

Aveh, Felix Kwame; Awunyo-Vitor, Dadson

**Article**

## Firm-specific determinants of stock prices in an emerging capital market: Evidence from Ghana Stock Exchange

Cogent Economics & Finance

**Provided in Cooperation with:**

Taylor & Francis Group

*Suggested Citation:* Aveh, Felix Kwame; Awunyo-Vitor, Dadson (2017) : Firm-specific determinants of stock prices in an emerging capital market: Evidence from Ghana Stock Exchange, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 5, Iss. 1, pp. 1-11,  
<https://doi.org/10.1080/23322039.2017.1339385>

This Version is available at:

<https://hdl.handle.net/10419/194694>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>



Received: 20 March 2017  
Accepted: 02 June 2017  
First Published: 09 June 2017

\*Corresponding author: Felix Kwame Aveh, Department of Accounting, Finance, Economics and Research, Ghana Institute of Management and Public Administration (GIMPA), Achimota, Accra, Ghana  
E-mail: [faveh@gimpa.edu.gh](mailto:faveh@gimpa.edu.gh)

Reviewing editor:  
David McMillan, University of Stirling, UK

Additional information is available at the end of the article

## FINANCIAL ECONOMICS | RESEARCH ARTICLE

# Firm-specific determinants of stock prices in an emerging capital market: Evidence from Ghana Stock Exchange

Felix Kwame Aveh<sup>1\*</sup> and Dadson Awunyo-Vitor<sup>2</sup>

**Abstract:** This study seeks to examine the influence of firm-specific determinants of stock prices in an emerging market with particular reference to firms listed on the Ghana Stock Exchange. The study employs a data-set from all listed firms on the Ghana Stock Exchange from 2008 to 2014. The study used panel regression analysis to analyse the data. In general, the study found that accounting information, specifically earning per share, return on equity, book value and market capitalization of the firms, is relevant in explaining stock prices after the adoption of International Financial Reporting Standards (IFRS) in Ghana. This study contributes to the ongoing debate on the firm-specific factors influencing share price in an emerging market with particular reference to Ghana Stock Exchange. It is recommended that the Directors of the firms listed on the Ghana Stock Exchange introduce policies which would have a positive impact on their return on equity and earnings per share to significantly influence their stock prices positively.

**Subjects:** Statistics for Business, Finance & Economics; Econometrics; Development Economics

**Keywords:** accounting information; market price of share; panel data analysis; Ghana Stock Exchange

### ABOUT THE AUTHOR

Dadson Awunyo-Vitor is a fellow of Association of Chartered Certified Accountant (ACCA), UK and a member of Institute of Chartered Accountant (ICA) Ghana, and Chartered Institute of Taxation (CIT) Ghana. Dadson obtained his MSc and PhD degrees from University of London and University of Ghana, respectively. He had his bachelor's degree from University of Science and Technology, Kumasi. He has also completed the professional certificate course in security trading and investment analysis at the Ghana Stock Exchange. Currently, Dadson is the director of the Institute of Local Government Studies (ILGS), Accra.

### PUBLIC INTEREST STATEMENT

Since the year 2007, Ghana has adopted International Financial Reporting Standards (IFRS) which requires that all companies present financial statement in line with IFRS. This is expected to improve information provision and investors' understanding of operations of the entities and consequently performance of the firms. The improvements in the performance of the firm-specific variables are expected to reflect in the prices of their stocks. This study thus assesses the effect of firm-specific characteristics on the stock prices of firms listed on the Ghana Stock Exchange. Pool Ordinary Least Square (POLS) regression was used to analyse the Panel data collected from Ghana Stock Exchange covering the period 2008–2014.

The major factors which influence share prices are return on asset (RoA), earning per share (EPS), book to market value (BMV) of the shares and the level of market capitalization (Size). Thus, investors interested in investing in stocks on Ghana Stock Exchange should monitor the performance of these variables before making decisions on their portfolio composition.

## 1. Introduction

The literature defines value relevance as the ability of accounting data to summarize and capture information that affects the market value of companies. The ability of financial statement information to capture or summarize information that affects share values is referred to as value relevance. In this case, prices of equity are used as the proxy for the value of a company. Thus, value relevance studies measure the usefulness of accounting information from the perspective of equity investors (Beisland, 2009).

The financial statement information is obtained from annual reports of companies, whereas the stock prices are obtained from the capital markets. Empirical studies into accounting information started with the pioneering work of Ball and Brown (1968). Their study instituted the tradition of empirical capital market research in accounting that continues to this day. They were the first to provide convincing scientific evidence that firms' share returns respond to the information content of their financial statement. Since then, several studies have been conducted to test the relationship that accounting information bears to stock prices.

There are at least four sources of demand for capital market research in accounting that explains its popularity: (i) fundamental analysis and valuation; (ii) tests of capital market efficiency; (iii) role of accounting in contracts and in the political process; and (iv) disclosure regulation (Kothari, 2001). Three types of research are successively considered: (1) studies of the market reaction to the release of new accounting information that analyse the stock price impact of accounting disclosures in order to determine whether these are useful to market participants; (2) studies of the long-term association between stock returns and accounting ratios, which examine the extent to which the information conveyed by accounting figures is consistent with that reflected in stock prices; and (3) complementary studies devoted to the use of accounting data by investors and to the influence of market considerations on accounting choices (Dumontier, 2002).

The theoretical basis for the capital market research studies is premised on the theory of Efficient Capital Market (EMH). A capital market is said to be efficient when current prices fully reflect all available information (Ross, Westerfield, & Jordan, 2010). According to the EMH, stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase undervalued stocks or sell stocks at inflated prices. As such, it should be impossible to outperform the overall market through expert stock selection or market timing, and that the only way an investor can possibly obtain higher returns is by purchasing riskier investments.

Generally, accounting information plays a key role in stock prices. This implies that the accounting standard used would influence the accounting information presented on the financial statement of the companies, which would ultimately influence the investors' decisions and consequently stock prices. In this vein, the adoption of international accounting standards and international financial reporting would influence the firm-specific information and their stock prices.

In Ghana, financial reporting was regulated by the Ghana Accounting Standards until 2007 when the Internal Accounting Standard was adopted. The Securities and Exchange Commission of Ghana regulates listed entities under the Stock Exchange Act (1971) and the Listing Regulations (1990). Listed companies are required to comply with SEC-Ghana's financial reporting requirements.

Several studies have been conducted across developed economies to test whether adopting International Financial Reporting Standards (IFRS) improves accounting information quality and hence its ability to explain the value of a company. For example, Hung and Subramanyam (2004) studied the effects of International Accounting Reporting Standards adoption on financial statement preparation using Germany as a case study. Paananen (2008) also investigated how IFRS adoption affects accounting quality in Sweden. Armstrong, Barth, Jagolinzer, and Riedl (2010) investigated market reaction to IFRS in the European Union. Iatridis (2010) also examined IFRS adoption and quality of financial statement information in the UK.

Most of these studies were conducted in developed capital markets and in countries that had well-developed financial accounting reporting standards. Ghana's capital market is quite different from the developed markets where most of the research was carried out. An assessment made by the international organization for securities commission found that Ghana's capital market is too closed. Their assessment implies investors and capital market players do not have access to information. Bawumia, Owusu-Danso, and McIntyre (2008) observed that Ghana's capital market was illiquid and underdeveloped, only few households participated in trading activities and that trading is concentrated on only a few securities. Again Ghana's capital market is low in capitalization. The Ghana Stock Exchange has enjoyed a tax holiday, yet total capitalization of the stock market has not met the country's expectation (Government of Ghana [GoG], 2012).

Ghana adopted IFRS in 2007 and this has provided research opportunities to investigate whether the IFRS adoption has led to an improvement in the quality of financial information, and consequently had a significant effect on the stock prices. The current study extends this line of enquiry into an emerging market, specifically Ghana Stock Exchange, to examine the effect of firm-specific information on the market price of stock after the adoption of IFRS.

## 2. Literature review

### 2.1. Accounting information and company value

Information is considered "value relevant" if stock price movements are associated with the release of such information (Soewarno & Utami, 2010). Empirical studies into accounting information started with the pioneering work of Ball and Brown (1968). They were the first to provide convincing scientific evidence that firms' share return responds to the information content of financial statements. Since then, several studies have been conducted to test the relationship accounting information bears to stock prices.

Chen, Chen, and Su (2001) explored whether accounting information is value relevant to domestic investors in the A-share market and whether accounting information in China varies in a predictable manner with respect to stock prices. The authors used the regression model to examine the effects of firm-specific characteristics on stock prices on both the Shanghai and Shenzhen Stock Exchanges. Their results revealed that accounting information, as reflected in the income statement and the balance sheet, is value relevant to domestic investors on the Chinese stock market. Specifically, the authors found that accounting earnings are less important in determining stock prices.

In a related research, Abuzayed, Molyneux, and Al-Fayoumi (2009) investigated whether accounting information is useful in determining stock prices, using 15 listed commercial banks in Jordan between 1993 and 2004. Based on their regression results, it was found that earnings, as well as bank operational efficiency measures, are value relevant in explaining the variation in market prices of the stock over the period.

Perera and Thrikawala (2010) addresses the relevance of accounting information on investors' stock market decisions in commercial banks registered under Colombo Stock Exchange (CSE) in Sri Lanka. Based on their regression results, the authors found that there was a relationship between accounting information and market price per share. Further, it revealed that investors still considered accounting information (which is contained in the published financial statements of commercial banks registered under CSE) for the stock market decisions in Sri Lanka confirming value relevance of accounting information in an emerging market.

Soewarno and Utami (2010) examined the significance of accounting information in explaining market and book values using Indonesian banks as a case study. Regressing stock prices (as proxy for market value) against the banks' accounting information (earnings, risk and cost efficiency), they concluded that earnings had a significantly positive influence on stock price and risk contributed to market value. Whereas earnings and risk were found to have some influence, cost efficiency had a

negative influence. The conclusion supported the view that accounting information is important in explaining the gap between market and book values.

## 2.2. Overview of the Ghana Stock Exchange

The Ghana Stock Exchange is an emerging capital market that was incorporated in July 1989 as a private company limited by guarantee under Ghana's Companies Code, 1963 (Act 179). The Exchange was given recognition as an authorized stock exchange under the Stock Exchange Act of 1971 (Act 398) in October 1990, and trading on the floor of the Exchange commenced in November 1990. In April 1994, it converted into a public company limited by guarantee.

The GSE – Composite Index (GSE-CI) recorded a year to date gain of 78.81% ending the year 2013 with 2,145.20 points while the GSE – Financial Stock Index (GSE-FSI) recorded a return of 71.81% ending the year with 1,784.05 points. The return on index recorded on the Ghana Stock Exchange for the year 2013 makes the exchange one of the best performing stock markets in sub-Saharan Africa. The GSE-CI and the GSE-FSI recorded a return of 23.81 and 20.94% in December 2012.

Market capitalization of listed securities at the end of December 2013 was Gh¢61,158.29 million compared to the December 2012 end figure of Gh¢57,264.22 million, an increase of 6.80%. Domestic market capitalization recorded a 76.68% increase ending December 2014 with Gh¢11,694.93 compared to Gh¢6,753.14 recorded for the same period in 2012. This clearly shows that there were more price increases in the primary listings on the market.

Market turnover in 2013 was positively impacted by the increased activities on the floor of the exchange. Volume of shares traded for the year stood at 313 million shares valued at Gh¢456.14 million. This represents a significant 143.5 and 446% over the volume and value of 218 million shares and Gh¢102.19 million, respectively, recorded at the end of December 2012.

## 2.3. Methodology

The study is based on secondary data. Stock prices and published accounts of companies are the main data used for the study. Panel data methodology was employed to achieve the objective of the study. Data were sourced from all the firms listed on the Ghana Stock Exchange covering the period from 2008 to 2014. The data were extracted from the audited annual financial statement of the listed companies as well as the Fact Book of the Ghana Stock Exchange. A panel regression procedure was adopted. In panel regression, the three different types of models that may be used are pooled data, Ordinary Least Square (OLS), fixed effect, and the random effect model. With the fixed effect model, time effect, or group effect or both are represented in the model with a dummy variable. This model can be mathematically presented as

$$Q_{it} = \beta + \delta_1 d_1 + \delta_2 d_2 + \dots + \delta_{n-1} d_{n-1} + x_{it} + \mu_{it} \quad (1)$$

where the group effect is represented by dummy variable  $d_1, d_2, \dots, d_{n-1}$  with  $n$  number of groups;  $\beta$  the intercept, while  $x_{it}$  is a vector of predictors for company  $i$  at time  $t$  and  $\mu_{it}$  is the error term. It is also assumed that the error term is  $\mu_{it} \sim N(0, \sigma^2)$ . The  $F$ -test can be used to test the significance of the group effect in this model. Also, the time effect model can be obtained using the dummy variables in the Equation (2).

$$Q_{it} = \beta + \varepsilon_i + T_t \dots x_{it} \alpha + \mu_{it} \quad (2)$$

In addition, the model for fixed time and group effect can be obtained by including dummy variables in the above Equation. In Equation (2),  $\varepsilon_i$  and  $T_t$  present the  $i$  group or company effect and the  $T$ th time effect, respectively. The rest of the items are as in the Equation (1).

For the random effect model, the variability or the decomposition is separated into group effect, time effect and error term. This method or model explores the differences in error variances. The functional form of the random group effect model can be presented as:

$$Q_{it} = \beta + x_{it}^T \alpha + \epsilon_i + \mu_{it} \tag{3}$$

where

$$\epsilon_i \sim N(0, \sigma_g^2) \text{ and } \mu_{it} \sim N(0, \sigma^2)$$

Given the following functional form as:

$$Q_{it} = \beta + x_{it}^T \alpha + \epsilon_i + v_t + \mu_{it} \tag{4}$$

where

$$\epsilon_i \sim N(0, \sigma_g^2) \text{ and } v_t \sim N(0, \sigma_T^2) \mu_{it} \sim N(0, \sigma^2)$$

In the random effect model, the Lagrange Multiplier (LM) test can be used to test whether variance components are equal to zero (Greene, 2012) with the following hypothesis:

$$H_0: \sigma_g^2 = 0, \text{ variance components of group effect are equal to zero.}$$

$$H_1: \sigma_g^2 \neq 0, \text{ variance component of group effect is not equal to zero.}$$

The test statistics for the above hypothesis can be mathematically represented as:

$$LM_g = \frac{nT}{2(T-1)} \left[ T^2 \frac{e_g^T e_g}{e^T e} \right]^2 \sim \chi_{(i)}^2 \tag{5}$$

$$H_0: \sigma_T^2 = 0, \text{ variance components of time effect are equal to zero.}$$

$$H_1: \sigma_T^2 \neq 0 \text{ variance components of time effect are not equal to zero.}$$

Test statistics

$$LM_T = \frac{nT}{2(n-1)} \left[ n^2 \frac{e_T^T e_T}{e^T e} \right]^2 \sim \chi_{(i)}^2 \tag{6}$$

where  $e_g$  the  $n \times 1$  vector of the group-specific means of residuals of the pooled regression model,  $e_g^T e_g$  the error sums of square and  $e_T$  is the  $T \times 1$  vector of time-specific means of pooled regression residuals. In order to select the appropriate functional form or the estimation procedure, the study used the Hausman test with the following hypothesis:

$$H_0: E(\mu|x) = 0, \text{ there is a correlation between individual random effect and explanatory variable}$$

$H_1: E(\mu|x) \neq 0$ , there is no correlation between individual random effect and explanatory variable where  $\mu$  is the unobserved heterogeneity and  $x$  is the explanatory variables. If the test shows a correlation between the individual random effect and the explanatory variables (if the null hypothesis is rejected), then it can be concluded that the fixed effect estimator is consistent and efficient as compared with the random effect estimated coefficient (Hausman & Taylor, 1981). If the null hypothesis is not rejected, then it implies the random effect estimator is consistent and efficient. Furthermore, the Breusch–Pagan Lagrange multiplier (LM) test could be used to assess the preferred model between random effect model and the simple OLS model.

The study used the Hausman test to determine whether to use a fixed effect or a random effect model. The Hausman test basically tests whether the unique errors ( $u_i$ ) are correlated with the regressors. Also, Breusch–Pagan Lagrange multiplier (LM) test was undertaken to decide between the

random effect model and pool OLS model. The null hypothesis of the LM test is that the variances across the firms used in the study are zero and the alternative hypothesis is that the variances across the firms used in the study are not zero.

The study adopted and revised the model used by Al-Omar and Al-Mutairi (2008) and Somoye, Akintoye, and Oseni (2009) to examine the relationship between the firm-specific factors influencing stock prices on the Ghana Stock Exchange. The model is specified as follows:

$$MP_{it} = \alpha + X'_{it}\beta + \varepsilon_{it} \tag{7}$$

where  $MP_{it}$  = market price of stock;  $\alpha$  = the intercept;  $\beta_i$  = coefficient;  $X_{it}$  = the independent variables that comprises internal factors and control variables of firm  $i$  at time  $t$ ; and  $\varepsilon$  = error term.

Specifically, the relationship between stock prices and the firm-level accounting ratio has been modelled below.

$$MP_{it} = \alpha + \beta_1EPS_{it} + \beta_2DC_{it} + \beta_3DY_{it} + \beta_4BV_{it} + \beta_5RoE_{it} + \beta_6LEV_{it} + \beta_7SIZE(\ln MaCap)_{it} + \mu_{it} \tag{8}$$

Table 1 presents the variables and their description.

From Table 1, it is expected that the relationship between earning per share, dividend per share, book value of share and return on equity should have a positive relationship with the market price of shares. This is because, as these variables increase, investors would be seeking to purchase these companies' shares and current shareholders would be unwilling to sell. This would result in demand for the shares outstripping the supply, thereby putting pressure on the market price of shares to increase. However, the dividend yield and leverage of the firm are expected to have an inverse relationship with the market price of shares. This is because, as the debts of the firm increase, the investors will be sceptical about purchasing their shares and the existing shareholders will be wanting to dispose their shares as interest needs to be paid before dividends are declared, revealing a possibility of a decrease in the benefit to the shareholders. This would result in a low demand and a ready supply of the shares leading to the inverse relationship between these variables and the dependent variable.

The study assessed the existence of unit roots in the data series using Im, Pesaran and Shin (IPS), which is based on the well-known Dickey–Fuller procedure. Generally, Im, Pesaran and Shin starts with the specification of a separate ADF regression for each cross-section with individual effects and no time trend as follows:

**Table 1. Variables and their description**

Symbol	Description	Expected sign
MPS	Market price of share as at 31st December each year	
EPS	Earnings per share	+
DS	Dividend per share	+
DY	Dividend yield	-
BVS	Book value of a share	+
ROE	Return on equity	+
LEV	Leverage of the firm	-
SIZE (LnMaCap)	Market capitalization	+

$$\Delta y_{it} + \beta_i + \rho_i y_{it-1} + \sum_{j=1}^{\rho_i} \gamma_{ij} \Delta y_{it-j} + \mu_{it} \quad (9)$$

where  $i = 1, \dots, N$  and  $t = 1, \dots, T$

The test is based on the augmented Dickey–Fuller (ADF) statistics average across groups. It also uses separate unit root tests for the  $N$  cross-section units (firms). After estimating the separate ADF regressions, the average of the  $t$ -statistics for  $\rho_i$  from the individual ADF regressions,  $t_{iT,(\rho_i)}$ , is determined as follows

$$\bar{t}_{NT} = \frac{1}{N} \sum_{i=1}^N t_{iT,(\rho_i)} \quad (10)$$

The  $t$ -bar is then standardized and it is shown that the standardized  $t$ -bar statistic converges to the standard normal distribution as  $N$  and  $T \rightarrow \infty$ . The model was estimated with the help of STATA software.

### 3. Results and discussion

#### 3.1. Identification of the appropriate model

The Hausman fixed random test was undertaken to identify the preferred model from the choice of fixed and random effect models. The result of the test gave Prob.  $> \chi^2 = 0.8521$ , which is greater than 0.05, hence the test is insignificant. Thus, we failed to reject the null hypothesis that the random effect model is the preferred model. The results of the Breusch–Pagan Lagrange multiplier (LM) test to identify the preferred model from the choice of random effect model and Pooled Ordinary Least Square (OLS) model gave a  $p$ -value of 0.4350, which is greater than 0.05. Hence, the study failed to reject the null hypothesis and we conclude that the random effect model is not appropriate as the result reveals no significant difference across firms used in the study. Therefore, OLS regression was used to analyse the data.

#### 3.2. Panel unit root test result

The data were checked for the presence of unit root using the Im, Pesaran and Shin (IPS), which is based on the well-known Dickey–Fuller procedure. The null hypothesis for these tests is that there is a presence of non-stationary series against the alternative hypothesis of stationary series.

The unit root test is important because non-stationary series regression estimation leads to spurious regression estimations with the wrong magnitude and sign of the parameter of the regressors, with wrongly inferred implications. The study assumes an absence of a time trend, hence it is tested for stationarity allowing for constant only.

Based on the result, the study failed to reject the null hypothesis of a panel unit root in the level of the series and concludes that the variables are non-stationary at level. Hence, the first difference was taken for the variables and the IPS test was undertaken for the two models, respectively. Table 2 presents the results of the IPS test. Based on the result, the null hypothesis is rejected.

#### 3.3. Descriptive statistics

The study employs a data-set from all listed firms on the Ghana Stock Exchange for the period of 2008 to 2014. Table 3 presents a detailed description of the summary statistics of the variables used in the regression analysis.



**Table 2. Panel unit root test – Im, Pesaran and Shin (IPS)**

Variable	Level	First order difference
EPS	-0.91881 (0.9134)	-3.41107*** (0.0000)
DS	-1.41785 (0.5855)	-3.18335*** (0.0001)
DY	-2.04370 (0.8992)	-2.45102** (0.0167)
BMVS	-2.00984 (0.1268)	-2.97749*** (0.0004)
ROE	-1.41774 (0.5854)	-3.18347*** (0.0001)
LEV	-2.04361 (0.8981)	-2.45103** (0.0167)
SIZE (LnMaCap)	-2.00774 (0.1268)	-2.97638*** (0.0002)

\*\*Indicates level of significance at 5%.

\*\*\*Indicates level of significance at 1%.

The minimum, maximum, mean and standard deviation values of the variables are presented in Table 3. The minimum and maximum values for market price of shares (MPS) in Ghana Cedis are 0.0276 and 47.36, respectively, with a standard deviation of 39.8723. This suggests that a wide variation exists between prices of shares traded on the Ghana Stock Exchange. Maximum earnings per share (EPS) recorded for the period is Gh¢2.942 with zero as a minimum EPS as some of the companies made a loss during the period. The standard deviation of 0.958 suggests that there is little variation among the EPS of shares traded on the Ghana Stock Exchange for the period.

With regard to measurement related to dividend policy variables (i.e. dividend per share and dividend yield), there is a relatively large difference in the maximum and minimum of the two variables; for dividend per share, the maximum and minimum values are 0.1289 and zero, respectively. Dividend yield also gave 0 and 11.328 as minimum and maximum values, respectively. Both measurements gave a standard deviation of 0.02458 and 4.3251, respectively. This result suggests that dividend pay outs vary largely among the firms listed on the exchange. Also, the mean book value and return on equity are Gh¢8.3487 and Gh¢0.4569, respectively, with the highest and lowest book values being Gh¢9.78921 and Gh¢0.8147 while return on equity has a minimum of zero (because some of the firms declared losses within the period) and a maximum value of Gh¢0.7920.

The average value of leverage of firms listed on the Ghana Stock Exchange is 0.5782 with a standard deviation of 0.28934. This means that the majority of the firms listed on the exchange have relatively similar leverage. The highest and lowest leverage values of the firms listed on the Ghana Stock Exchange were 0.9200 and 0.32014, respectively.

### 3.4. Correlation matrix

In order to detect the possibility of a multicollinearity, a correlation matrix was constructed. The result of the correlation matrix is presented in Table 4. This is used to infer the extent of correlation

**Table 3. Descriptive statistics of variables**

Variable	Mean	Standard deviation	Minimum	Maximum
MPS	2.204	12.872	0.026	17.360
EPS	1.334	0.958	0.000	2.989
DS	0.235	0.024	0.000	0.128
DY	0.058	4.325	0.000	11.328
BMVS	6.348	5.938	0.8147	9.789
ROE	0.456	0.2845	0.000	0.792
LEV	0.578	0.129	0.320	0.920
SIZE (LnMaCap)	2.942	1.230	0.324	3.458

among the variables studied. Dury (2008) asserts that multicollinearity of 70% and above between two variables is usually a cause for concern. In the current study, the maximum correlation coefficient is 44% between dividend yield and dividend per share (Table 4). This might be attributed to the fact that both variables act as a proxy for dividend policy. However, Hussainey, Mgbame, and Chijoke-Mgbame (2011) has employed the two measures of dividend policy simultaneously to examine how each of the variables influences share prices.

### 3.5. Firm-specific determinants of market price of shares

The results of the estimated Pool Ordinarily Lease Squared models for firms listed on the Ghana Stock Exchange for a period of 2005–2013 are presented in Table 5. In order to control for heteroskedasticity, the POLS was run with robust standard errors. The base model POLS in Table 4 gave an  $R^2$  of 0.745, which indicates that the explanatory variables presented in the model would explain about 75% of the variation in the prices of the shares of listed firms on the Ghana Stock Exchange, and can be explained by the variable included in the model. The  $p$ -value of the  $F$ -test was also significant at 1% level, which leads to the acceptance of the alternative hypothesis that states that all coefficients of the variables in the model are jointly not equal to zero. Hence, at least one of the explanatory variables has a coefficient that is significantly different from zero. Out of the seven independent variables, five are statistically significant. The coefficients of four of the variables (earning per share, book

**Table 4. Correlation matrix for the variables**

Variables	MPS	EPS	DS	DY	BMVS	ROE	LEV	SIZE
MPS	1.000							
EPS	0.167	1.000						
DS	0.492	0.134	1.000					
DY	0.320	0.345	0.440	1.000				
BMVS	0.334	0.257	0.254	0.345	1.000			
ROE	0.047	0.201	0.028	0.247	0.078	1.000		
LEV	0.285	0.368	0.125	0.430	0.245	0.423	1.000	
SIZE (LnMaCap)	0.087	0.049	0.236	0.048	0.402	0.044	0.433	1.000

**Table 5. Results of the pool OLS regression**

Variables	POLS	
	Coefficient	t-statistics
EPS	9.240***	3.678
DS	-0.362	-0.072
DY	-4.861***	-7.621
BVS	0.967***	4.868
ROE	1.302***	3.418
LEV	-0.144	-0.278
SIZE (LnMaCap)	0.128***	2.978
Constant	-0.956	-3.272
$R^2$	0.745	
$F$ -Test $p$ -Value	0.000	

Source: The coefficient (t-statistics) for the variables EPS, BVS, RoE and LnMaCap is 9.240 (3.675), 0.967 (4.868), 1.302 (3.418) and 0.128 (2.978), respectively, at 1%. Thus, the alternative hypothesis is accepted in favour of the null hypothesis for these variables. This has documented a positive effect for these variables on share price. The finding is consistent with results from Irfan and Nishat (2002), Khan, Aamir, Qayyum, Nasir, and Khan (2011), as well as Okafor and Mgbame (2011).

\*\*\*Indicates level of significance at 1%.

value of share, return on equity and Log of market capitalization) exhibit a positive and significant relationship with the market price of shares. The coefficient of the variables EPS, BVS ROE and market capitalization is positive, while the coefficient of DS and DY exhibits a negative relationship with the dependent variable, share market price.

Thus, the study revealed that increasing return on equity, improvement in earnings per share and size of the firm in terms of market capitalization are likely to improve the market price of the share. This suggests that upward adjustment in these variables would lead to an increase in market price of the shares. The coefficient of the variable dividend yield exhibits a negative relationship with the market price of the share and the result is significant at 1% level. This result is consistent with the findings of Baskin (1989) and Okafor and Mgbame (2011). This result implies that the investors are not moved by the dividend decision of the company.

#### 4. Conclusions and recommendations

This study examines the firm-specific determinants of stock prices on the Ghana Stock Exchange after the adoption of IFRS and successfully recognizes the key factors that influence the market price of shares traded on the GSE in the framework of emerging and developed markets after the adoption of IFRS. The empirical findings revealed a positive and significant relationship between ROE, EPS, BMVS and market capitalization suggesting that these variables are major determinants of the market price of shares on the Ghana Stock Exchange. However, a significant negative relationship was found between the market price of shares and dividend yield. This suggests that dividend decisions are not critically important in influencing the market price of shares. The study acts as a guide to potential investors on the Ghana Stock Exchange to focus on the factors discussed above before making investment decisions.

The study recommends that those interested in investing in stocks listed on the GES should monitor the performance of specific variables (earning price ratio; book to market value; return on equity; and market capitalization of the firm) before making a decision to expand their portfolio. Furthermore, the listed companies should focus their attention on improving the figures related to the significant variables that affect the market price of shares. As Ghana has adopted IFRS and it is also an emerging economy, this study will help investors in making rational decisions with regard to their stock portfolio.

#### Funding

The authors received no direct funding for this research.

#### Author details

Felix Kwame Aveh<sup>1</sup>

E-mail: [faveh@gimpa.edu.gh](mailto:faveh@gimpa.edu.gh)

ORCID ID: <http://orcid.org/0000-0002-2263-8481>

Dadson Awunyo-Vitor<sup>2</sup>

E-mail: [awunyovitor@gmail.com](mailto:awunyovitor@gmail.com)

<sup>1</sup> Department of Accounting, Finance, Economics and Research, Ghana Institute of Management and Public Administration (GIMPA), Achimota, Accra, Ghana.

<sup>2</sup> Faculty of Agriculture, Department of Agricultural Economics, Agribusiness and Extension, College of Agriculture and Natural Resources, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

#### Citation information

Cite this article as: Firm-specific determinants of stock prices in an emerging capital market: Evidence from Ghana Stock Exchange, Felix Kwame Aveh & Dadson Awunyo-Vitor, *Cogent Economics & Finance* (2017), 5: 1339385.

#### References

Abuzayed, B., Molyneux, P., & Al-Fayoumi, N. (2009). Market value, book value and earnings: Is bank efficiency a missing link? *Managerial Finance*, 35, 156–179. <https://doi.org/10.1108/03074350910923491>

AL-Omar, H., & AL-Mutairi, A. (2008). Bank-specific determinants of profitability: The case of Kuwait. *Journal of Economic and Administrative Sciences*, 24, 20–34.

Armstrong, C. S., Barth, M. E., Jagolinzer, A. D., & Riedl, E. J. (2010). Market reaction to the adoption of IFRS in Europe. *The Accounting Review*, 85, 31–61.

<https://doi.org/10.2308/accr.2010.85.1.31>

Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6, 159–178. <https://doi.org/10.2307/2490232>

Baskin, J. (1989). Dividend policy and the volatility of common stock. *The Journal of Portfolio Management*, 15, 19–25. doi:10.3905/jpm.1989.409203

Bawumia, M., Owusu-Danso, T., & McIntyre, A. (2008). Ghana's reforms transform its financial sector. *IMF Survey Magazine: Countries & Regions*. Retrieved from <http://www.imf.org/external/pubs/ft/survey/so/2008/CAR052208A.htm>

Beisland, L. A. (2009). A review of the value relevance literature. *The Open Business Journal*, 2, 7–27.

Chen, C. J. P., Chen, S., & Su, X. (2001). Is accounting information value-relevant in the emerging Chinese stock market? *Journal of International Accounting, Auditing & Taxation*, 10, 1–22. [https://doi.org/10.1016/S1061-9518\(01\)00033-7](https://doi.org/10.1016/S1061-9518(01)00033-7)

Dumontier, P. (2002). Accounting and capital markets: A survey of the European evidence. *The European Accounting Review*, 11, 119–151.

<https://doi.org/10.1080/09638180220124761>

- Dury, C. (2008). *Management and cost accounting*, Cengage Learning EMEA USA (pp. 251–253).
- Government of Ghana. (2012). *Budget statement for 2013 fiscal year*, Accra, p. 55.
- Greene, W. (2012). *Econometric analysis* (5th ed.). Prentice Hall.
- Hausman, J. A., & Taylor, E. W. (1981). Panel data and unobservable individual effect. *Econometrica*, 49, 1377–1398.
- Hung, M., & Subramanyam, K. R. (2004). *Financial statement effects of adopting international accounting standards: The case of Germany* (Working Paper). Los Angeles, University of Southern California.
- Hussainey, K., Mgbame, C. O., & Chijoke-Mgbame, A. M. (2011). Dividend policy and share price volatility: UK evidence. *The Journal of Risk Finance*, 12(1), 57–68.
- Iatridis, G. (2010). International financial reporting standards and the quality of financial statement information. *International Review of Financial Analysis*, 19, 193–204. <https://doi.org/10.1016/j.irfa.2010.02.004>
- Irfan, C. M., & Nishat, M. (2002). Key fundamental factors and long-run price Changes in an emerging market – A case study of karachi stock exchange (KSE). *The Pakistan Development Review*, 41, 517–533.
- Khan, K. I., Aamir, M., Qayyum, A., Nasir, A., & Khan, M. I. (2011). Can dividend decisions affect the stock prices: A case of dividend paying companies of KSE. *Journal of Finance and Economics*, 76, 67–74.
- Kothari, S. P. (2001). Capital markets research in accounting. *Journal of Accounting and Economics*, 31, 105–231. [https://doi.org/10.1016/S0165-4101\(01\)00030-1](https://doi.org/10.1016/S0165-4101(01)00030-1)
- Okafor, C. A., & Mgbame, C. O. (2011). Dividend policy and share price volatility in Nigeria. *Jorind*, 9, 202–210.
- Paananen, M. (2008). *The IFRS adoption's effect on accounting quality in Sweden* (Working paper). University of Hertfordshire.
- Perera, R. A. A. S., & Thrikawala, S. S. (2010). *An empirical study of the relevance of accounting information on investor's decisions*. Sri Lanka: ICBI, University of Kelaniya.
- Ross, A. S., Westerfield, R. W., & Jordan, B. D. (2010). *Fundamentals of corporate finance* (9th ed.). New York, NY: McGraw-Hill Irwin.
- Soewarno, N., & Utami, S. R. (2010). Significance of accounting information in explaining market and book values: The case of Indonesian banks. *International Research Journal of Finance and Economics*, 5, 146–157.
- Somoye, R. O. C., Akintoye, I. R., & Oseni, J. E. (2009). Determinants of equity prices in the stock markets. *International Research Journal of Finance and Economics*, 30, 177–189.



© 2017 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

You are free to:

Share — copy and redistribute the material in any medium or format  
Adapt — remix, transform, and build upon the material for any purpose, even commercially.  
The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made.  
You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.  
No additional restrictions

You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.



**Cogent Economics & Finance (ISSN: 2332-2039) is published by Cogent OA, part of Taylor & Francis Group.**

**Publishing with Cogent OA ensures:**

- Immediate, universal access to your article on publication
- High visibility and discoverability via the Cogent OA website as well as Taylor & Francis Online
- Download and citation statistics for your article
- Rapid online publication
- Input from, and dialog with, expert editors and editorial boards
- Retention of full copyright of your article
- Guaranteed legacy preservation of your article
- Discounts and waivers for authors in developing regions

**Submit your manuscript to a Cogent OA journal at [www.CogentOA.com](http://www.CogentOA.com)**

