EFFECT OF BONUS ISSUE ON STOCK PRICES OF COMPANIES QUOTED AT THE NAIROBI SECURITIES EXCHANGE
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Abstract

Purpose: The purpose of this study was to determine the effect of bonus issue on stock prices of companies quoted at the Nairobi securities exchange

Methodology: The study adopted an event study methodology since the study was concerned with the establishment of the information content of bonus issue announcement on share performance at the NSE. The population of this study was 61 companies listed in the NSE. A sample size of 10 listed companies was focused on as there were only 10 companies which had issued bonuses between 2009 and 2012. The study used secondary data to gather information. The collected secondary data was coded and entered into Statistical Package for Social Sciences (SPSS, Version 20) for analysis

Results: The study findings revealed that there was a drastic incline from year 2009 to year 2010 followed by a slight decrease in abnormal returns in the following years, Abnormal returns present the difference between the actual returns and the expected returns over a certain period of time. Study findings from the market model indicated that the market return is a good predictor of stock returns. ANOVA results indicated that abnormal returns after bonus issue were significantly higher than abnormal returns before bonus issue. ANOVA results also indicated that actual stock returns were significantly higher after bonus issue than before the bonus issue

Policy recommendation: The study recommends the NSE to establish and enhance policies for investing so as to attract and encourage large institutional and foreign investors to participate at the NSE. The study also recommends that policy makers and regulators at the NSE are encouraged to encourage more research on the NSE form of efficiency; this will provide a forum for investors to get the information on the form of efficiency of the market and boost their confidence when investing at the NSE

Keywords: Bonus issue, Stock prices, companies quoted at NSE
1.1 Introduction

Over the years, the relationship between bonus issues and stock prices has been the subject of much empirical discussion within the finance literature. According to theory, bonus issues increase the number of equity stocks outstanding but have no effect on stockholder's proportional ownership of stocks. The bonus issue date is known well in advance and therefore should contain no new information. As such, one would not expect any significant price reaction on bonus issue announcement. Contrary to this theoretical prediction, however, empirical studies of bonus issues and stock dividends have documented a statistically significant market price reaction. It is therefore a matter of concern that firms announcing bonus issues experience a rise in their stock prices on average, supporting semi-strong form Efficient Market Hypothesis (EMH) (Mishra, 2004).

Generally, the investigation of the effect of bonus issues on stock prices has been limited to the study of well-developed stock markets. The aim of this paper is to examine the stock price reaction to information released on bonus issues with a view of examining companies listed in the Nairobi Security Exchange and which have issued bonus issues in the past four years. The event study methodology (Dolley, 1933; Fama et al., 1969; Brown and Warner, 1980, 1985) has been used to contribute further evidence on the efficiency characteristics of the Nairobi Security Exchange.

1.2 Research Objective

The objective of this study was to establish the signalling effect of bonus issue announcement on stock prices of companies quoted at the Nairobi Securities Exchange (NSE).

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.2.1 Signalling Theory

Though Modigliani and Miller (1961), assumed that there is perfect knowledge about a firm by investors and management, this has been countered by many researchers as management who look after the firm tend to have more precise and timely information about the firm than outside investors. This therefore creates a gap between managers and investors, to bridge this gap, management use dividend as a tool to convey private information to shareholders Al-Malkawi (2007). Pettit (1972) observed the amount of dividend paid seem to carry great information about the prospects of a firm, this can be evidenced by the movement of share price. An increase in dividend may be interpreted as good news and brighter prospects and vice versa. But Lintner (1956) observed that management is reluctant to reduce dividend even when there is the need to do so. And only increase dividend when it is believed that earnings have permanently increased.

2.2.2 The Efficient Market hypothesis

The efficient markets hypothesis (EMH), popularly known as the Random Walk Theory, is the proposition that current stock prices fully reflect available information about the value of the firm, and there is no way to earn excess profits, (more than the market overall), by using this information. It deals with one of the most fundamental and exciting issues in finance –
why prices change in security markets and how those changes take place. It has very important implications for investors as well as for financial managers.

News by definition is unpredictable and random in markets deemed to be efficient and hence uniformed investors buying a diversified portfolio at the prices given by the market should obtain the same rate of return as by the experts (Bodie et al, 2010). If the flow of information is unimpeded, then it should immediately be reflected in the current stock prices so that a future period’s price change will only reflect news about that future period and will be independent of the past stock prices (Malkiel, 2003).

The intense competition causes to new information being instantaneously reflected in stock prices which makes it difficult for any participant to possess comparative advantage in the acquisition of information that can outperform the market by generation of abnormal returns, which is an aspect that enhances stock market efficiency (Cuthbertson, 2005). New information is in the form of news, announcements, expectations, opinions, stories, and even lack of news which should be continuously incorporated in stock prices if the market is deemed to be efficient (Stefan, 2009). Thus profiting from bonus announcements which are expected to already be incorporated in stock prices would constitute an anomaly in the NSE which is expected to be efficient.

2.3 Empirical Literature

Bonus issuance event study has not been examined in the past in the NSE which displays efficiency in the weak form as evidenced by Olweny (2012) who studied the effect of cash dividend announcement on value of the firm using event study methodology involving t-test of significance to establish whether dividend announcements had information content. He used NSE data of 4 firms for the period between years 1999 to 2003. The results indicated that dividend announcements significantly affects the firm value, that such announcements do indeed convey useful information about the future value of a firm and that the NSE is not efficient hence can allow abnormal returns to be made during dividend announcement.

Dickinson and Muragu (1994) studied market efficiency in developing Countries and focused on the Nairobi stock Exchange. They employed the use of serial correlation test of individual companies, correlation coefficient testing across lags of individual companies, binomial test of individual companies, Q statistics test and Runs tests. The results indicated that the NSE was efficient in the weak form.

Magnusson and Wydick (2005) studied efficiency of African stock markets and in their methodology they analyzed weak form efficiency into 3 levels of random walk III which was the least limiting and postulated that it was not possible to use past prices to predict future prices and that the price movements should have uncorrelated increments that can be tested using partial auto-correlation function of random increments of past prices which can be tested for significance from zero which is the normal if the market is efficient in the weak form. Random walk II level imply compliance with random walk III and an additional test to ascertain the correlation of squared incremental changes which if not significantly different from zero, then random walk II requirements will have been fulfilled implying that variances can change over time (heteroscedasticity) but in an unpredictable manner. The random walk I
was the most restrictive and required white test of heteroscedasticity. The results indicated that none of the African stock markets conformed to random walk I and only the US markets met its requirements. The NSE conformed to random walk II just like markets in south East Asia and Europe. This implied that even African markets were not inferior to those in other parts of the world.

Mlambo et al, (2007) studied the weak form of efficiency of African stock markets and employed serial correlation tests of Runs test. He observed thin trading problem especially in Namibia and Botswana markets. In many of the markets studied, the random walk hypothesis was rejected except for the markets in Kenya, Namibia and Zimbabwe that were found to be relatively weak form efficient. Namibia’s market weak form of efficiency was attributed to cross listings from JSE. For the markets in Mauritania, Ghana, Egypt and Cote d I’voire they were found to be weak form inefficient which implies that past trends analysis can generate abnormal returns. Amuthan R and Ayyappan S (2011), analyzed bonus issuance event announcement on Indian banking and technological sectors by focusing on the behavior of share prices of 10 listed companies to establish whether there was a significant difference between the abnormal returns of one day before and one day after the bonus announcement. The results indicated that there was a significant difference in the form of either positive or negative abnormal returns a day before and after the bonus announcement and hence they concluded that the bonus issue was a powerful event.

Barnes and Shiguang (2001) studied market efficiency by analyzing the response of stock prices to announcement of bonus issues in China using event study methodology. An investigation window of 20 days before and after the event was employed and 3 portfolios were constructed for the purpose of analysis categorized as small bonus portfolio consisting of 103 proposals, middle bonus portfolio consisting of 37 proposals and large bonus portfolio consisting of 56 proposals. Their results indicated that high bonus ratio as measured by the number of bonus shares over the number of existing shares will usually attract positive returns while issues with low bonus ratio attract low returns.

Darrel and Frank (2010) studied insider trading as a test of market efficiency and were interested in establishing whether insider purchases influence stock price returns on or around the purchase date on the risk adjusted. They employed the standard event study rate of returns of firms and event window of 20 days before and after the event. The results indicated that the risk adjusted returns of firms announcing insider purchases was not significantly affected around the announcement dates as defined by the event period.

Kumar and Halageri (2011) studied the market efficiency of the Indian stock market using the event study methodology and focused on bonus issuance event from April 1996 to March 2001. The event period consisted of 15 days before and after the announcement and 54 bonus announcements from listed companies were studied whose results indicated that the Indian stock markets did not perfectly incorporate bonus announcement information instantaneously in the stock prices. This meant that it is possible to make abnormal returns from bonus announcements by applying the buy and hold investment strategy.
Mishra (2005) studied market reaction around bonus issues in India in order to examine whether the market is efficient or not. The study period was between years 1998 to 2004 where a sample of 46 bonus issues were used in an event study. An event window of 180 days was used and results showed that stocks start showing abnormal returns between 8 to 9 days before the announcement date which was probably due to leakage of information.

3.0 METHODOLOGY
The study adopted an event study methodology since the study was concerned with the establishment of the information content of bonus issue announcement on share performance at the NSE. The population of this study was 61 companies listed in the NSE. A sample size of 10 listed companies was focused on as there were only 10 companies which had issued bonuses between 2009 and 2012. The study used secondary data to gather information. The collected secondary data was coded and entered into Statistical Package for Social Sciences (SPSS, Version 20) for analysis.

4.0 RESULTS FINDINGS
4.1 Annual Trends of Returns
This section presents the trend analysis of the dependent and independent variables of the study. The trend analysis of the stock returns represented in figure 1 shows that there was a drastic increase from year 2009 to year 2010 followed by a drastic decline in the year 2011 and slight decline in the stock returns in 2012 to attain a mean of -0.002464.

![Figure 1 Trend Analysis of Stock Returns](image)

Trend analysis in market return presented in figure 2 indicates an increase in market return in year 2010 and an increase in 2012. The mean market return of year 2011 was the lowest at -0.0049217 which indicates that there were few companies that made their bonuses announcements that year hence low market returns. This indicates that the market was more volatile in the year 2011 compared to the previous years.
Trend analysis in expected returns presented in figure 3 indicates an increase in expected return in year 2010 and a decline in the following years. The mean expected return of year 2012 was the lowest at -0.001155 which indicates that there were few companies that made their bonuses announcements that year hence low market returns. This indicates that there was also low activity in individual stock returns and market returns in that year hence the low expected returns.

The trend analysis of the abnormal return represented in figure 4 shows that there was a drastic incline from year 2009 to year 2010 followed by a slight decrease in abnormal returns in the following years. Abnormal returns present the difference between the actual returns
and the expected returns over a certain period of time. This changes that caused the drift in abnormal returns as represented by the graph can be explained by the changes in market returns and the bonus issuance. In 2010 the abnormal returns shoot to 0.005751 and were the highest this was because to the issuance of the bonus thus the individual stock returns for the companies increased due to the market activities. This further is because abnormal returns are sometimes triggered by events. In finance events can typically be classified as occurrences or information that has not already been priced by the market. The decline in 2012 may be as a result of a decline in the firms’ market value which exceeded the expected amount, this therefore is a loss.

![Trend Analysis of Abnormal Returns](image)

Figure 4: Trend Analysis of Abnormal Returns

### 4.2 Regression Analysis

This section illustrates the fitness of the model used in the study as well as the calculation that derived the alpha and beta coefficients for generation of the abnormal returns. Table 1 shows fitness of the regression model in determining the abnormal returns. The variables that were used to determine abnormal returns were actual stock returns and market returns. From the results presented below, an R square of 0.013 indicates that the independent variable; market return explains 1.3% of the variations of actual return. This shows that the goodness of fit of model is not satisfactory.

**Table 1: Fitness of Model**

| Indicator                      | Coefficient |
|-------------------------------|-------------|
| R                             | 0.116       |
| R Square                      | 0.013       |
| Std. Error of the Estimate    | 0.02383     |
ANOVA statistics presented on Table 2 indicate that the overall model was statistically significant. This was supported by an F statistic of 5.293 and probability (p) value of 0.022. Probability value (p) is usually given the value of 0.05; therefore any value below the same is statistically significant while any value above 0.05 is not significant. Therefore from the results the reported p value 0.022 was less than the conventional probability of 0.05 significance level thus its significance. The ANOVA results imply that the independent variable (market return) was a good predictor of stock return and alpha and beta coefficients.

### Table 2: Analysis of Variance (ANOVA)

| Indicator   | Sum of Squares | df | Mean Square | F      | Sig.  |
|-------------|----------------|----|-------------|--------|-------|
| Regression  | 0.003          | 1  | 0.003       | 5.293  | 0.022 |
| Residual    | 0.22           | 388| 0.001       |        |       |
| Total       | 0.223          | 389|             |        |       |

Table 3 presents results of the alpha and beta constants that were used to derive the abnormal return. The model presented below shows how the abnormal return was calculated. The regression of coefficients results further indicate that the variable market return had a positive and significant relationship with the actual return, which is evident from the value 0.022. The conventional value of 0.05 is the scale that determines the significance of an independent variable, thus any value below 0.05 is significant and a value above the same is not significant. Therefore in the results, 0.022 is lower than the conventional value 0.05 thus making the market return variable significant in explaining actual return and determining the beta and alpha coefficients.

### Table 3: Regression of Coefficients

| Variable       | Beta  | Std. Error | t      | Sig.  |
|----------------|-------|------------|--------|-------|
| Constant       | -0.001| 0.001      | -0.788 | 0.431 |
| Market returns | 0.063 | 0.027      | 2.301  | 0.022 |

Y = -0.001 + 0.063X
Y = expected return
X = actual returns

### 4.3 Analysis of variance Between Groups and t-test Analysis of Abnormal Returns

The table below provides descriptive statistics for the returns, actual, market, expected and abnormal returns before and after bonus issue. The results indicate a high score in the mean of actual stock returns after bonus issue than before the bonus issue. This is presented by a negative mean of 0.002 before bonus issue and a mean of 0.003 after bonus issue. The market return had a mean of 0.013 before bonus issue and a mean of 0.030 after the bonus issue. The
same case is also presented in the expected returns mean where the returns before bonus are lower than after the bonus issuance, with means of -0.0012 and -0.0008 respectively. The mean of the abnormal return before bonus issuance is -0.001 and the mean after the bonus issuance is 0.004. These results show that abnormal returns are higher after bonus issuance this confirms the model as the market returns tend to increase any time there is issuance of bonuses due to increased activities in the individual stock market returns.

Table 4: Descriptive Statistics for Returns

| Variable       | Mean   | Std. Deviation | Std. Error | 95% Confidence Interval for Mean Lower Bound | 95% Confidence Interval for Mean Upper Bound |
|----------------|--------|----------------|------------|---------------------------------------------|---------------------------------------------|
| Stock Returns  |        |                |            |                                             |                                             |
| Before Bonus   | -0.002 | 0.021          | 0.001      | -0.005                                      | 0.001                                       |
|                | 0.003  | 0.026          | 0.002      | -0.001                                      | 0.007                                       |
| Market Returns |        |                |            |                                             |                                             |
| Before Bonus   | 0.013  | 0.033          | 0.002      | 0.008                                       | 0.017                                       |
|                | 0.030  | 0.052          | 0.004      | 0.022                                       | 0.037                                       |
| Expected Returns |      |                |            |                                             |                                             |
| Before Bonus   | -0.001 | 0.001          | 0.000      | -0.001                                      | -0.001                                      |
|                | -0.001 | 0.002          | 0.000      | -0.001                                      | -0.007                                      |
| Abnormal Returns |     |                |            |                                             |                                             |
| Before Bonus   | -0.001 | 0.020          | 0.001      | -0.004                                      | 0.002                                       |
|                | 0.004  | 0.025          | 0.002      | 0.000                                       | 0.007                                       |

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Statistics in table 5 indicate that all the returns were statistically significant before and after the bonus issuance. This is represented p values of 0.028 for actual returns, 0.000 for market return, 0.028 abnormal returns and 0.028 for expected return which were all statistically significant in relationship between the stocks and bonus issue.

Table 5: Analysis of Variance (ANOVA) Between Groups

| Variable         | Sum of Squares | df | Mean Square | F      | Sig. |
|------------------|----------------|----|-------------|--------|------|
| Stock Returns    |                |    |             |        |      |
| Between Groups   | 0.003          | 1  | 0.003       | 4.851  | 0.028|
| Within Groups    | 0.221          | 388| 0.001       |        |      |
| Market Returns   |                |    |             |        |      |
| Between Groups   | 0.029          | 1  | 0.029       | 15.317 | 0.000|
| Within Groups    | 0.736          | 388| 0.002       |        |      |
| Expected Returns |                |    |             |        |      |
| Between Groups   | 0.000          | 1  | 0.000       | 4.851  | 0.028|
| Within Groups    | 0.001          | 388| 0.000       |        |      |
| Abnormal Returns |                |    |             |        |      |
| Between Groups   | 0.002          | 1  | 0.002       | 4.851  | 0.028|
| Within Groups    | 0.194          | 388| 0.000       |        |      |

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The objective of the study was to establish the signalling effect of bonus issue announcement on stock prices of companies quoted at the Nairobi Securities Exchange (NSE). The trend analysis of the abnormal return indicated that there was a drastic incline from year 2009 to
year 2010 followed by a slight decrease in abnormal returns in the following years. Abnormal returns present the difference between the actual returns and the expected returns over a certain period of time. This changes that caused the drift in abnormal returns as represented by the graph can be explained by the changes in market returns and the bonus issuance. In 2010 the abnormal returns shoot to 0.005751 and were the highest this was because to the issuance of the bonus thus the individual stock returns for the companies increased due to the market activities. This further is because abnormal returns are sometimes triggered by events. In finance events can typically be classified as occurrences or information that has not already been priced by the market. The decline in 2012 may be as a result of a decline in the firms’ market value which exceeded the expected amount, this therefore is a loss.

Regression analysis was conducted to test the model fitness. Results indicated that there was an R square of 0.013 which indicates that the independent variable market return explained 1.3% of the variations of actual return. This shows that the goodness of fit of model was not satisfactory. ANOVA statistics indicated that the overall model was statistically significant. This was supported by an F statistic of 5.293 and probability (p) value of 0.022. The ANOVA results imply that the independent variable (market return) was a good predictor of stock return and alpha and beta coefficients.

The regression of coefficients results further indicate that the variable market return had a positive and significant relationship with the actual return, which is evident from the value 0.022. The conventional value of 0.05 is the scale that determines the significance of an independent variable, thus any value below 0.05 is significant and a value above the same is not significant. Therefore in the results, 0.022 is lower than the conventional value 0.05 thus making the market return variable significant in explaining actual return and determining the beta and alpha coefficients.

5.2 conclusion

Following the study findings, it was possible to conclude that the market return is a good predictor of stock returns. It was concluded that abnormal returns after bonus issue were significantly higher than abnormal returns before bonus issue. Results led to the conclusion that actual stock returns were significantly higher after bonus issue than before bonus issuance. Finally, results led to the conclusion that the expected returns as well as the market returns were significantly higher after bonus issuance than before bonus issue.

It was also possible to conclude that market return had a positive and significant relationship with the actual returns. This implies that the information contained in the annual earnings announcement is absorbed efficiently in the share prices giving chances of traders earning abnormal returns around the event date. This is consistent with the EMH which states that upon the event the price reaction to new information must be instantaneous and unbiased leaving no room for investors to earn abnormal returns.

5.3 Recommendations of the Study

Following the study conclusions, it is recommended that micro financing institutions should regulate the products and services they offer to SMEs so as to have all clients enclosed in their loan portfolio. The study further recommends that banks should work hand in hand with the government to support upcoming businesses and offer financial support.
5.4 Recommendations for Further Research

The study recommends further studies on the access of informal credit by SMEs. Such study should focus on the factors that influence the access of small firms from microfinance institutions, merry go rounds and SACCOs. Future studies should also focus on the financial management practices of small firms. This is because the proper working capital management may influence the growth, profitability and the consequent ability to access finance from all sources.

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