Determinants Of Accounting Earnings Surprises In An Emerging Economy

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ABSTRACT
The study was carried out to investigate the determinants of accounting earnings surprises in an emerging economy as evidenced from quoted companies in Nigeria. The variables used for the study include Earning Surprises (ERNSP) as dependent variable while independent variables include Firm Reputation (FRMREP), Earnings Management (ERNMAG), Sales Growth (SALSGT), Cash Flow (CSHFL), and Firm Size (FSIZE). Five (5) research questions and hypotheses were formulated for this study. Ex-post factor research design was employed while twenty (20) quoted companies for the period of Ten years (2008 – 2017) – making a total of two hundred (200) firm-year data were used. Descriptive statistics and correlation matrix were employed alongside the panel regression to investigate these determinants. The results of the study show that: Firm Reputation (FRMREP) have significant negative effect on earnings surprises, while Earnings Management (ERNMAG), Sales Growth (SALSGT), and Cash Flow (CSHFL) have significant positive effect on the earnings surprises of quoted manufacturing firms in Nigeria; Firm Reputation has no significant effect on earnings surprises. The following recommendations were made among others: investors should concentrate their investments on firms with high corporate reputation as such firms tend to have steady and predictable earnings which reduces earnings surprises; Investors should be careful not to invest in firms whose earnings surprises are driven by earnings management as this shows a high level of earnings manipulation by managers just to meet or beat analysts’ earnings forecast. The study contributed to knowledge by modifying an existing model by introducing new variables.

Keywords: Earnings Surprises, Firm Reputations, Earnings management, Sales Growth and Firm Size.

INTRODUCTION
Accounting Earnings Surprise is an important indicator of a firm’s earnings behavior. It refers to the difference between the actual earnings of a firm (announced through the financial statements) and the expected earnings (represented by analysts’ consensus earnings forecasts). Firms that exceed their earnings estimates are credited with achieving positive earnings surprises, while those that fail to meet their earnings estimates have negative earnings surprises.
Earnings surprises both positive and negative have drawn the attention of accounting and finance scholars because they are abnormal situations that distorts the smooth and efficient functioning of markets (Pfarrer, Pallock & Rindova 2010; Tan, Libby & Hunton, 2002). Large earnings surprises, whether positive or negative, can have adverse effects on investors’ perception of a firm and tend to engage them in active sense making and reevaluation of such a firm (Ajinkya & Gift, 1984; Skinner, 1994; Jin, 2006; Williams, 1996).
Accordingly, managers strive to facilitate and improve their firms’ valuations by avoiding earnings surprises and meeting analysts’ consensus estimates (Degeorge, Patel & Zeckhauser, 1999). Thus, meeting analysts’ earnings expectations either exactly or within a few cents is the norm. However, earnings surprises do occur.


From the foregoing, it is clear that virtually all the studies on this subject were done in advanced economies like the U.K, the U.S. and some Asian countries. Research in this field is however, virtually non-existent in Sub-Saharan African Countries with the exception of Agubata and Ekwueme (2019). Agubata and Ekwueme scratched the problem by focusing on the industrial sector of Nigerian economy for two years only. The paucity of research in this area reduces the availability of quality information for investment decisions in Sub-Saharan African countries. Moreover, the variables used by prior researchers were tested as stand-alone variables, without any attempt to interact any two or more of them together to see their combined effect on earnings surprises.

This study is the first to the best of our knowledge, to investigate the determinants of accounting earnings surprise, using five independent variables, tested as both stand-alone variables and interacted variables in an emerging economy like Nigeria. The findings of this study therefore will fill up the vacuum of dearth of publication in the field of earnings surprises in Nigeria. Arising from above, the main objective of this study is to investigate the driving force that determines earnings surprises (analysts’ forecast errors) in Nigeria.

2.0: Review of Related Literature
2.1 Conceptual Framework
2.1.1 Earnings Surprises
Earnings surprises (ES) can be defined as the difference between expected or estimated earnings provided by sell-side analysts and actual earnings announced by the firm. It is also referred to as analysts’ earnings forecast errors/accuracy (EFE/A), earnings dispersion (ED) or standardized unexpected earnings (SUE). Following the example of Jegadeesh and Livnat (2006a), the term ‘earnings surprises’, or ‘earnings forecast errors’, or ‘standardized unexpected earnings’ is calculated as the standardized difference between actual earnings per share (EPS) and the expected earnings per share E (EPS): i.e. ES = EPS – E(EPS)/S.

2.1.2 Firm Reputation
Corporate Reputation is defined as a perceived picture of a firm’s past and future prospects which explains the totality of its appeals to its major stakeholders compared to its major competitors (Forbrum, 1996). Corporate reputation mirrors the several economic and social values of the firm. It can also be described as “the collective recognition of a firm’s demonstrated ability to create value” (Rindova, Williamson, Petkova and Sever, 2005). The term “High reputation”, according to King and Whetten, (2008) refers to the accumulation of high levels of public recognition of the quality of a firm’s capabilities and outputs. Little, Coffee, Lirely and Little (2010) established a high positive correlation between corporate reputation and market to book value. They concluded that companies highly rated in relative brand value and relative corporate reputation have higher significant market-to-book ratios than those that are rated low in relative brand value and relative corporate reputation. Bogue and Buffa (1984) assert that market to book value is a sign of success in improving firm value.

From the foregoing and from financial perspectives, corporate reputation is closely tied to the market value of equity. In this study, we define firm reputation in terms of market to book value of equity as
follows: Market-to-book ratio: \((M/B) = \text{market value of common equity divided by book value of common equity at year-end}\).

### 2.1.3 Earnings management

"Earnings management results when managers apply judgment in presenting their financial reports and in arranging transactions with the aim of changing financial reports to either deceive some stakeholders about the basic economic performance of the firm or to attract some contract that depend on reported accounting number (Healy & Wahlen, 1998). In the words of Davidson, Stickney and Weil, (1987) Earnings Management refers to the means of deliberately taking some steps within the boundaries of generally accepted accounting principles to achieve a desired level of reported earnings.” It is “a planned interference with the external financial reporting process, with the aim of getting some private benefits (contrary to say, just facilitating the neutral operation of the process)”. “An extension of this definition would include “real” earnings management, achieved by shifting financing or investment decisions to some particular time in order to manipulate reported earnings or some part of it”. Following the Jones (1991) model earnings management is represented by discretionary accrual (DA), calculated as the absolute residuals from the total accrual (TA) regression as follows: \(TA_{it} = \lambda_0 + \lambda_1(1/\text{ASSETS}_{it-1}) + \lambda_2\text{SALES}_{it} + \lambda_3\text{PPE}_{it} + \mu_{it}\). Therefore \(DA = TA_{it} - (\lambda_0 + \lambda_1(1/\text{ASSETS}_{it-1}) + \lambda_2\text{SALES}_{it} + \lambda_3\text{PPE}_{it})\), where: \(\text{SALES} = \text{Change in sales}, \text{PPE} = \text{Net property, plant and equipment (all scaled by total assets)}\).

### 2.1.4 Sales Growth

Klipfolio (2017) defines sales growth as a metric that measures the ability of the sales team to increase revenue over a fixed period of time. It is an important indicator used in decision making and policy formulation and implementation by business executives. Sales growth has direct effect on revenue and profitability. It ensures the growth and survivability a business (Klipfolio, 2017). House and Benefield (1995), report that Sales growth is the most significant growth variable affecting financial performance in the actual industries examined by them.

Growth is the drumbeat by which all organizations march. When profits dips, the sales force is under pressure to deliver results. Conversely, a high percentage of sales growth is a good prospect for all stakeholders such as executives, board of directors, shareholders, employees and even the customers. Sales growth can be determine using the following formula: \(((\text{sales for the current period} - \text{sales for the previous period})/\text{sales for the previous period}) \times 100\)


### 2.1.5 Operating Cash flow

Operating Cash flow is an important measure of the financial health of a firm. It refers to the level of cash generated through normal operations or cash inflows into the business in form of income and cash outflows in form of expenses. Operating Cash flow determines to a large extent the stability of firms. Daniat and Suhairi (2006) document that cash flow from investing activities; gross profit and company size significantly affect expected return on shares, while on the other hand cash from operating activities does not affect expected return significantly. Taani and Banykhaled (2011) report that return on equity, price to book value of equity, operating cash flow ratio and leverage ratio have significant influence on earnings per share. For the purpose of our study operating cash flow ratio is used and is defined as: cash flow from operations divided by current assets (i.e. cash flow ratio = cash flow from operations/current assets).

### 2.1.6 Firm Size

Firm size is an important and fundamental characteristic in corporate finance, often used as an exogenous variable that explains different aspects of economic/financial decision, Managerial Compensation, and required rate of return (Fama & French, 1992). Firm size can be defined in terms of production capacity, capital requirement, number of persons employed, sales volume, market or book value of equity etc. Measures used to deflate firm size in prior studies include: total assets, total Sales/Revenue, book value of equity, and market value of equity (Kasnok & Mconichols, 2002; Graffin & Landsman, 1982; Shehata, 1991; Bidddle & Foropoulos, 2000). In this study, firm size is measured as log of total assets.
2.2 Theoretical Framework
The study relates to two theories – namely: the Signaling Theory and the Rational Expectation Theory (RET)

The Signaling Theory – which was propounded by Michael Spence in 1973, is built on the asymmetry of financial information – the assumption that information is not equally available to all parties at the same time - and the consequent sub-optimum investment policy. Signaling theory states that financial decisions made by corporate managers send signals to investors to counter the effect of information asymmetries. Such signals are the foundations of communications policy in finance. The theory proposes that markets respond to good and bad signals, as such signals which are signs of potential returns.

The Rational Expectations Theory (RET) - was first propounded by Muth (1961) as an explanation of the behavior of market participants. The theory states that market participants have rational expectations that are updated appropriately when new information becomes available (Givoly, 1985). It further states that although the individual expectations differ, the average future expectations of market participants are more accurate than economic models used for calculating the average. This implies that while the expectations of individual agent’s may be wrong, the expectations of the market on average will be correct (Muth, 1961). What matters therefore, is not whether investors over- or under react to new information, since it is assumed that the weighted average of all participants’ expectations will contribute to efficiency (Ritter, 2003).

Two important assumptions of the RET about the information that is available on the market are: “the information exploitation assumption” and “the information availability assumption”. The exploitation assumption assumes that market participants use all the information that is available on the market efficiently. Hence market participants are expected to maximize available information by exploiting such information to the point where marginal product equals marginal cost (Friedman, 1979).

The information availability assumption is based on the premise that the information available to the market participants is sufficient to allow them to form expectations characterized by conditional subjective opinions that should be equal to the objective opinions of outcomes. This means that individuals make conclusions based on their understanding of the values of variables that affect the market prices in advance; which should be identical to the actual outcomes of the values.

Muth (1961) argues that market actors have rational expectations of the future because they want to optimize their behavior. Actors will Endeavour to make correct estimates as it is in their own interest to do so. As such, financial analysts with rational expectations will endeavour to reduce loss and increase gain of their estimates by making use of all available information rationally. If there are analysts in the market that behave irrationally, the market will naturally select analysts with most appropriate behavior for that very market environment through competition.

This study is anchored on the Rational Expectation theory as it is consistent with the idea of analyst’s consensus forecast which is a major factor in the determination of earnings surprises.

2.3: Empirical Review
Myring, and Wrege, (2009) examined time-series variations in the accuracy of analysts’ earnings forecasts and analyst specific factors that might explain these variations. They document that analysts’ annual earnings forecast error has decreased over the sample period (1984-2006). In addition, forecasts had become more timely and frequent and analysts tend to issue forecasts for more consecutive years before being replaced. They also find evidence that analysts issue forecasts for fewer companies per year and have a greater degree of industry-specific specialization. The results of their analysis suggest that changes in analyst-specific characteristics have enhanced analysts’ ability to make accurate forecasts.

Pfarrer, Pollock and Rindova (2010) examine the effects of firm reputation and celebrity on earnings surprises and investors’ reactions and document that firms with high levels of reputation (“high-reputation” firms) are less likely, while celebrity firms are more likely to announce positive earnings surprises. However, both high-reputation and celebrity firms attract greater market reactions for positive surprises and smaller reactions for negative surprises than other firms.

Amar and Abaoub (2010) focus on earnings management designed to achieve the earnings thresholds of zero earnings, last period’s earnings, and analysts' earnings forecasts within the framework of the
Tunisian market. Their findings indicate that Tunisian companies managed earnings to prevent losses and
decreases earnings instead of preventing negative earnings surprises.
Cheong, and Al Masum (2010), compared the financial analysts’ forecast accuracy of pre- and post-
Australian International Financial Reporting Standards (AIFRS) adoption and report that forecast
accuracy improved post- AIFRS adoption. They also find evidence that analysts following may improve
forecast accuracy by adding more firm-specific information to the market.
McInnis and Collins (2011) studied the Effect of Cash Flow Forecasts on Accrual Quality and Benchmark
Beating and document that the joint provision of both earnings and operating cash flow increases the
transparency and the expected costs of manipulating accruals used to manage earnings. As a result, firms’
propensity to meet or beat earnings benchmarks through earnings manipulation will decline following the
provision of cash flow forecasts. The overall effect is a decline in earnings surprises.
Molokian, Ahmadvour, Rahmani, and Dargaei, (2011) studied the “factors of earnings forecast accuracy
of companies and document a negative relationship between forecast period, leverage and corporate
governance and forecast error.
Ionascu (2011) investigated the properties of analysts’ forecast accuracy for companies listed on
Bucharest Stock Exchange (BSE) Romania. The results indicate the earnings surprises of Romanian listed
companies, based on earnings per share, reported under local GAAP are inversely related with the size
and corporate governance policies of the firms, suggesting that larger firms and those with better
governance will more probably to provide additional disclosures, and thus reduce earnings surprises.
Analysts forecast error was regressed on firm size, corporate governance, analysts following, IFRS
adoption, forecast horizon and previous error.
Siegel, Lessard and Karim (2011) examined “Analyst forecast accuracy and firm growth”, represented by
business segment industry specialization and diversification. Forecast error was found to be negatively
associated with business segment industry specialization, while Diversification (high growth firms)
increases (decreases) forecast error. High growth, focused firms are associated with noncomplex
portfolios and business segment industry specialization. In the simultaneous equation model used, Tobin’s Q predicts analysts forecast accurately.
Athavale, Myring and Groeber (2013) examine changes in analyst forecast accuracy in the BRIC
countries (Britain, Russia, India and China) within the period 1994-2009. They find that the level of
forecast accuracy in BRIC countries is fairly high with some signs of improvement; that analysts in BRIC
countries are making forecasts with greater frequency; some surprising disparities in capital market
practices in BRIC countries, with higher levels of specialization and fewer companies followed - leading
to lower forecast accuracy; that analysts tend to issue forecast for companies for longer periods of time
(i.e., are more experienced in the companies for which they issue forecasts); that in BRIC countries,
analyst forecast accuracy can be largely explained by forecast age. Forecast frequency and years of
experience are not significant determinants of forecast accuracy. Interestingly, while there are country-
specific differences in forecast age, forecast frequency, years of experience, number of companies
followed and industry specialization, these differences had narrowed during the period of their study, i.e.
there is some evidence of convergence.
Nima, Tamjidi, Hajiabad, and Aydenlu (2013) evaluated the relationship between analysts’ forecast error
and abnormal returns and systematic risk in Tehran Stock Market from 2006 to 2012 and document linear
positive relationship between earnings forecast error and abnormal returns and no relationship between
earnings forecast error and systematic risk.
Espahbodi, Espahbodi and Esphabodi (2015) examined the poser “did analysts forecast accuracy and
dispersion improve in 2002, following the increase in regulation” and find that within the sample period
(1993 – 2013) both magnitude and the dispersion of forecast errors have been steadily increasing.
Hutira (2016) examines the "Determinants of Analyst Forecasting Accuracy" with a particular focus on
the industry of the firm being forecasted. The study provides evidence showing that forecast accuracy has
been persistently declining over the sample period while forecast dispersion has been steadily growing.
Moreover, it finds that there are significant differences in forecast accuracy by industry.

Howe and Houston (2016) examined earnings management, earnings surprises and distressed firms (in USA, from 1989 – 2011). Using a total of 131,751 quarterly observations; the regression results indicate that investors are significantly less responsive to earnings surprises of distressed firms and that distressed firm’s experience large-in-magnitude investor response to positive earnings surprises than negative earnings surprises. This means that investors’ response to negative earnings surprises of non-distressed firms is significantly larger than that of positive earnings surprises.

Abraham and Harrington (2016) examined the predictors of the degree of positive earnings surprises and report that the number of analysts following significantly predict positive earnings surprises of less than 20%, 21-30%, 31-100% and greater than 100% regardless of business condition, while sales and industry type show similar results for weak business condition. Cash flow explained the positive earnings surprises in the 21-30% earnings surprises range for weak business condition, while industry type was significant in the less than 20%-100% earnings surprises category for strong business condition.

Baumeister (2017) investigated the influence of corporate social responsibility (CSR) reports quality on sell-side analyst forecast accuracy. A multiple-regression model shows a significant inverse relationship between CSR quality and forecast accuracy in both same fiscal year and one fiscal year ahead forecast horizons, for companies situated in Western Europe and North America. The probit regression model used indicate that the probability of overestimating earnings and thus making overly optimistic forecasts was greater in firms that issued better quality CSR reports for the one year ahead forecast horizons.

TaiebKchaou, Jarboui and Karamti (2017) examined “The Determinants of Forecast Error Made by Ceos: SBF 120 Evidence”, to analyze the factors that may affect the reliability of the forecasts and the extent of their influence on the forecast error made by the leaders. The results of the study show that the diversity in the board improves the reliability of the forecasts as they found a positive and significant relationship between the leading woman and the forecast error. They also established a significant and positive impact of board size and duality on the forecast error. Also, the existence of a quality auditor had a positive and significant effect on the reduction of the forecast error.

Li and Shi (2017) applied t-tests and time-series regressions to examine the relationship between analyst characteristics (working experience, company experience, brokerage house size, and boldness in making recommendations) and earnings forecast errors. They document that while working experience of analysts and brokerage size have positive relationship with the analyst’s forecast accuracy; boldness is negatively correlated with forecast accuracy.

Ledbetter, Luchs, Myring and Alst (2017) examined the causes of changes in the time-series accuracy of analyst forecasts in Japan for a period of 23 years (1988 – 2010). The results of the analyses suggest that changes in forecast accuracy have been primarily the result of regulatory changes and economic conditions. Analyst characteristics had no significant effect on forecast accuracy.

Sofie Areskoug and Niklas Karlén (2017) worked on the determinants of analysts’ forecast accuracy among Swedish companies – considering among other things the effect of unequal gender representation of female analysts. They document that being a female analyst have a statistically significant positive effect on forecast accuracy. This implies that female analysts covering Swedish stocks seem to do better than their male colleagues. Moreover, firm complexity, industry complexity, brokerage house and analysts’ experiences were found to have no significant effect on analysts’ forecast accuracy.

Oliveira and Girão (2018) in “Accuracy in Earnings Forecast and Organizational Life Cycle Stages: Evidences in the Brazilian Capital market”, investigated the effect of the organizational lifecycle on the accuracy of analysts’ forecasts in the Brazilian capital market, presuming that the challenges for the financial analysts’ projections can vary in the course of the companies’ evolution. The results reveal that the analysts’ earnings forecast accuracy is lower for companies in the birth and decline stages, despite controlling for several common factors in the literature on analysts’ forecast errors. However, optimistic
or pessimistic forecast biases were less in decline than in non-mature stages, despite the previously mentioned controls. From the forgoing, it is clear that virtually all the studies on this subject were done in advanced economies like the U.K, the U.S. and some Asian countries. Moreover, the variables used by prior researcher were tested as stand-alone variables, without any attempt to interact any two or more of them together to see their combined effect on earnings surprises. This is the gap this study seeks to fill.

3.0 METHODOLOGY
This section deals with the methodologies adopted for the study which include the research design, the population and samples for the study, sources of data collection, methods of data analysis and the model specification.

3.1 Research Design
The study falls under the Ex-post Facto Research design. This is because panel data (i.e. time series and cross-sectional data) from annual reports of the sampled firms were used for the study.

3.2 Population and Samples of the Study
The population of the study comprises of all quoted industrial companies in Nigeria for the period of 2008 to 2017. Total samples of twenty-seven (20) quoted companies who have consistently published their annual reports, were purposively selected for the study, based on availability of data. The study covered a period of ten years – making a total of 200 firm-year data.

3.3 Method of Data Collection and Analysis
Secondary data used for the study were obtained from the annual reports of the sampled firms. Descriptive statistics and correlation matrix were employed alongside the panel regression to investigate the determinants of accounting earnings surprises in Nigerian industrial firms, using fixed and random effect regression result and Hussmann testing to determine the most suitable result to interpret. Added to the above, the variables for this study include Earning Surprises (ERNSP) as dependent variable while independent variables include Firm Reputation (FRMREP), Earnings Management (ERNMAG), Sales Growth (SALSGT), Operating Cash Flow (CSHFL), and Firm Size (FSIZE).

The descriptive statistics were used to test the normality (normality test) of the data and provide some useful insight into the nature of the data collected from the selected quoted firms studied. Also the correlation analysis (Correlation Matrix) served as a diagnostic test to Check for Multi-co-linearity Problem.

In other to examine the impact/relationships between the dependent variable ERNSP and the independent variables (FRMREP, ERNMAG, SALSGT, CSHFL, and FSIZE) and to also test the formulated hypotheses given, the panel multiple regression analysis (fixed and random effect regression analysis) and ordinary least square regression analysis were used, owing to the fact that the data had both time series (2008-2017) and cross sectional properties 20 quoted manufacturing firms from Nigeria).

3.4 Model Specification
Following the model used by Abraham and Harrington (2016), (reproduced as follows: Positive Earnings Surprise = \( \lambda_0 + \lambda_1 \text{Number of Analysts} + \lambda_2 \text{Instry Type} + \lambda_3 \text{Sales} + \lambda_4 \text{Cash Flow} + \lambda_5 \text{Market Capitalization} \), two models were formulated as tools for testing our hypotheses - one stand alone model and one variables interaction model.

The stand alone model was of the form:

\[
\text{ERNSP}_i = \lambda_0 + \lambda_1 \text{FRMREP}_i + \lambda_2 \text{ERNMAG}_i + \lambda_3 \text{SALSGT}_i + \lambda_4 \text{CSHFL}_i + \lambda_5 \text{FSIZE}_i + \mu_i,
\]

Where, \( \text{ERNSP}_i \) = Earnings Surprise of firm i for year t;
\( \text{FRMREP}_i \) = Firm Reputation of firm i for year t;
\( \text{ERNMAG}_i \) = Earnings Management of firm i for year t;
\( \text{SALSGT}_i \) = Sales Growth of firm i for year t;
\( \text{CSHFL}_i \) = Cash Flow from operation of firm i for year t;
\( \text{FSIZE}_i \) = Firm Size of firm i for year t.

The variables interaction model was of the form:

\[
\text{ERNSP}_i = \lambda_0 + \lambda_1 \text{FRMREP}_i \times \text{ERNMAG}_i + \lambda_2 \text{SALSGT}_i \times \text{CSHFL}_i + \mu_i
\]
Where, \( FRMREP \) * \( ERNMAG \) = Interaction between Firm Reputation and Earnings Management; and \( SALSGT \) * \( CSHFL \) = Interaction between Sales Growth and Cash Flow from operations;

### 4.0 PRESENTATION AND ANALYSIS OF DATA

#### 4.1 Presentation of Data

The results of our data analysis are presented as follows:

**Table 1: Descriptive Statistics of Data Obtained from Firms in Nigeria**

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ERNSP</td>
<td>-1.200900</td>
<td>1.085000</td>
<td>1118.180</td>
<td>-791.300</td>
<td>157.763</td>
<td>1.383522</td>
<td>22.1093</td>
<td>3106.762</td>
<td>0.000000</td>
<td>-240.180</td>
<td>4952998.</td>
<td>200</td>
</tr>
<tr>
<td>FRMREP</td>
<td>3.962050</td>
<td>2.255000</td>
<td>27.48000</td>
<td>2.335682</td>
<td>5.196728</td>
<td>2.335682</td>
<td>8.947327</td>
<td>476.609</td>
<td>0.000000</td>
<td>792.4100</td>
<td>5374.191</td>
<td>200</td>
</tr>
<tr>
<td>ERNMAG</td>
<td>-0.059500</td>
<td>-0.060000</td>
<td>0.480000</td>
<td>0.5465p12</td>
<td>0.115318</td>
<td>0.5465p12</td>
<td>7.255497</td>
<td>160.8663</td>
<td>0.000000</td>
<td>-11.9000</td>
<td>2.646350</td>
<td>200</td>
</tr>
<tr>
<td>SALSGT</td>
<td>10.58940</td>
<td>10.11500</td>
<td>108.3500</td>
<td>-53.04000</td>
<td>17.12436</td>
<td>0.842172</td>
<td>8.782090</td>
<td>302.2466</td>
<td>0.000000</td>
<td>2117.8800</td>
<td>58355.48</td>
<td>200</td>
</tr>
<tr>
<td>CSHFL</td>
<td>0.14490</td>
<td>0.140000</td>
<td>0.480000</td>
<td>-0.150000</td>
<td>0.107899</td>
<td>0.263727</td>
<td>3.658326</td>
<td>5.930003</td>
<td>0.051560</td>
<td>28.98000</td>
<td>2.316798</td>
<td>200</td>
</tr>
<tr>
<td>FSIZE</td>
<td>11.52345</td>
<td>11.42500</td>
<td>14.67000</td>
<td>8.440000</td>
<td>1.696486</td>
<td>0.035668</td>
<td>1.824066</td>
<td>11.56592</td>
<td>0.003080</td>
<td>2304.6900</td>
<td>572.7349</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Researcher’s Computation( 2019).

Table 1 above provides some useful insight on the characteristics of the data collected from the sampled firms in terms of the variables used – namely, their mean, maximum and minimum values, standard deviation and Jarque-Bera (JB) Statistics and normality test of the data collected. The table shows that the means for Earnings Surprise (ERNSP), Firm Reputation (FRMREP), Earning Management (ERNMAG), Sales Growth (SALSGT), Cash Flow (CSHFL) and Firm Size (FSIZE) were -1.200900, 3.962050, -0.059500, 10.58940, 0.14490 and 11.52345 respectively. Earnings surprises and earnings management were generally negative -1.200900 and -0.059500 respectively while firm reputation, sales growth and cash flow were generally positive - 3.962050, 10.58940, 0.14490 and 11.52345 respectively. The large difference between the minimum and maximum values and the high values of standard deviation for all the variables shows that the quoted firms used for this study are well spread.

Lastly, in table 1, the Jarque-Bera (JB) which test for normality or the existence of extreme values among the variables shows that all the variables are normally distributed at 1% level of significance, except cash flow (CSHFL) that shows normal distribution at 5% significant level. This implies that the data used for the study are free from the existence of outliers that may likely distort our conclusions and their reliability for drawing generalization. This also implies that the least square, fixed and random panel regression estimations can be used to estimate the panel regression models.

#### 4.2 Diagnostic Test to Check for Multi-co-linearity Problem, Using Correlation Matrix.

In order to diagnose for the presence of multi-co-linearity in our data used, as well as evaluating the association among the variables adopted, the Pearson correlation coefficient (correlation matrix) analysis was employed. The result obtained is presented in Table 2.
Table 2: Pearson Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>ERNSP</th>
<th>FRMREP</th>
<th>ERNMAG</th>
<th>SALSGT</th>
<th>CSHFL</th>
<th>FSIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERNSP</td>
<td>1.00</td>
<td>0.06</td>
<td>0.12</td>
<td>0.16</td>
<td>0.16</td>
<td>0.04</td>
</tr>
<tr>
<td>FRMREP</td>
<td>0.06</td>
<td>1.00</td>
<td>0.08</td>
<td>0.14</td>
<td>0.47</td>
<td>0.07</td>
</tr>
<tr>
<td>ERNMAG</td>
<td>0.12</td>
<td>0.08</td>
<td>1.00</td>
<td>0.07</td>
<td>0.49</td>
<td>0.10</td>
</tr>
<tr>
<td>SALSGT</td>
<td>0.16</td>
<td>0.14</td>
<td>0.07</td>
<td>1.00</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>CSHFL</td>
<td>0.16</td>
<td>0.47</td>
<td>0.49</td>
<td>0.20</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>FSIZE</td>
<td>0.04</td>
<td>0.07</td>
<td>0.10</td>
<td>0.20</td>
<td>0.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Researchers Computation (2019)

Table 2 focused on the correlation between Earning surprise proxy as ERNSP and the independent variables (FRMREP, ERNMAG, SALSGT, CSHFL, and FSIZE). The finding from the correlation matrix table shows that all our independent variables, (ERNSP = 0.06; FRMREP = 0.12; SALSGT=0.16, CSHFL=0.16, and FSIZE=0.04) were observed to be positively and weakly associated with Earnings surprises ERNSP. The results show that no two explanatory variables were perfectly correlated. This means that there is no problem of multi-co-linearity between the explanatory variables.

4.3: Testing of Hypotheses

In other to examine the impact/relationships between the dependent variable ERNSP and the independent variables (FRMREP, ERNMAG, SALSGT, CSHFL, and FSIZE) and to also test the formulated hypotheses given, the study used a panel multiple regression analysis, using fixed and random effect regression analysis and ordinary least square regression analysis, owing to the fact that the data had both time series (2008-2017) and cross sectional properties (20 quoted manufacturing firms in Nigeria). Fixed effect result is presented in table 3 while the random effect result is presented in table 4.

Table 3: Fixed Effect Result of our Variables

Cross-sections included: 20
Total panel (balanced) observations: 200

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>671.4361</td>
<td>477.0516</td>
<td>1.407471</td>
<td>0.1611</td>
</tr>
<tr>
<td>FRMREP</td>
<td>-5.243352</td>
<td>4.108594</td>
<td>-1.276191</td>
<td>0.2036</td>
</tr>
<tr>
<td>ERNMAG</td>
<td>544.8153</td>
<td>180.3366</td>
<td>3.021103</td>
<td>0.0029</td>
</tr>
<tr>
<td>SALSGT</td>
<td>0.943377</td>
<td>0.674261</td>
<td>1.399128</td>
<td>0.1635</td>
</tr>
<tr>
<td>CSHFL</td>
<td>705.5870</td>
<td>207.9237</td>
<td>3.393490</td>
<td>0.0009</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-63.49448</td>
<td>41.11383</td>
<td>-1.544358</td>
<td>0.1243</td>
</tr>
</tbody>
</table>

Effects Specification

R-squared 0.230659 Mean dependent var -1.200900
Adjusted R-squared 0.125149 S.D. dependent var 157.7639
S.E. of regression 147.5620 Akaike info criterion 12.94284
Sum squared resid 3810546. Schwarz criter. 13.35513
Log likelihood -1269.284 Hannan-Quinn criter. 13.10969
F-statistic 2.186136 Durbin-Watson stat 2.091828
Prob(F-statistic) 0.002080
Table 4: Random Effect Result of our Variables
Cross-sections included: 20
Total panel (balanced) observations: 200
Swamy and Arora estimator of component variances

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-115.4118</td>
<td>90.48032</td>
<td>-1.275546</td>
<td>0.2036</td>
</tr>
<tr>
<td>FRMREP</td>
<td>-5.283972</td>
<td>2.813863</td>
<td>-1.877853</td>
<td>0.0619</td>
</tr>
<tr>
<td>ERNMAG</td>
<td>478.9214</td>
<td>127.5179</td>
<td>3.755720</td>
<td>0.0002</td>
</tr>
<tr>
<td>SALSGT</td>
<td>1.017239</td>
<td>0.647640</td>
<td>1.570685</td>
<td>0.1079</td>
</tr>
<tr>
<td>CSHEFL</td>
<td>5.839816</td>
<td>7.691286</td>
<td>0.759277</td>
<td>0.4486</td>
</tr>
</tbody>
</table>

Effects Specification

<table>
<thead>
<tr>
<th></th>
<th>S.D.</th>
<th>Rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>32.46081</td>
<td>0.0462</td>
</tr>
<tr>
<td>Idiosyncratic random</td>
<td>147.5620</td>
<td>0.9538</td>
</tr>
</tbody>
</table>

Weighted Statistics

<table>
<thead>
<tr>
<th></th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>5.539903</td>
<td>5</td>
<td>0.3536</td>
</tr>
</tbody>
</table>

The decision as to which of the tables to interpret was based on the outcome of the Hussmann test conducted and presented as table 5.

Table 5: HUSMAN RESULT
Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>5.539903</td>
<td>5</td>
<td>0.3536</td>
</tr>
</tbody>
</table>

The Haussmann test conducted shows a chi-Square Statistics value of 5.539903 with a Probability value of 0.3536. This probability value is not statistically significant since the P-value is more than 10%. The decision rule is: if the p-value is significant (i.e. P-value < 10%), interpret fixed effect result, otherwise, use the random effect result. From our Haussmann result, our P-value is not significant. Therefore we use Random effect result for the interpretation of our analysis.

In table 4, R-squared and its adjusted R-squared values were (0.11) and (0.08) respectively. This is an indication that all the independent variables jointly explain about 11% of the systematic variations in Earnings surprise (ERNSP) of our sampled companies over the ten-year period (2008-2017) while 89% of the systematic variations are captured by the error term. The F-statistics 4.335538 and its P-value of (0.00) portrays the fact that the ERNSP regression model is well specified.
Test of Autocorrelation: Using Durbin Watson (DW) statistics which we obtained from our regression result in appendix 4, it is observed that DW statistic is 2.014728 which is approximately 2, agrees with the Durbin Watson rule of thumb, showing that our data is free from autocorrelation problem and as such fit for the regression result to be interpreted and result relied on. Akika Info Criterion and Schwarz Criterion which are 12.94284 and 13.35513 respectively further strengthen the fitness of our regression result for reliability as they confirm the goodness of fit of the model specified. In addition to the above, the specific findings from each explanatory variable are provided as follows:

4.3.1 Test of Hypothesis one: Firm reputation has no significant effect on the earnings surprises of industrial firms in Nigeria.

**Firm Reputation (FRMREP)**, based on the t-value of -1.877853 and P-value of 0.06, in appendix 4, was found to have a negative influence on Earning Surprise (ERNSP) and this influence is statistically significant at 10% level of significance as the P-value is within 10% significance level. This result, therefore suggests that we should reject our null hypothesis one (H01) which states that Firm reputation (FRMREP) does not have significant effect on Earnings surprises (ERNSP), to accept the alternative hypothesis. In other words, firms with less firm reputation record higher earnings surprise than firms with higher firm reputation. Therefore on the basis of efficient use of firm reputation to determine earnings surprise, firm reputation drives earnings surprise negative and it is statistically significant.

4.3.2 Test of Hypothesis Two: Earnings Management has no significant effect on the earnings surprises of industrial firms in Nigeria.

**Earnings Management (ERNMAG)**, based on the t-value of 3.755720 and P-value of 0.00, in appendix 4 above, was found to have a positive influence on our sampled quoted companies’ earnings surprise (ERNSP) and this influence is statistically significant at 1% level of significance as the P-value is within 0.00. This result, therefore suggests that we should reject our null hypothesis two (H02) which states that Earning Management (ERNMAG) does not have significant effect on Earning surprises (ERNSP), to accept the alternative hypothesis.

4.3.3 Test of Hypothesis Three: Sales grow has no significant influence on earnings surprise.

**Sales Growth (SALSGT)**, based on the t-value of 1.570685 and P-value of 0.10, in appendix 4 above, was found to have a positive influence on our sampled quoted companies’ earnings surprise (ERNSP) and this influence is statistically significant since its P-value is within 10% significance level. This result, therefore suggests that we reject our null hypothesis three (H03) which states that sales growth does not significantly influence earnings surprise, to accept the alternative hypothesis.

4.3.4 Test of Hypothesis Four: Cash flow has no significant effect on earnings surprise.

**Cash flow (CSHFL)**, based on the t-value of 3.855209 and P-value of 0.00, in appendix 4 above, was found to have a positive influence on our sampled quoted companies’ Earnings surprise (ERNSP) and this influence is statistically significant at 1% since its P-value is within 0.0% significance level. This result, therefore suggests that we reject our null hypothesis four (H04) which states that cash flow has no significant effect on earnings surprise, to accept the alternative hypothesis.

4.3.5 Test of hypothesis five: Firm size does not have a significant influence on earning surprise.

**Firm size (FSIZE)**, based on the t-value of 0.759277 and P-value of 0.45, in appendix 4, was found to have a positive influence on our sampled quoted companies’ Earnings surprise (ERNSP) although this influence is statistically not significant since its P-value is more than 10% significance level. This result, therefore suggests that we accept our null hypothesis five (H05) which states that firm size does not significantly influence earnings surprise, to reject the alternative hypothesis.

4.3.6 Test of our Interacted Variables

To test the interaction of variables as specified in model 2, we used multiple regression analysis and the result is presented in table 5.

**DISCUSSION OF FINDINGS**

**Firm Reputation (FRMREP)** was found to affect negatively our dependent variable proxy (ERNSP), and this effect is statistically significant at 10% level. The implication of this findings is that the reputations that a firm built over the years (in form of quality products, good customers relationship, good...
core values and good ethical values, etc.), determines the rate of sudden breaks they will record in their earnings, resulting in positive earnings surprise in future but if their reputation is bad, earnings will drop suddenly thereby leading to a negative earnings surprise. This finding therefore support our apriori expectation as well as the findings of Pfarrer, Pollock and Rindova (2010); Pfarrer (2007) and negates the expectation and the view of Huttom, Lee and Shu, 2012;

**Earnings Management (ERNMAG)** was found to affect positively our dependent variable proxy (ERNSP) and this impact is statistically significant at 1% level. The implication of this is that firm managers in Nigeria manipulate (Manage) earnings to achieve positive earnings surprises. This finding therefore supports the findings of Matsumoto (2002) and Bartov et al (2002) and negates our a priori expectation.

**Sales Growth (SALSGT)** was found to have a positive influence on ERNSP and this influence is statistically significant at 10% level. The implication of this result is that constant sales growth of manufacturing firms in Nigeria could lead to sudden increase in their earnings and hence earnings surprises. This result agrees with our prori and is also in line with the result of Mintzberg and Waters (1982) and Higgins (2008).

**Cash Flow (CSHFL)** was found to have a positive influence on ERNSP and this influence is statistically significant at 1% level. The implication of this result is that constant cash flows of manufacturing firms in Nigeria could lead to sudden increase in their earnings and hence earnings surprises. This result agrees with our a priory expectation and is also in line with the result of Call, Chen and tong (2008).

**Firm Size (FSIZE)** was found to have a positive influence on ERNSP. However, this influence is not statistically significant in driving earnings surprise. The implication of this is that size of manufacturing firms in Nigeria does not determine earnings surprise in Nigeria. This result negates our a priory expectation and the findings of Personne and Pääjärvi, (2013).

**Summary of findings:**
In summary, the following findings were made from the study:

i. Firm Reputation (FRMREP) was found to have significant negative effect on earnings surprises among the quoted manufacturing firms in Nigeria.

ii. Earnings Management (ERNMAG) was found to have significant positive effect (at 1% level) on earnings surprises among the quoted manufacturing firms in Nigeria.

iii. Sales Growth (SALSGT), based on our findings, was found to have a positive and significant influence (at 10% level) on Earnings Surprises of manufacturing firms in Nigeria.

iv. Cash Flow (CSHFL) was found to have a positive significant influence (at 1% level) on Earnings Surprises of manufacturing firms in Nigeria.

v. Firm Size (FSIZE), based on our findings, was found to have a positive influence on ERNSP. However, this influence is not statistically significant in driving earnings surprise.

**CONCLUSION**
In this study, we investigated the determinants of accounting earnings surprises in an emerging economy as evidenced from quoted companies in Nigeria for the period of 2008 to 2017. A sample of twenty (20) quoted companies who have consistently published their annual accounts were used. Descriptive statistics and correlation matrix were employed alongside the panel regression to investigate these determinants. The variables used for this study include Earning Surprises (ERNSP) as dependent variable while independent variables include Firm Reputation (FRMREP), Earnings Management (ERNMAG), Sales Growth (SALSGT), Operating Cash Flow (CSHFL), and Firm Size (FSIZE). It was found that earnings management, sales growth and operating cash flow have significant positive influence on earnings surprises while firm reputation has significant negative effect on earnings surprises. Firm size has no significant effect on earnings surprises. The study therefore concludes that all the variables used in this study are determinants of earnings surprises among quoted companies in Nigeria except firm size.

**5.3: RECOMMENDATIONS**
From the foregoing, the following recommendations are made:
i. Investors should concentrate their investments on firms with high corporate reputation as such firms tend to have steady and predictable earnings which reduces earnings surprises;

ii. Investors should be careful not to invest in firms whose earnings surprises are driven by earnings management as this shows a high level of earnings manipulation by managers just to meet or beat analysts’ earnings forecast.

iii. Investors should channel their investments to firms with positive earnings surprises anchored on steady sales growth and strong operating cash flows as such earnings surprises are reliable.

iv. Management should embark on activities that improve sales growth and operating cash flows in order to boost their earnings surprises, as they have positive and significant relationship with earnings surprise of manufacturing firms in Nigeria.

v. Managers and investors should not bother themselves with the size of the firm as firm size does not drive earnings surprise industrial firms farms in Nigeria.

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