Analysts’ Forecasts and Stock Prices in Nigeria

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Abstract

Analyst forecast information is available to the public in less developed countries at a little cost. The role of analysts in forecasting stock returns cannot be over-emphasized. Yet, little scholarly works have been done in Nigeria. The purpose of this paper is to interrogate analysts’ forecasts’ effect on share prices in Nigeria. The research approach is correlational. We collected and analyzed data for several years from the annual reports and accounts of 138 corporations over 10 years (2010-2019). The results indicate that experts 1, 3, and 4 have a significant and positive impact on stock return. The information from expert 2 had failed to show any signal of significance. Based on the majority of these results, the paper recommends that financial analysts consider the information when considering the price of stocks in Nigeria. The conclusion is that the study results have implications for stakeholders (management, public, employees, suppliers, investors, creditors, regulators, governments, customers, users, partners, charity organizations, special interest-holders; competitors, community groups, trade groups, and the media/press) and based on the findings, it is suggested among others that stakeholders who need the prices of stocks should depend on analyst forecast.

Keywords: Analyst, Financial, Forecasts, Prices, Shares
1. Introduction

The association between analyst forecasts and stock prices has been well examined in developed capital markets worldwide. For example, in New Zealand, Ramnath, Rock and Shane (2006) reviewed research regarding the role of financial analysts in capital markets. They built on the perspectives provided by Schipper (1991) and Brown (1993) and categorized papers published mainly since 1992 and selectively discuss aspects of these papers that address or suggest key research topics of ongoing interest in seven broad areas: analysts’ decision processes, the determinants of analyst expertise and distributions of individual analysts’ forecasts, the informativeness of analysts’ research outputs, analyst and market efficiency concerning information, effects of analysts’ economic incentives on their research outputs, effects of the institutional and regulatory environment, and limitations of databases and various research paradigms.

In the USA, Lui, Markov and Tamayo (2010) examined the market reaction to changes in analysts’ equity risk ratings and the type of information conveyed by such changes. They found that stock prices increase (decrease) when analysts changed their risk ratings toward lower (higher) risk controlling for changes in stock recommendations, price targets, earnings forecasts, and contemporaneous news about corporate events. In Italy, Sancetta, Renzi, and Orlando (2012) investigated the dispersion phenomena among financial analysts’ judgments and how this influences stock prices. It used a regression model to test the research hypothesis and confirm the inverse relationship between stock prices and the dispersion in analysts’ forecasts regarding expected earnings. The analysis was conducted on a sample of securities listed on the Eurostoxx 50®; the sample covered a period of 6 years (2002-2007). Results showed an inverse relationship between the price of the security and the dispersion among analysts’ judgment. This paper examines the role of analyst forecasts in capital market activity area that is less developed. However, the paper was written as initially theoretically provided by Schipper (1991) and Brown (1993). Analyst forecast is predicted on information from corporations’ performance, leverage, and growth. Some analysts based their expectations on the company’s revenues and costs. Some include economic performance, growth rates, gross domestic product, and other macro-economic variables. This paper looked at analyst forecasts as influenced by stock returns. The total stock return answered what happened to the stock price and dividend paid as a quotient of the original price. The source of income from stock is the dividends and their increase in value. Therefore, the first proportion of the formula looks at the increase in its value over a while.

This paper is important to many people, such as managing the companies under study, the watchdogs (Securities and Exchange Commission and Financial Reporting Council of Nigeria), potential employees, suppliers, and creditors. It is divided into 5 sections: introduction, literature review, methodology, results and discussion, and conclusion and recommendations. The next section addresses the literature review.

2. Literature Review and Hypotheses Development

The major items of this paper (analyst forecasts and stock prices are interrelated). The paper relied heavily on the Prospect Theory. The theory was first developed by Kahneman and Tversky (1979) and looked at how individuals assessed their losses and compensated with gains. Its theory, though was of psychology, can be applied in economics and finance. Grivoly and Lakonishok (1984) said there is a positive association between analysts’ forecasts and stock prices. Bandyopadynyny, Brown, and Richardson (2021) discovered a low impact on the stock. Similarly, Gleason and Lee (2003) early two centuries ago concluded that financial forecast had an enormous influence on stock pricing. Ramnath, Rock, and Shane (2006) examined the role of financial forecast in the capital market and found it useful in stock pricing in the
United States. Park and Stice (2000) found a positive association between them. Bradshaw (2000) concluded that there is an association between them. Ang and Ciccone (2021) concluded that they are not connected at all. Brav and Lehavy (2003) used a large database of analysts’ target prices issued from 1997-1999 to investigate short-term market reactions to target price revisions and long-term comovement of target and stock prices. They found a significant market reaction to the information contained in analysts’ target prices, both unconditionally and conditional on contemporaneously issued stock recommendations and earnings forecast revisions.

Malmendier and Shanthikumar (2005) examined data from the United States of America and concluded that large traders react strongly to analyst earnings forecasts greater than small traders. Gleason, Johnson, and Li (2008) concluded that analyst forecast information underscores the importance of stock return in the United States. Ferrereira and Santa-Clara (2008) located substantial expectedness in equity earnings by information from financial analysts. In Brazil, Martinez (2010) investigated the effect of stock recommendations in returns for Brazilian public companies using data from the I/B/E/S system from January 1995 through 2003. The results showed that more than 50% of recommendations in the study period were bought. In terms of market-adjusted return, the individual recommendations of some analysts performed reasonably well in the 30 days after the recommendation date, but the consensus recommendation did not perform well. The sell recommendations and downgrades produced significant negative returns.

Groysberg et al. (2011) drew a sample from the USA, Europe, Asia, and Latin American and discovered that sell-side analysts have greater influence than buy-side analysts on stock return. Sancetta, Renzi, and Orlando (2012) in Italy concluded that there was an inverse relationship. Bradshaw, Huang, and Tan (2012) found that analysts' forecasts from individuals have a positive effect while institutions have a negative effect. Gabriel and Ugochukwu (2012) got mixed results in Nigeria. Adebiyi et al. (2012) used the hybridized approach and concluded that analyst forecast significantly affects stock returns in Nigeria. Crawford, Roulstone, and So (2012) observed the United States of America case and judged that financial analysts impact stock return. Bradshaw, Huang, and Tan (2012) used unique analyst-location data covering 11,408 analysts from 41 countries. They found that target price accuracy was negatively associated with the target price level but positively associated with target price revision. Marhfor et al. (2013) disclosed no association between the two. Mgbame and Ohoiorenun (2013) stated that accounting information influences stock prices in Nigeria.

In Australia, Shan, Taylor, and Walter (2014) identified other information in analysts’ forecasts as a legitimate proxy for future cash flows and examined its incremental role in explaining stock return volatility. They used standardized regressions and found volatility increases when current other information is more uncertain and increases more in response to unfavorable news compared to favorable news. Variance decomposition analysis showed that the variance contribution of other information dominated that of expected-return news. In China, Jiani and Liu (2014) focused on securities analyst pricing forecast, based on the IPOs’ data, and estimated a simultaneous equations model with securities analysts’ pricing forecast accuracy, dispersion of forecast, and IPO premium. Results showed that there was a significant negative correlation between securities analysts’ pricing forecast accuracy and dispersion, and both of them are affected by analyst following; securities analysts’ pricing forecast accuracy and dispersion have a significant impact on IPO premium, which proved the effectiveness of securities analysts pricing forecast behavior, and analysts can help investors better value IPOs.

Kim and Song (2015) concluded that the analyst forecast in-stock pricing is overrated in the USA. Cheong and Zurbruegg (2016) uncovered international evidence to conclude inverse bonds amid

Mallikarjuna and Rao (2019) examined the predictive performance of linear and nonlinear models to forecast the stock returns of developed, emerging, and frontier markets. They considered the daily stock market returns of selected indices from developed, emerging, and frontier markets for 2000–2018. The results showed that no single model could be applied uniformly to all markets.

Tiberius and Lisiecki (2019) analyzed the forecast accuracy and profitability of buy recommendations published in 5 main German financial magazines for private households based on fundamental analysis. The results showed a high average forecast accuracy but with a very high standard deviation, which indicated poor forecast accuracy about individual stocks.

Ang and Ciccone (2021) determined the relation between stock returns and analyst forecast properties, specifically, the dispersion and error of annual earnings forecasts. The results indicated that firms with low dispersion or error outperform firms with high dispersion or error. Results showed that liquidity, momentum, industry, post-earnings announcement drift, or traditional risk measures are unimportant.

Bandyopadhyay, Brown, and Richardson (2021) examined the importance of analysts’ earnings forecasts for their stock price through analysts' earnings forecasts. They showed that when the earnings forecast horizon is the next fiscal year, forecasted earnings explain only 30% of the variation in forecasted price; the importance of forecasted earnings for forecasted price rises as the earnings forecast horizon increases; and in the long run, forecasted earnings explain about 60% of the variation in forecasted price. Given the aforementioned, the following hypotheses are tested in the study:

- **H1**: Expert 1 does not have significant validity on stock prices
- **H2**: Expert 2 has no significant effect on share prices
- **H3**: Expert 3 does not have significant consequences on share returns
- **H4**: Expert 4 has no significant outcome on share returns

### 3. Research Methodology

The research design used was correlational, which means that it measures cause and effect relationships. The population of the paper was 184. The sample was 138 after removing 46 companies with problems of suspension due to technicalities such as; below regulatory standards (BRS), below listing standards (BLS), missed regulatory standards (MRS), missed regulatory filing (MRF), delisting Watch List (DWL), Delisting in progress (DIP) and restricting (RST). The model of the paper was:

\[
\text{ASHP}_{i,t} = \beta_0 + \beta_1\text{EXP1}_{i,t} + \beta_2\text{EXP2}_{i,t} + \beta_3\text{EXP3}_{i,t} + \beta_4\text{EXP4}_{i,t} + \varepsilon_{i,t}
\]

Given:
- **ASHP** = Stock prices, measured by the average of share prices at the beginning and end (Bag, 2019; Nageri, 2019; Yahaya & Alkasim, 2020).
- **i** = Firm script (i = 138 corporations)
- **t** = Year script (t = 10 years)
- \(\beta_0\) = Constant
- \(\beta_{1-4}\) = Coefficients
- \(\text{EXP1}\) = Expert 1 is an expert view on institutional trading, and analysts forecasts impact on the stock market (Gabriel & Ugochukwu, 2012; Palley, Steffen and Zhang, 2019; Yahaya & Alkasim, 2020)
EXP2 = Expert 2 is an expert view on consumer spending and sock market (Groysberg et al., 2011; Tiberius & Lisiecki, 2019; Yahaya & Alkasim, 2020)

EXP3 = Expert 3 is the expert view of futures trading in commodity markets (Hollie, Shane, and Zhao, 2017; Yahaya & Alkasim, 2020)

EXP4 = Expert 4 is an expert view that specializes in analyst earnings forecasting and investing (Cheong & Zurbruegg, 2016; Yahaya & Alkasim, 2020)

ε = Error term

4. Results and Discussion

Before estimating the model, this paper tried to describe the statistics. The results were presented in Tables 1 – 7.

Table 1

<table>
<thead>
<tr>
<th>Var.</th>
<th>Observ.</th>
<th>Aver Mean</th>
<th>Std Dev.</th>
<th>Mini</th>
<th>Maxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHP</td>
<td>1,380</td>
<td>5.08</td>
<td>8.89</td>
<td>-17.6</td>
<td>26.4</td>
</tr>
<tr>
<td>EXP1</td>
<td>1,380</td>
<td>48.73</td>
<td>45.77</td>
<td>-21.7</td>
<td>244.4</td>
</tr>
<tr>
<td>EXP2</td>
<td>1,380</td>
<td>16.70</td>
<td>26.59</td>
<td>-50.5</td>
<td>136.9</td>
</tr>
<tr>
<td>EXP3</td>
<td>1,380</td>
<td>-2.904</td>
<td>21.618</td>
<td>-68.9</td>
<td>58.5</td>
</tr>
<tr>
<td>EXP4</td>
<td>1,380</td>
<td>-24.525</td>
<td>24.440</td>
<td>-96.9</td>
<td>44.3</td>
</tr>
</tbody>
</table>

Source: STATA 14 Outputs

The tabular statistics in Table 1 shows the number of observation which was 1,380 received as 138 corporations and 10 years. It contained arithmetic mean, standard deviation, mini mean, and maxi mean. The average mean for ASHP (average share price) was 5.08 with a standard deviation of 8.89, which was higher than the average mean. This was not surprising because of the volatility of share prices which was well known. The mini was -17.6, and the max mean was 26.4. The standard mean for EXP1 (Expert 1) was 48.73 with a standard deviation of 45.77, and mini was -21.7, and maxi mean 244.4. Similarly, the average mean for EXP2 (Expert 2) was 16.70 with a standard deviation of 26.59, and mini was -50.5, and the maximum mean was 136.9. Also, the average mean for EXP3 (Expert 3) was -2.904 with a standard deviation of 21.618, and the minimum was -68.9 and the maximum mean 58.5. Furthermore, the arithmetic mean for EXP4 (Expert 4) was -24.525 with a standard deviation of 24.440, and mini was -96.9, and the maximum mean was 44.3.

Table 2

<table>
<thead>
<tr>
<th>Var.</th>
<th>Observ.</th>
<th>QH</th>
<th>QH*</th>
<th>Prob value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHP</td>
<td>1380</td>
<td>0.996</td>
<td>0.132</td>
<td>&lt; .000</td>
</tr>
<tr>
<td>EXP1</td>
<td>1380</td>
<td>0.918</td>
<td>3.060</td>
<td>&lt; .000</td>
</tr>
<tr>
<td>EXP2</td>
<td>1380</td>
<td>0.960</td>
<td>1.476</td>
<td>&lt; .000</td>
</tr>
<tr>
<td>EXP3</td>
<td>1380</td>
<td>0.995</td>
<td>0.186</td>
<td>&lt; .000</td>
</tr>
<tr>
<td>EXP4</td>
<td>1380</td>
<td>0.992</td>
<td>0.313</td>
<td>&lt; .000</td>
</tr>
</tbody>
</table>

Foundation: STATA 14 Outputs

From Table 2, the number of observations was 1,380. QH and QH* values were less than 1, which were expected given that the p-values are significant, meaning that the figures were not normally distributed (p-values < .05). Table 3 presents the association among the experimental variable to test for multicollinearity.
The results in Table 3 can be used to test for multicollinearity. From the look of the table, the correlation matrix has no coefficient of 0.80, which was the benchmark of linearity and was confirmed by outcomes in Table 4 as follows.

### Table 4. Variance Inflation Factor

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP3</td>
<td>3.33</td>
<td>0.301</td>
</tr>
<tr>
<td>EXP2</td>
<td>2.82</td>
<td>0.354</td>
</tr>
<tr>
<td>EXP4</td>
<td>2.24</td>
<td>0.447</td>
</tr>
<tr>
<td>EXP1</td>
<td>1.79</td>
<td>0.559</td>
</tr>
</tbody>
</table>

Mean VIF 2.54

From Table 4, the variance inflation factor of EXP3 was 3.33, which was the minimum threshold for rejecting the hypothesis that there was the absence of multicollinearity in the data set. From a closer observation, the variance inflation factors for others were less than 3.33, suggesting no linearity.

### Table 5. Cameron & Trivedi's breakdown of IM-experiment

<table>
<thead>
<tr>
<th>Types</th>
<th>chi²</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hettest</td>
<td>104.12</td>
<td>14</td>
<td>0.000</td>
</tr>
<tr>
<td>Skew.</td>
<td>89.39</td>
<td>4</td>
<td>0.000</td>
</tr>
<tr>
<td>Kurt.</td>
<td>38.32</td>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td>Sum</td>
<td>231.83</td>
<td>19</td>
<td>0.000</td>
</tr>
</tbody>
</table>

From the results in Table 5, the p-value for testing the presence of heteroskedasticity was significant (p-value = .000). Similarly, the p-values of Skewness and Kurtosis were significant, which confirmed that the data sets are not normally distributed. This and the presence of heteroskedasticity call for the treatment of regression by robust it.

Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi bar square (01)</td>
<td>0.000</td>
</tr>
<tr>
<td>Probability &gt; chi bar square</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

From Table 6, the p-value was 1.000, meaning that it was not significant, implying no panel effect in the data set. Hence, the model was better fitted with ordinary least squares (OLS). The results are of the OLS are conveyed next.
Table 7. OLS Regression Outcomes

| EXP  | Coef. | Robust Std. Err. | t    | P>|t| |
|------|-------|------------------|------|-----|
| EXP1 | 0.035 | 0.005            | 7.02 | 0.000 |
| EXP2 | 0.019 | 0.013            | 1.40 | 0.162 |
| EXP3 | 0.090 | 0.017            | 5.35 | 0.000 |
| EXP4 | 0.080 | 0.016            | 6.34 | 0.000 |
| _cons | 5.296 | 0.396           | 13.36 | 0.000 |

No. obs = 1,380
F(4, 1375) = 153.54
Probability > F = .000
R^2 = .293

From the results in Table 7, every additional investment in the information provided by EXP1 produces .035 increments in average share price (ASHP). Similarly, this was significant (t-value = 7.02, p-value = 0.000). Furthermore, every additional investment in the information provided by EXP2 produces .019 increments in average share price (ASHP). However, this was found not to be significant (t-value = 1.40, p-value = 0.162). In addition, every additional investment in the information provided by EXP3 produces .090 increments in average share price (ASHP). Similarly, this was significant (t-value = 5.35, p-value = 0.000).

Also, every additional investment in the information provided by EXP4 produces .080 increments in average share price (ASHP). Similarly, this was significant (t = 6.34, p = .000). The number of observations was 1,380, which was a confirmation of what was said in section 3. Interestingly, the Prob > F was .000, which means that the model adopted in the paper was fit and appropriate. The R^2 which was the percentage of explanation by the independent variables of the variations in the dependent variable, was .293 (29.5 percent). This was considered to be high in effect given its size.

On average, these results are in agreement with the findings of Grivoly and Lakonishok (1984), Gleason and Lee (2003), Rammnath, Rock and Shane (2006), Park and Stice (2000), Bradshaw (2000; Brav and Lehavy (2003) and Malmendier and Shanthikumar (2005), Groysberg et al. (2011), Bradshaw, Huang and Tan (2012), Adebiyi et al. (2012), Crawford, Roulstone and So (2012), Mgbame and Ohoiorenue (2013), Wang and Chou (2014), Wu (2017), Ibrahim (2017) and failed to confirm the findings of Ang and Ciccone (2001), Sancetta, Renzi and Orlando (2012), Cheong and Zurbruegg (2016) and Hollie, Shane and Zhao (2017). Given the results, hypothesis 1, which stated that Expert 1 has no significant effect on stock prices in Nigeria, is now rejected. However, hypothesis 2, which stated that Expert 2 has no significant effect on stock prices in Nigeria, is accepted because results showed it was true. However, hypothesis 3, which stated that Expert 3 has no significant effect on stock prices in Nigeria, is hereby rejected. Similarly, hypothesis 4, which stated that Expert 4 has no significant effect on stock prices in Nigeria, is hereby rejected.

5. Conclusion and Recommendations

The objective of the paper was to test the brunt of analyst forecasts on stock prices or stock returns in Nigeria, as shown by Table 7. The paper goes through the experimental literature in the juncture of analyst forecasts and stock prices. The paper used the Prospect theory and showed how analyst forecasts information plays a critical role in the formation of stock prices.

The paper contributed to the current discussion on the contributions of analyst forecasts on stock returns. Given the results in Table 7, companies are expected to take the maximum advantage of expert information because the p-value of analyst forecasts information was positive on average. The limitations of the paper are, for example, the paper was limited to listed companies in Nigeria. It does...
not include other companies that are not quoted. The recommendations of the paper are limited to corporate Nigeria alone. Further investigations should include South Africa and Egypt, which are the largest countries following Nigeria in economic sizes.

The roles of this paper are many: First, the paper added by proposing, to the chief of the researcher’s knowledge, a broad dialogue of the main essentials involved. Second, the study pointed to areas for future research. Third, the study deduced policy consequences of the studies under review. In sum, the paper showed that analyst forecasts have positive and significant effects on corporate stock returns.

References

