIZE	0.59	0.22	-0.12	0.03	0.78	1

Source: Computations by researcher (2017)

Table 4.2 focuses on the correlation between individual firm factors (EPS, ROA, LIQ, LVR, DPS, SIZE). The results show that earnings per share (EPS) of the sampled firms is positive and highly associated with dividend per share (DPS) and size of the firms (SIZE) but fairly associated with returns on asset (ROA) and leverage (LVR). Also, it was observed from the result that the earnings per share (EPS) is negatively associated with liquidity (LIQ). The correlation matrices above revealed that no two explanatory variables were perfectly correlated.

Fixed Effect Pooled Regression Result

The fixed effect pooled regression result is hereby reported based on the Hausman test in Table 4.3 below:

TABLE 4.3: INDIVIDUAL FIRMS' FACTORS POOLED REGRESSION RESULT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-159.5557	91.32847	-1.747053	0.0815
EPS	6.198891	1.153808	5.372549	0
ROA	-36.19686	31.36895	-1.153907	0.2493
LIQ	2.970668	3.269254	-0.908668	0.0364
LVR	-15.03158	12.19624	-1.232477	0.2186
SIZE	25.76992	12.40445	2.077474	0.2385
DPS	3.566948	2.665982	1.337949	0.0118
R-squared	0.825459	Mean dependent var		25.42541
Adjusted R-squared	0.780352	S.D. dependent var		70.87992
S.E. of regression	33.219	Akaike info criterion		10.02628
Sum squared resid	392846.7	Schwarz criterion		10.87696
Log likelihood	-2157.901	Hannan-Quinn criter.		10.3616
F-statistic	18.30032	Durbin-Watson stat		2.071903
Prob(F-statistic)	0			

Source: Computations by the researcher (2017)

In Table 4.3, the study revealed observed that the fixed effect results show that the R-squared and adjusted R-squared values were (0.82) and (0.78). This indicates that all the independent variables jointly explain about 82% or 78% of the systematic variations in Share Price of our sampled firms over the period (2007-2013). This means that any model that includes our selected variables would be able to explain about 78% of what happens to Share Price. The F-statistics (18.30) and its p-value (0.00) show that the Share Price panel fixed regression model is generally significant at 1% levels. Following the above, it should be noted that fixed effect panel regression models provided the following results:

Earnings per share (EPS), based on the slope coefficient of 6.20 and a p-value of 0.00, it was found that earnings has a positive and significant impact on the share prices of all companies used within the period. This conforms to the findings of Iyiegbuniwe (1999) and Graves et. al. (2010)

Return on asset (ROA), based on the slope coefficient -36.20 and a p-value of 0.25, ROA has a negative and not significant impact on Share price of the all companies within this period. This does not conform to the findings of Paviz & Abolghasem (2012).

Liquidity (LIQ), the slope coefficient was 2.97 and a p-value of 0.04 shows a direct and significant relationship between the variables. This means that as the liquidity increase, an increase is expected on the share price of the companies. This does conform to the findings of Amihud & Mendelson (1985) and Archarya and Pedersen (2005).

Leverage (LVR), the slope coefficient of this variable was -15.03 with a p-value of 0.22 suggesting an inverse relationship between the dependent and independent variable but this impact is not significant. This conform to the findings of Kortweg (2004) and Penman (2007)

Firm size (SIZE), which measures the difference in capacity and strength of the sampled firms has a coefficient value of 25.77 and a p-value of 0.24. This means that there is no significant positive relationship between the share prices and the size of our sampled companies. This does not conform to the findings of Reinganum (1983), Fama and French (1992) and Dicheu (1998) but conform to the finding of Amihud (2002).

Dividend per share (DPS), has a coefficient of 3.57 and a p-value of 0.02. This shows that there is a positive relationship between dividend share and the share price and this relationship is a significant one. The implication of this is that as a company increases its dividend return to shareholders, the prices of such companies would rise alongside. This conform to the findings of Bhattacharya (1979), Brickley (1983), Miller and Rock (1985), Lazo (1999), Sen and Ray (2003), Sharma (2011) and Malhotra and Tandon (2013)

DISCUSSION OF FINDINGS

The focal point of this study is to examine the impact of individual firm factors on share prices in Nigeria. This led to the specification of a model which considered the effect at the individual firms' factors level and share price of the quoted companies using the pooled regression techniques and Hausman test model. As earlier mentioned, establishing the relationship between share prices movement and earnings per share is important for a few reasons as emphasized in the literature. The results from the model three showed that earning per share is statistically significant and positively related to the individual firms' share prices of selected quoted firms in Nigeria which is consistent with works of Iyiegbuniwe (1999), Malhorra and Tandon (2013) among others. At the same time, the result also showed that firm size in Nigeria is not statistically significant and positively related to individual firms' share prices of selected quoted firms in Nigeria. This is not consistent with the work of Fama and French (1992) and Dicheu (1998). The results also showed that return on assets and leverage are negatively related to individual firm stock prices while Earnings per share, dividend per share, liquidity and size are positively related to stock prices of individual selected firms. Earnings per share, liquidity and dividend per share are statistically significant which is consistent with works of Armstrong (1983), Iyiegbuniwe (1999) and Sharma (2011) among others. It is also consistent with the existing theories on earnings per share and share prices behavior.

5.0 CONCLUSIONS

This research work examined the impact of individual firm factors on share prices in Nigeria which led to dynamic equilibrium relationship between a group of individual firms' factors on the changes in Nigerian share prices using the pooled data model and Hausman test model.

On the average, the results from the model used in this work suggest that

1. Individual firms' factors (earnings per share, dividend per share and liquidity) have significant impact and predictive power on share prices of Nigerian firms.
2. Consequently, it is also suggested that company management in Nigeria must be mindful of the correlation between individual firms' factors and share prices to formulate company policies.

6.0 POLICY IMPLICATIONS

Given what is known from literature and support offered by preponderance of evidence the following policy implication are hereby suggested

1. Firms quoted in the Nigeria stock market should be encouraged as a policy to release and submit quarterly figures of their financial position most especially earnings information. This will make their share prices more attractive to potential and rational investors.
2. Information disclosure about firms that were quoted should be handy as provided in law. Regular disclosure of information about financial transaction should be provided at regular interval to the general public will make the share prices more attractive to potential investors and general public at large.
3. Economic activities in any given environment influence the level of growth and to a reasonable extent the economic well being to the people of that country. Share prices are important yardstick in

measuring the value of the firms operating in the system. It is also a measure of the investor worth and their stake in such firm or an industry.

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APPENDIX

**INDIVIDUAL FIRM
FACTORS POOLED
RESULT**

Dependent Variable: SP
Method: Panel Least Squares
Date: 07/23/15 Time: 22:35
Sample (adjusted): 2007 2013
Periods included: 7
Cross-sections included: 96
Total panel (unbalanced) observations: 598

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.991822	19.46206	0.5134	0.6079
EPS	6.654855	1.27392	5.22392	0
ROA	29.16936	29.04339	1.00434	0.3158
LIQ	-4.956398	2.806251	-1.7662	0.0781
LVR	0.77834	10.73396	0.07251	0.9422
SIZE	-0.062119	2.514653	-0.0247	0.9803
DPS	16.82848	2.055516	8.18699	0
R-squared	0.556611	Mean dependent var		25.42541
Adjusted R-squared	0.550592	S.D. dependent var		70.87992
S.E. of regression	47.5164	Akaike info criterion		10.57549
Sum squared resid	997951.1	Schwarz criterion		10.63952
Log likelihood	-2367.198	Hannan-Quinn criter.		10.60073
F-statistic	92.47794	Durbin-Watson stat		0.526162
Prob(F-statistic)	0			

FIXED EFFECT RESULT

Method: Panel Least Squares
Date: 07/23/15 Time: 22:37
Sample (adjusted): 2007 2013
Periods included: 7
Cross-sections included: 96
Total panel (unbalanced) observations: 598

	Coefficient	Std. Error	t-Statistic	Prob.
C	-159.5557	91.32847	-1.747053	0.0815
EPS	6.198891	1.153808	5.372549	0
ROA	-36.19686	31.36895	-1.153907	0.2493
LIQ	-2.970668	3.269254	-0.908668	0.3641
LVR	-15.03158	12.19624	-1.232477	0.2186
SIZE	25.76992	12.40445	2.077474	0.0385
	3.566948	2.665982	1.337949	0.1818

Effects Specification

Cross-section fixed (dummy variables)

	0.825459	Mean dependent var		25.4254
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Adjusted R-squared	0.780352	S.D. dependent var	70.8799
S.E. of regression	33.219	Akaike info criterion	10.0263
Sum squared resid	392846.7	Schwarz criterion	10.877
Log likelihood	-2157.901	Hannan-Quinn criter.	10.3616
F-statistic	18.30032	Durbin-Watson stat	1.0719
	0		

RANDOM EFFECT RESULT

Dependent Variable: SP
Method: Panel EGLS (Cross-section random effects)
Date: 07/23/15 Time: 22:38
Sample (adjusted): 2007 2013
Periods included: 7
Cross-sections included: 96
Total panel (unbalanced) observations: 598
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.05107	31.1309	-0.4192	0.6753
EPS	7.557116	1.04609	7.22417	0
ROA	-27.84623	27.8844	-0.9986	0.3185
LIQ	-3.930881	2.76164	-1.4234	0.1553
LVR	-9.258834	10.8146	-0.8561	0.3924
SIZE	4.468417	4.16936	1.07173	0.2844
DPS	11.84367	1.96962	6.01318	0

Effects Specification

	S.D.	Rho
Cross-section random	33.2831	0.501
Idiosyncratic random	33.219	0.499

Weighted Statistics

R-squared	0.296284	Mean dependent var	10.0185
Adjusted R-squared	0.286732	S.D. dependent var	40.414
S.E. of regression	34.14693	Sum squared resid	515378
F-statistic	31.01576	Durbin-Watson stat	0.93402
Prob(F-statistic)	0		

Unweighted Statistics

R-squared	0.535478	Mean dependent var	25.4254
Sum squared resid	1045517	Durbin-Watson stat	0.46041

HAUSEMAN TEST

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		30.4406	6	0
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
EPS	6.198891	7.55712	0.23697	0.0053
ROA	-36.196856	-27.846	206.471	0.5611
LIQ	-2.970668	-3.9309	3.06137	0.5831
LVR	-15.031584	-9.2588	31.7928	0.3059
SIZE	25.769919	4.46842	136.487	0.0683
DPS	3.566948	11.8437	3.22807	0
Cross-section random effects test equation:				
Dependent Variable: SP				
Method: Panel Least Squares				
Date: 07/23/15 Time: 22:39				
Sample (adjusted): 2007 2013				
Periods included: 7				
Cross-sections included: 96				
Total panel (unbalanced) observations: 598				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-159.5557	91.3285	-1.7471	0.0815
EPS	6.198891	1.15381	5.37255	0
ROA	-36.19686	31.369	-1.1539	0.2493
LIQ	-2.970668	3.26925	-0.9087	0.3641
LVR	-15.03158	12.1962	-1.2325	0.2186
SIZE	25.76992	12.4045	2.07747	0.0385
DPS	3.566948	2.66598	1.33795	0.1818
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.825459	Mean dependent var		25.4254
Adjusted R-squared	0.780352	S.D. dependent var		70.8799
S.E. of regression	33.219	Akaike info criterion		10.0263
Sum squared resid	392846.7	Schwarz criterion		10.877
Log likelihood	-2157.901	Hannan-Quinn criter.		10.3616
F-statistic	18.30032	Durbin-Watson stat		1.0719
Prob(F-statistic)	0			