THE EFFECTIVENESS OF PROFIT WARNINGS IN PREDICTING DECLINE IN SHARE PRICES IN THE NSE:
An Event Study Approach.

Martin Ngunu Wainaina, 078905

Submitted in partial fulfillment of the requirements for the Degree of Bachelor of Business Science in Actuarial Science at Strathmore University

Strathmore Institute of Mathematical Sciences
Strathmore University
Nairobi, Kenya

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Project contains no material previously published or written by another person except where due reference is made in the Research Project itself.

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…………….. [*Date*]

School of Finance and Applied Economics

Strathmore University

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LIST OF ABBREVIATIONS

AAR   Average Abnormal Return

AR   Abnormal Return

CAAR   Cumulative Average Abnormal Return

CAR   Cumulative Abnormal Return

NSE   Nairobi Securities Exchange

NYSE   New York Stock Exchange

OLS   Ordinary Least Squares

SAR   Standardized Abnormal Return

SAAR   Standardized Average Abnormal Return

SCAAR   Standardized Cumulative Average Abnormal Return

UK   United Kingdom of Great Britain and Northern Ireland

ABSTRACT

Profit warnings are issued by companies to inform shareholders that the current year's profit will be significantly lower than the profit of the previous year or the anticipated profit for the current year (Jensen, 2005). The aim of this paper is to determine whether investors can rely on profit warnings as lead indicators of falling share prices. An event study is carried out to determine when the decline of share prices occurs with reference to issuance of profit warnings. A hypothesis test is then carried out to determine if the decline prior to the issuance of a profit warning is of material significance. The data used is of Kenya's NSE, between the years 2002 and 2016.

Keywords: Profit warning, Share prices, Event Study

1. INTRODUCTION

1.1 Background

A negative profit warning is an irregular and unpredictable disclosure, downgrading a firm's expected earnings (Sphor, 2014). Profit warnings are mainly issued as part of regulatory requirements - for example NSE listed firms that anticipate a drop of more than 25% of value - but can also be issued voluntarily.

The decision to issue a profit warning might appear as counterproductive for a firm as it immediately erodes shareholder value as reflected in the share price. Jensen (2005) argues that equity overvaluation, as a result of information asymmetry, might have an adverse effect on firms. Managers, in attempting to maintain an illusion of growth, would be tempted to manipulate financial statements. In order to ease this pressure and the information asymmetry between owners and managers, he recommends that firms issue profit warnings when performance that would warrant a certain equity valuation cannot be achieved.

Abnormal returns prior to the issuance of a profit warning occur because of a prior surprise announcement, market anticipation or insider trading (Kodongo, 2012). The object of this study is the last two reasons, as they are likely to disenfranchise an investor who relies on company announcements.

The case study of Restaurant Group - a chain of restaurants and public houses based in the UK - best illustrates the scenario. The company's share price declined by 57% between 14th January 2016 and 5th May 2016 (Oakley, 2016). Due to prior anticipation in the market the share price had already declined by 44.12% prior to the issuance of a profit warning leaving investors who relied on the profit warnings at a material disadvantage.

Figure 1: The share price decline of Restaurant Group year 2016.

Figure 1: The share price decline of Restaurant Group year 2016

According to Oakley (2016), factors that make a company more likely to issue a profit warning are: overvalued shares relative to earnings, retail businesses affected by slowing growth, high debt relative to assets, heavy reliance on commodity prices and cyclical industries. For contrarian investors, profit warnings can be an opportunity to buy largely unpopular shares at low prices provided the company maintains its financial fundamentals.

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1.2 Problem Statement

From the efficient market hypothesis, share prices should begin declining when a profit warning is issued. For a semi-strong form efficient market, this decline should occur mainly in the announcement date whereas it may take longer than a day for a weak form efficient market (Kodongo, 2012). Herrerias & Bulkley (2003) find that there appears to be some abnormal returns information that occurs before the profit warning. Anderson & Chang (2011) established that share prices in the market begin declining prior to the issuing of a profit warning. This is corroborated by Oakely (2016) in the case of Restaurant Group where the share price declines by 44.12% prior to the issuing of a profit warning. Consequently, investors who rely on profit warnings seem to be left at a material disadvantage.

This research seeks to identify whether profit warnings can be reliably used to predict share price decline. This is of particular interest since most researchers have focused on what happens after a profit warning is issued [(Sphor, 2014) (Herrerias & Bulkley, 2003)]. Using an event study methodology to determine abnormal returns, a significance amount of 10% of cumulative abnormal returns is used for abnormal returns occurring prior to the issuance of a profit warning.

1.3 Research Objectives

1. To determine whether share prices in the NSE begin declining prior to profit warnings.
2. To determine whether declines prior to issuance of profit warnings are of material significance.

1.4 Research Questions

1. Do share prices in the NSE exchanges begin declining prior to profit warnings?
2. Are declines prior to issuance of profit warnings of material significance?

1.5 Importance of the Research

Insurance companies and pension funds hold significant amounts of their portfolio in listed equities. Such equities are prone to erosion of value due to profit warning requirements of stock exchanges (for example the NSE requires any company anticipating a drop in profits of more than 25% of the previous year to issue a profit warning). Due to liquidity requirements and asset liability matching, it would be proper for such companies to realize to what extent they should rely on profit warnings as their indicator for a falling share price.

1.6 Scope and Limitation of Study

The study is carried out in the NSE, a weak form efficient market, therefore generalizations can be difficult to make. The study is also limited to a time period of 14 years and 21 listed companies.

1.7 Chapter Summary

Profit warnings present a unique case in event studies as unlike other events little or no anticipation prior to the occurrence of the warning should occur. It is therefore important for investors that these warnings be reliable otherwise they will be left at a material disadvantage. This study seeks to establish whether profit warnings issued in the NSE can be relied upon by investors to give timely information that leaves them at no material disadvantage.

2. LITERATURE REVIEW

2.1 Profit Warnings

Dave Jackson and Jeff Madura in their 2003 paper, *Profit warnings and timing*, find that profit warning announcements cause a strong negative market response that is not sensitive to timing the warning in advance of the earnings announcement. Using an event study approach to compare cumulative abnormal returns, they find that Share prices begin to adjust about five days before a profit warning, and the market reaction is not complete until about five days after the warning (Madura & Jackson, 2003). They however do not proceed to find out the cause of share decline prior to the issuance of the profit warning.

Michael Jensen, in his 2005 paper *Agency Costs of Overvalued Equity*, justifies the need for a profit warning. He proposes that if equity becomes overvalued, managers are tempted to manipulate financial statements in order to sustain the perceived growth. Overvalued equity according to him, is where a company cannot possibly generate earnings to justify the price attached to the equity. This leads to scandals that destroy shareholder value. To counter the aforementioned, he proposes the issuing of a profit warning to rectify the information asymmetry. Jensen however does not show empirically how share prices react to the issuance of profit warnings. He also does not support empirically, his assertion that issuing a profit warning is good for the company in the long run.

George Bulkley and Renata Herrerias in their 2005 paper, *Does the precision of news affect market under reaction? Evidence from returns following two classes of profit warnings*, evaluate whether markets react rationally to profit warnings. Significant abnormal negative returns is found in the first three months after the announcement of a profit warning. If the disclosure is less precise, they find that under reaction is likely to

happen. They however give more emphasis to the period after issuance of a profit warning as opposed to the period before.

Claude Francoeur, Réal Labelle, Isabelle Martinez in their 2008 paper, *Governance and the decision to issue a profit warning*, find that corporate boards are more likely to issue a profit warning if they believe analysts are driving up the stock price as opposed to if it is the general market. A determinant model for deciding whether an overvalued company will issue a profit warning is used; with the grade from the Globe and Mail Report on Business as a proxy for governance. The study however overlooks the impact of the said profit warnings on the market focusing instead on the decision to issue a profit warning.

Warwick W Anderson and Ava Chang in their 2011 paper, *Are profit warnings and suspension notices adequate disclosures of distress*, find that share prices do begin declining prior to the release of a profit warning. By using an event study to determine the point of decline and Altman's Z-score for the level of the firm's distress, they find that there is significant weekly cumulative abnormal return prior to the issuing of the disclosure. These brings into question the efficiency of required disclosures of the New Zealand Stock Exchange as timely or adequate identifiers of distress. The study does not however seek to identify whether there are more adequate and timely indicators of financial distress in a firm.

2.2 Market Efficiency

In their 1969 paper, *The Adjustment of Stock Prices to New Information*, Fama, Fisher, Jensen and Roll seek to establish how share prices adjust to include information on stock splits. They introduce the event study methodology to determine the abnormal returns of the stock as a result of stock splits. The event study methodology solves the joint hypothesis problem whereby to test for market sufficiency, an equilibrium model is needed to come up with the proper prices of securities. They conclude that markets adjust fully by the end of the split month and that this adjustment is almost fully reflected on the date of announcement of the split. This leads to the general conclusion that the New York Stock Exchange (NYSE) is "efficient". The concept of market efficiency is however not properly defined; with the abstract definition of stocks reacting quickly to market information.

Eugene Fama in his 1970 paper, *Efficient Capital Markets: A Review of Theory and Empirical Work,* lays out the conceptual framework of market efficiency. He classifies market efficiency into three forms: weak form, semi-strong form and strong form market efficiency. Weak form market efficiency includes all historical information in the pricing of a stock. Semi-strong form market efficiency incorporates all publicly available information in stock pricing. Strong form efficiency includes public and private information in the pricing of stocks. The concept of markets existing in three discrete forms is useful but however underscores the reality where markets exist at various points in relation to efficiency. He further examines the random walk and martingale approaches to market efficiency. The random walk model proposes that if a market is efficient then $(\Phi_t) = (\tilde{r}_{j,t+1})$ whereas the martingale model proposes that if a market is efficient, then $E(\Phi_t) = E(\tilde{r}_{j,t+1})$.

Where $\tilde{r}_{j,t+1}$ is the return of security j at time t+1

Φ_t is the filtration of security j at time t

The condition of efficiency of the random walk model is stronger as it proposes that the entire return process should not consider the historical returns of the stock. The martingale approach on the other hand proposes that the immediate future return does not depend on the past returns.

In the 1991 paper, *Efficient Capital Markets: II*, Eugene Fama creates three new categories of market efficiency to replace the former classification. The first category, tests for returns predictability, includes all weak form efficiency tests and forecasting returns using fundamental factors like dividend yield. The second category, event studies, contains exactly the same work as semi-strong form efficiency. The third category, tests for private information, is similar to strong form efficiency. The three new categories are more appropriately named in relation to their use. Fama proposes that the cleanest form of market efficiency comes from event studies, especially those using daily returns. On private information, he concludes that a longer time period of abnormal returns is required which runs into the joint-hypothesis problem. The information obtained cannot be attributed to market efficiency or the lack of it thereof or the failure of the equilibrium model.

Grossman and Stiglitz in their 1980 paper, *On the Impossibility of Informationally Efficient Markets*, propose that there are two types of traders; the informed and the uninformed. Informed traders obtain information about a financial security at a cost and make decisions based on this information and the price of the security. Uninformed traders make decisions based on the price of the security alone. Informed traders therefore make previously unknown information accessible to uninformed traders by their trading impact on price. As a precondition to strong form efficiency, Grossman and Stiglitz propose that information, trading costs and costs of getting prices to reflect information should be zero. A paradox arises since a point will reach when the marginal costs of obtaining and acting on information supersede the marginal benefits. At such

a point the market is said to be efficient (Jensen 1978). This then leads to less information seeking hence the information content of the prices reduces making the market inefficient again and therefore profitable to the informed trader. Grossman and Stiglitz appear to suggest that markets can never be efficient since by being so, they destroy that which made them efficient in the first place; the pursuit and use of information to make a trading profit. The implication of the paper is that different markets are at various points of efficiency depending on their costs of obtaining information and trading on that information.

Jones and Netter in their 2008 paper, *Efficient Capital Markets*, define an efficient market as that where the price of an asset reflects all relevant information that is available about the intrinsic value of the asset. The reason why investors trade securities is because they perceive them to be either undervalued or overvalued. In anticipation of obtaining a profit, they drive the stock price closer to the present value of its future cash flows. These statement is incomplete as trading has been shown to drive stock prices away from their intrinsic values. According to them, investors want to know whether a market is efficient for two main reasons: to find out whether different trading strategies can outperform a benchmark and if the market is efficient, new investment capital will then be directed to the highest valued use. Their paper compares the efficient capital markets hypothesis to the new school of behavioral finance.

2.3 Event Study Methodology

Brown and Warner (1984) in the paper, *Using Daily Stock Returns: The Case of Event Studies*, examine how the properties of daily stock returns data impacts event study methodologies for assessing the effect of specific events on a firm's share prices. Daily stock returns are more skewed from the normal distribution than monthly stock returns, with fatter tails relative to the normal distribution (Fama E., Foundations of Finance, 1976). Also, according to Scholes and Williams (1977), parameter bias due to non-synchronous trading[1] is more severe when using daily data. The methodology used to establish the effect of using daily data is various event studies on arbitrarily selected securities with random event dates; the result should be no abnormal returns on average if performance is measured correctly. They conclude that the non-normality of daily returns has no obvious impact on event study methodologies. Further, the procedures suggested by Scholes, Williams and Dimson do reduce the bias of OLS estimates of beta (β), but offer no clear cut advantage in detecting abnormal returns.

In the paper, *Event Studies: A Review of Issues and Methodology*, Peterson (1989) proposes that the purpose of an event study is to examine the market's response to some well-defined event through the observation of share prices around such an event. In choosing the period of estimation of the model parameters, the improved prediction from a longer period should be weighed against the parameter instability a longer period causes. She recommends that the event date should be chosen with the highest precision as it affects the explanatory power of the event study. She further notes that that event studies carried out using daily returns data are more powerful than those that use monthly data. The use of daily data however brings in the problem of a biased beta (β) due to non-synchronous trading. To solve this, she proposes the use of Scholes-

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[1]Non-Synchronous trading refers to securities being traded with trading delays different than those of the market.

William Procedure[2] or the Dimson procedure[3]. She however concludes that these complicated alternative procedures offer no clear cut advantage over the OLS method.

In the paper, *The Event Study Methodology Since 1969*, Binder (1998) examines the developments of the event study methodology from the original - developed by Fama, Fisher, Jensen and Roll – highlighting extensions, contributions and modifications to the technique since then. Two modifications have become standard. Firstly, studies using monthly observations use five to seven years of data whereas those using daily data use one year of observations (Binder, 1998). Secondly, the event period is excluded from the period used to estimate the parameters because the disturbances during the period contain the effects of the event. Hypothesis tests on the abnormal returns are inhibited because abnormal return estimators are cross-sectionally correlated (Collins & Dent, 1984), have different variances across companies [(Jaffe, 1974) (Mandelker, 1974)], are time inhomogeneous and have greater variance during the event period. To combat the aforementioned problems, Jaffe (1974) and Mandelker (1974) introduce the portfolio approach. To standardize results the average abnormal returns across all firms are calculated and then divided by the estimated standard deviation. Binder concludes that while questions have arisen about the variability and covariability of abnormal returns, researchers have come up with solutions making hypothesis tests on event studies more powerful and less biased.

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[2] The Scholes-Williams procedure involves estimating three OLS regressions of lagged, current and lead return values on the market index.

[3] Dimson's method requires a multiple regression estimation of lagged, current and lead values of the return of the market index and the aggregation of the slope coefficient in the formula.

2.4 Chapter Summary

Previous studies on profit warnings have focused on the reasons for issuing profit warnings and how the market reacts to this thereafter. Others have expounded on the event study methodology and how adjustments can be made to improve it. Jackson and Madura 2003, however look at the issue of timing and conclude that markets begin adjusting five days prior to the issuance of the warning and continue for a further five days after the warning. The decline prior to the warning is found to be significant. From its inception in 1969 by Fama, Fisher, Jensen and Roll, the event study methodology continues to be the best way to test market reaction to a well-defined event albeit with some adjustments to make it more accurate.

3.METHODOLOGY

3.1 Introduction

The general methodology used is an event study with a market model regression. The data used and the structure of the methodology is discussed further in the remainder of the chapter. Particular emphasis is given to the sampling and procedure followed.

3.2 Research Design

The research follows a multi-cross sectional analytical design where data for each company is obtained during its profit warning period.

The multi-cross sectionality design allows for comparison of firms that have issued profit warnings at different points in time. The value zero is used to represent the date of profit warning and other days are made with reference to it.

3.3 Population and Sampling

Of the 67 NSE listed firms 21 are included in the sample (see appendix 1 for the full list) giving it a 31.34% representation of all listed firms. The sample is therefore robust and conclusions made can be generalized to the entire market with a minimal chance of error. The breakdown of firms in the sample as per sector is as follows:

Sector	Number of firms
Agricultural	3
Automobile and Accessories	2
Banking	1
Commercial and Services	6
Construction and Allied	2
Insurance	3
Investment	1
Manufacturing and Allied	3
Total	**21**

Table 1: Breakdown of sample by sector

The breakdown of sample firms according to size is as follows (see appendix 4 for information on the classification):

Small Cap Stocks	10
Medium Cap Stocks	7
Large Cap Stocks	4
Total	**21**

Table 2: Breakdown of sample by size

3.4 Data Type

The daily returns of 21 companies that have issued profit warnings in the NSE are used. The daily returns are used so as to come up with the cleanest evidence on market efficiency (Fama, 1970).

3.5 Period of Study

The study will cover a period of 14 years from 2002 to 2016.[4]

3.6 Sources of Data

The profit warning date will be the date of each company's profit warning announcement to the regulator and its own shareholders (the notification to both the aforementioned parties is usually done simultaneously).

The share price data is obtained - with few exceptions - from investing.com an online repository.

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[4] Though the NSE has been in existence since 1953, the requirement for profit warnings came into effect in 2002 through legal notice number 60.

3.7 Model Design

The single index model (market model) defines the expected returns as $r_t = \alpha + \beta r_{Mt} + \varepsilon_t$ where:

r_t is the expected return of a stock during period t.

α is the rate of return that the stock would realize when the market return is equal to zero.

β is the measure of sensitivity of the stock's return to the market return.

r_{Mt} is the market rate of return during the same period

ε_t is the component of the stock's return resulting from firm specific events

The firm specific return may be interpreted as the unexpected results from the event [(Bodie et al) (Trillas & Bel, 2005)]. These abnormal returns can be expressed as $\varepsilon_t = r_t - (\alpha + \beta r_{Mt})$ that is the actual return less the expected return.

3.8 Research Procedure

The procedure for the methodology then proceeds as follows:

1. Identify companies that have issued profit warnings in the past 14 years.

2. Determine the exact date of announcement and designate it time t = 0.

3. Identify the estimation, event and post event windows. The estimation period will be 100 days before the occurrence of the event, the event window 30 days and the post event window of 120 days [(Peterson, 1989) (Sletnes & Dons , 2013)].
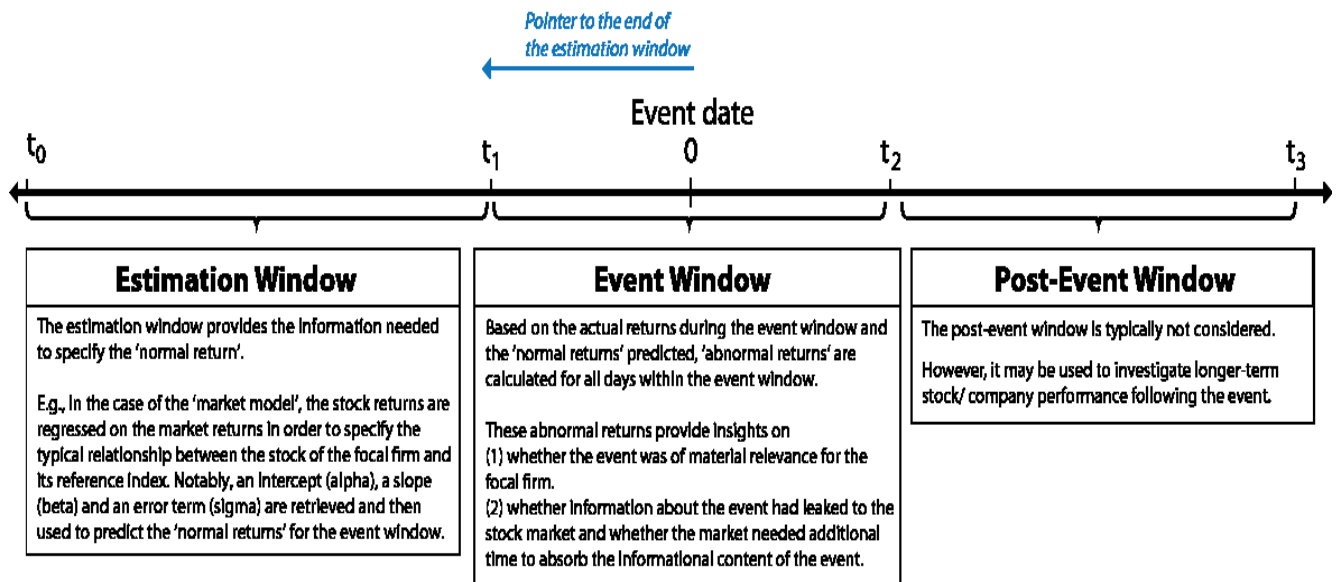
Figure 2: The event study timeline.

Figure 2: The event study timeline.

4. Estimate parameters using the data estimation window.

$$\alpha, \beta \text{ and } \varepsilon_t$$

5. Measure abnormal return for each day in the event window

$$AR_{it} = r_t - (\alpha + \beta r_{Mt})$$

6. For each day in the event period, calculate the average abnormal return for all the firms in the sample. These minimizes the effects of other events occurring during the same period.

7. Sum the daily abnormal returns to obtain a cumulative average abnormal return.

8. Divide the cumulative average abnormal return of each firm by the firm's error term to obtain the standardized cumulative average abnormal return.

3.9 Interpretation of Results

The results are interpreted as follows (Kodongo, 2012):

1. If the abnormal returns take longer than one day to be reflected the market is weak form efficient.
2. If the largest abnormal return occurs on the day of the announcement, then the market has a semi strong form efficiency.
3. If the abnormal returns occur prior to the day of announcement, it can be because of market anticipation, a prior surprise announcement or insider trading. This test is the focus of the study.

3.10 Critique of the model

By using a simple OLS procedure, the parameter β will have a bias due to non-synchronous trading (Brown & Warner, 1985).The bias, however, should offer no clear cut advantage over the simple OLS regression; which is preferred due to its parsimony.

The level of significance of 10% of the cumulative abnormal return may be subjective depending on the investor. It is chosen arbitrarily to prove the concept of materiality of decline prior to the issuance of a profit warning.

The model depends highly on the accuracy of the event date (Peterson, 1989). The date of issuance of the profit warning can differ from the date of publication or the date when the profit warning receives media attention. This can seriously affect the accuracy of the results and conclusions made from use of the model.

3.11 Chapter Summary

The methodology used seeks to determine what the returns of the 21 firms in the sample should have been without occurrence of a profit warning; by use of the market model. Comparing these results to the actual returns will enable the determination of abnormal returns. This is the change in the returns as a result of the profit warning. The study will then go on to determine how these abnormal returns are distributed over the profit warning period to determine if adjustments to returns begins prior to the issuance of profit warnings and how large the initial adjustment is.
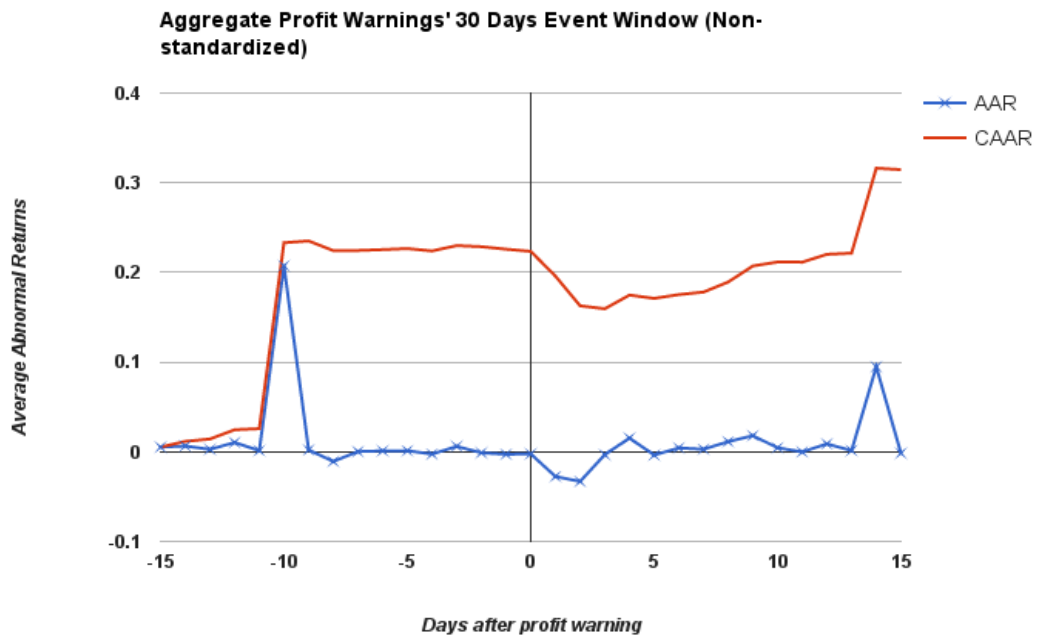
4. DATA ANALYSIS AND RESULTS

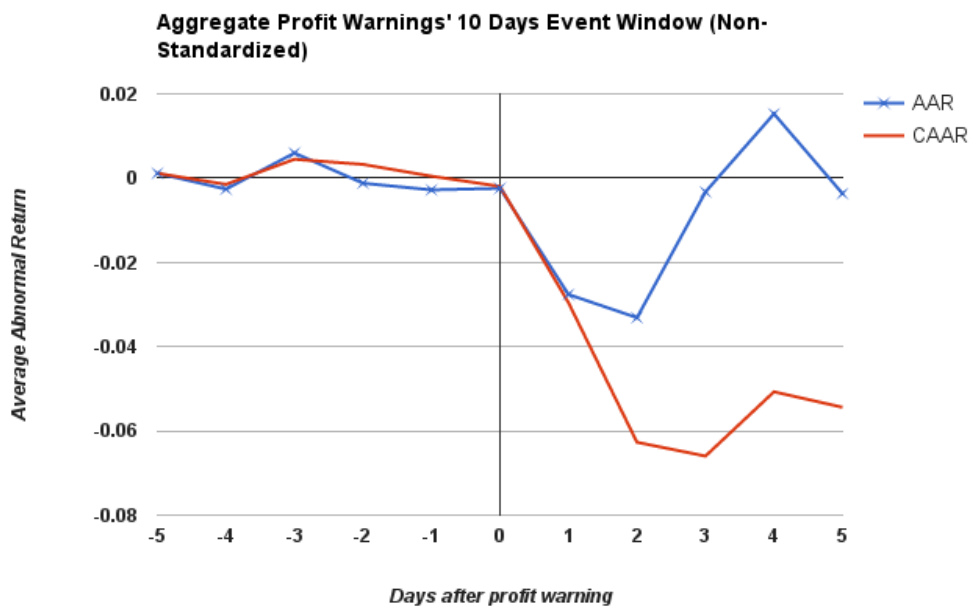*Figure 3: Sample aggregate 30 day event window (Non-standardized).*

Figure 4: Sample aggregate 10 day event window (Non-standardized).

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The data from the non-standardized average abnormal returns suggests that there is a slight reaction to profit warnings 2 days prior to the announcement. However, the bulk of the negative abnormal returns occur 2 days after the warning is issued. This is an illustration of a weak form efficient market with little market anticipation. The decline of the sample prior to the issuance of a profit warning is 2.976% of the total share price decline meaning that the disadvantage to the shareholders relying on profit warnings is quite insignificant.

To take into account the effects of random fluctuations, the abnormal returns are standardized by dividing them by the error term from the linear regression of each company's normal return at a given time period. This yields graphical results that are similar albeit with slight differences and different absolute values. The graphical results of standardized returns below show that random errors have little impact on the results.
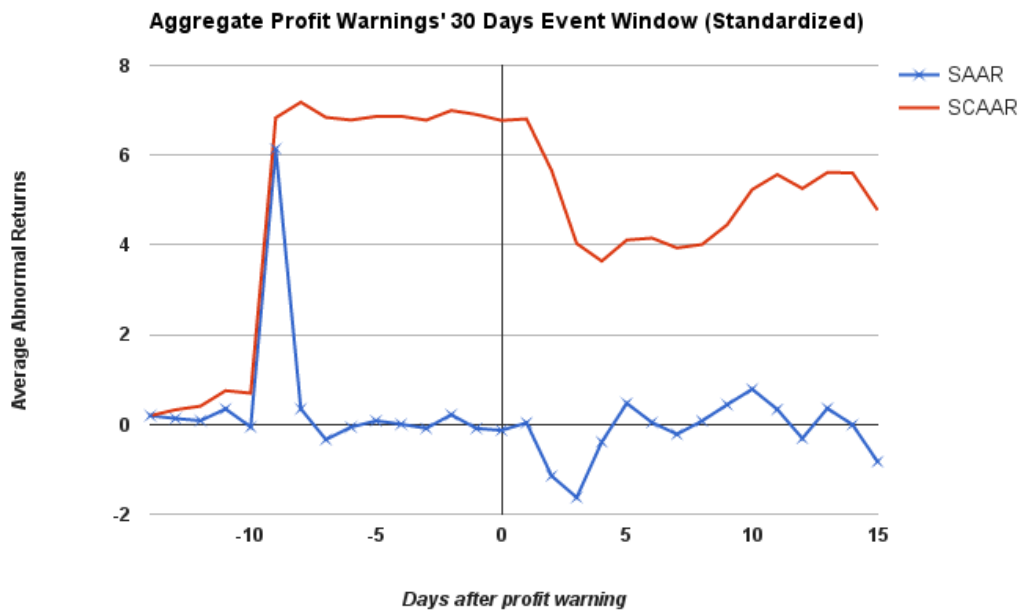
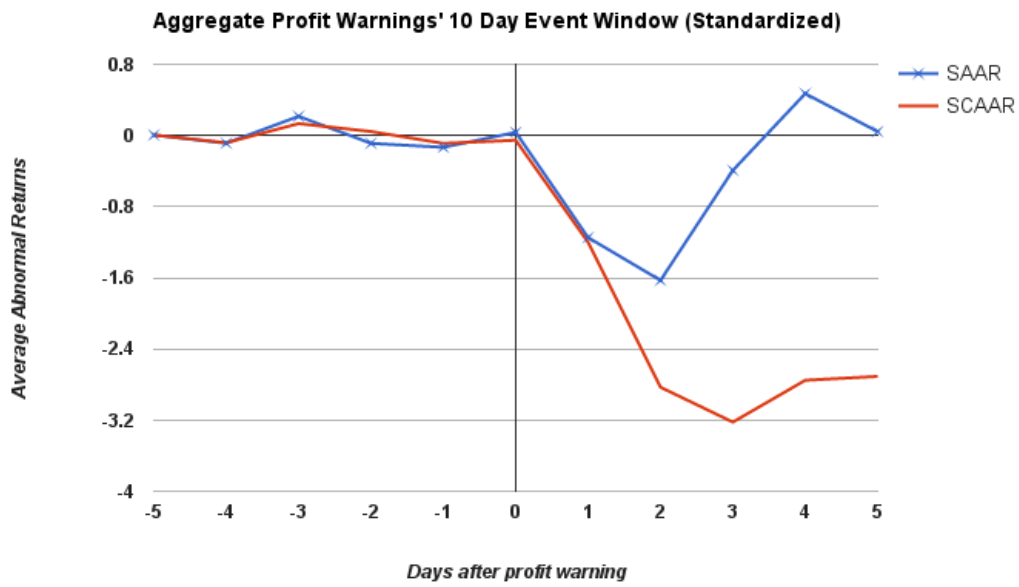*Figure 5: Sample aggregate 30 day event window (Standardized).*

Figure 6: Sample aggregate 10 day event window (Standardized).

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Event Window Aggregate Abnormal Returns

Event Window	(-15,-6)	(-5,-2)	(-1,0]	(0,0)	[0,1)	(2,5)	(6,15)	(-15,15)
CAAR	0.225435	0.003257	-0.002796	-0.002425	-0.027617	-0.024819	0.143587	0.314623
SCAAR	6.861762	0.044286	-0.133247	0.035141	-1.148019	-1.507168	0.545787	4.698541

Table 3: Sample aggregate abnormal returns during event window.

Event Window Daily Abnormal Returns

Day	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6
AAR	0.0052	0.0064	0.0026	0.0103	0.0012	0.2073	0.0020	-0.0108	0.0002	0.0010
CAAR	0.0052	0.0116	0.0142	0.0245	0.0258	0.2331	0.2351	0.2243	0.2245	0.2254
SAAR	0.1937	0.1312	0.0824	0.3442	-0.0569	6.1394	0.3462	-0.3381	-0.0598	0.0795
SCAAR	0.1937	0.3248	0.4072	0.7515	0.6946	6.8340	7.1802	6.8421	6.7823	6.8618

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5
AAR	0.0011	-0.0026	0.0060	-0.0012	-0.0028	-0.0024	-0.0276	-0.0331	-0.0033	0.0153	-0.0037
CAAR	0.2266	0.2239	0.2299	0.2287	0.2259	0.2235	0.1959	0.1627	0.1595	0.1747	0.1710
SAAR	0.0050	-0.0873	0.2155	-0.0888	-0.1332	0.0351	-1.1480	-1.6289	-0.3923	0.4704	0.0435
SCAAR	6.8668	6.7794	6.9949	6.9060	6.7728	6.8079	5.6599	4.0310	3.6388	4.1092	4.1528

Day	6	7	8	9	10	11	12	13	14	15
AAR	0.0042	0.0028	0.0112	0.0179	0.0044	-0.0002	0.0087	0.0013	0.0948	-0.0016
CAAR	0.1752	0.1781	0.1893	0.2072	0.2116	0.2114	0.2202	0.2215	0.3162	0.3146
SAAR	-0.2195	0.0762	0.4394	0.7848	0.3344	-0.3121	0.3574	-0.0076	-0.8306	-0.0765
SCAAR	3.9332	4.0094	4.4488	5.2336	5.5680	5.2559	5.6133	5.6057	4.7751	4.6985

Table 4: Sample daily abnormal returns during event window.

The large positive abnormal return on day 8 is unorthodox and necessitates focusing on a 10 day event window to have a clear picture of the negative abnormal returns around the profit warning date (day zero). It is caused by a large positive abnormal return in Sameer group. Even the use of a sample and averaging out of results is unable to fully remove the effect of that single fluctuation. This is illustrated below where the effect of averaging out in the sample reduces the abnormal return from 42 to 6.

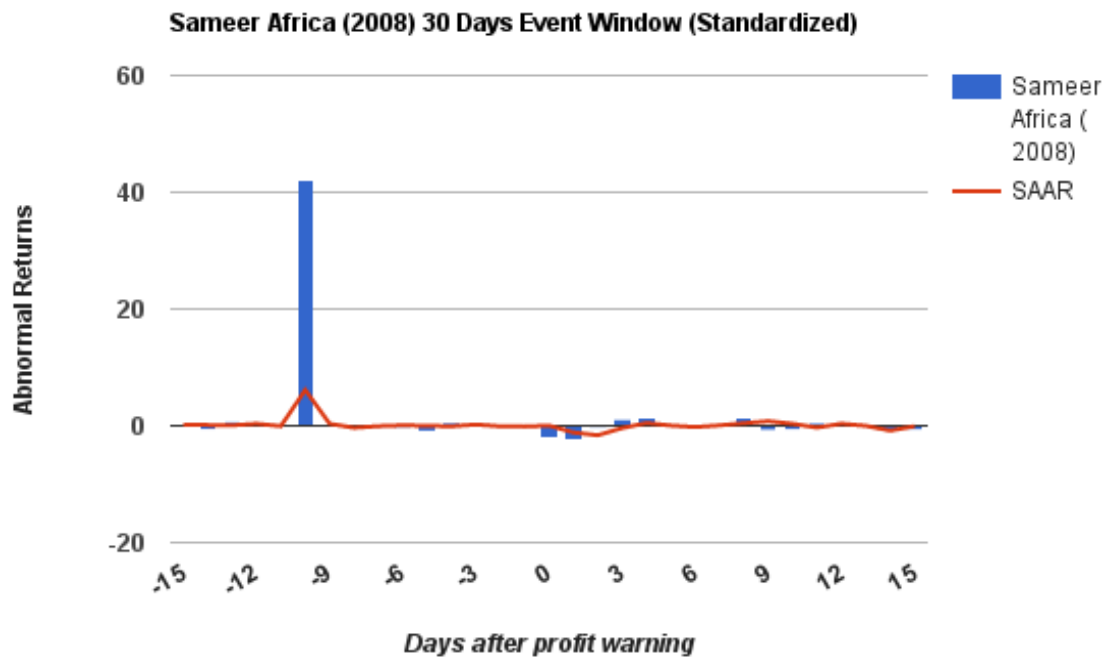*Figure 7: Comparison of Sameer Africa and sample during event window.*

Uchumi is an interesting case in this study as no negative abnormal returns are recorded during the profit warning period. This can be largely attributed to the fact that Uchumi has been in distress for a long period such that investors had already factored this into the share price.
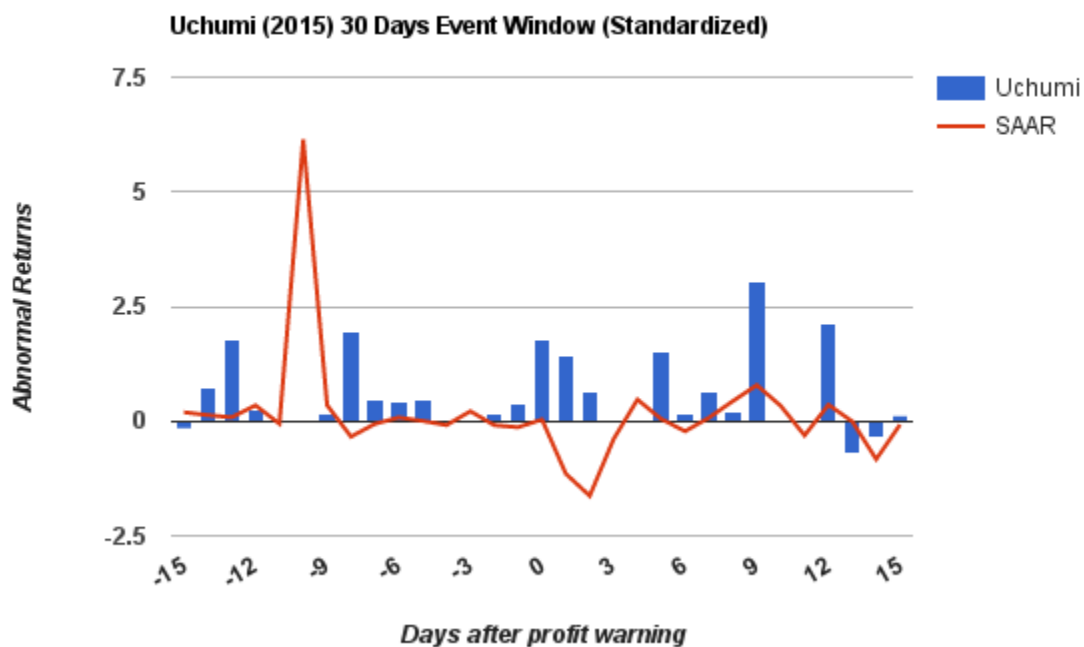
Figure 8: Comparison of Uchumi and sample during event window.

EABL's response is typical of a large well capitalized stock which is closely watched by shareholders and market analysts. Compared to the sample, anticipation begins about 6 days to the profit warning and the bulk of the adjustment occurs on the day of profit warning announcement.

Figure 9: Comparison of EABL and sample during event window.

Kenya Airways has a typical response of a medium capitalized company. A lag of a day after announcement of profit warnings occurs before the bulk of the adjustment occurs on day1 and 2 after the profit warning.

Figure 10: Comparison of Kenya Airways and sample during event window.

5. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

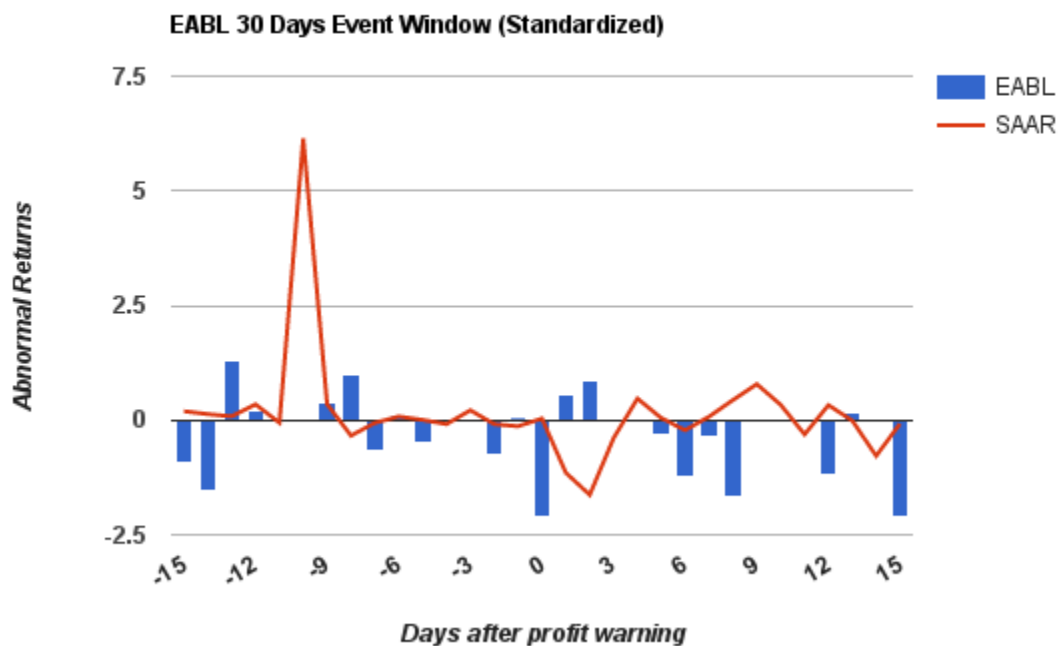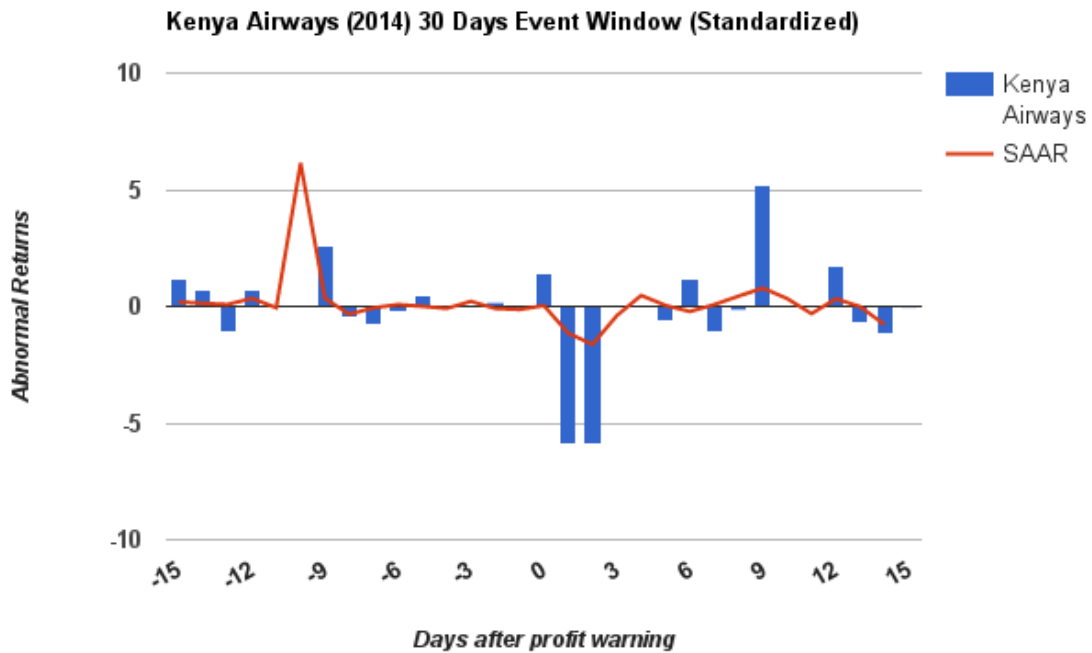This chapter answers the research questions with regards to the analysis done in the previous chapter. It begins with a summary of the main issues the project sought to answer and the methodology used to achieve this. A discussion of the key findings from the data analysis and how these findings compare and contrast with previous studies then follows. Finally recommendations for further advancement of the topic are made.

5.2 Summary

The purpose of the study was to determine whether share prices begin declining prior to the issuance of a profit warning on the occurrence of an adverse effect. Also if such a decline prior to the issuance of a profit warning is of material significance to disenfranchise investors who rely on profit warnings. The methodology used was a market model event study. The finding from the analysis was that share prices for the sample begin declining two days prior to the issuance of profit warnings. These represents 2.976% of the total decline over the entire event window.

5.3 Discussion

The study finds that share prices begin to decline two days prior to the issuance of a profit warning as compared to five days prior according to Jackson and Madura (2003). Since their study is based in the NYSE which is a semi-efficient market, anticipation of share price decline is likely to be higher than in the NSE which is a weak form efficient market.

The study also finds that the decline prior to the issuance of a profit warning in the sample is 2.976% of the total decline which pales in comparison to the 16.26% in Jackson and Madura (2003); which also had a statistical significance at the 0.1% level. NSE investors can therefore rely on profit warnings to a larger extent compared to NYSE investors who should look to other indicators of adverse declines in a firm's profit.

5.4 Conclusion

Decline in share prices in the NSE as a result of issuance of profit warnings begins two days prior to the issuance of a profit warning. The decline that occurs in the pre-event window is however statistically insignificant at 2.976% of the total decline over the entire profit warning period.

The bulk of the downward adjustment of share prices occurs during the day of profit warning up to two days after the issuance of the profit warning. Investors in the NSE can largely rely on the profit warnings issued by listed companies without significant loss in value.

5.5 Recommendations

Further research on the causes of adjustment of share prices prior to profit warnings should be carried out to determine whether this prior decline is as a result of general market anticipation or insider information.

It would also be interesting to determine whether other market indicators can reliably be used by investors instead of relying on profit warnings. This is more important in cases such as Jackson and Madura (2003) where the adjustment prior to the warning is of material significance.

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Appendix 1: List of Companies that have issued profit warnings in the NSE included in the study

1. BOC
2. Britam
3. Cars and General
4. Centum
5. Crown Paints
6. East African Breweries Limited (EABL)
7. East African Cables
8. Express Kenya
9. Kakuzi
10. Kapchorua Tea
11. Kenya Airways
12. Liberty Kenya Holdings
13. Longhorn
14. Mumias Sugar (2014)

    Mumias Sugar (2015)
15. Pan Africa Insurance
16. Sameer Africa (2008)

    Sameer Africa (2014)
17. Sasini Limited
18. Standard Chartered
19. Standard Group
20. Tourism Promotional Services (TPS) Eastern Africa
21. Uchumi

Appendix 2: Table of Companies that have issued profit warnings in the NSE

Company	Date of Warning	Reason for Warning	Period of Study
BOC	9/12/2015	Lower sales, Currency exchange losses and a large non-operating profit in the previous year.	16/08/2015-22/04/2016
Britam	23/12/2015	Decline in fair value gains on financial assets.	30/08/2015-6/05/2016
Cars and general	06/08/2015	Devaluation of regional currencies.	13/04/2015-19/12/2015
Centum	01/04/2009	Impairment of holding in Rift Valley Railways.	7/12/2008-14/08/2009
Crown paints	19/02/2015	Challenging market dynamics for subsidiaries in expansion program.	27/10/2014-4/07/2015
EABL	31/07/2013	Rise in financing cost.	18/03/2013-23/11/2013
East African Cables	25/08/2015	Refurbishment in production facility.	2/05/2015-7/01/2016
Express Kenya	26/08/2015	Economic downturn affecting the transport sector.	3/05/2015-8/01/2016

Kakuzi	29/11/2012	Downward pricing pressure from exports due to recessionary trends in Europe and a strengthening shilling.	30/07/2012-6/04/2013
Kapchorua Tea	20/03/2014	Declining tea prices in the year.	25/11/2013-2/08/2014
Kenya Airways	12/11/2014	Security concerns in the country. Prolonged Ebola crisis in West Africa. Write down of aircraft approved from sale.	20/07/2014-27/03/2015
Liberty Kenya Holdings	29/01/2016	Decline in value of investments.	6/10/2015-12/06/2016
Longhorn	12/09/2012	Reduced funding for primary and secondary education.	12/09/2012-25/01/2013
Mumias Sugar (2014)	09/09/2014	Operational challenges arising from a significant drop in sugar prices due to an influx in illegally imported sugar.	17/05/2014-22/01/2015

Mumias Sugar (2015)	14/08/2015	Challenges facing the sugar market, sugar cane shortage and closure of the factory.	21/04/2015-27/12/2015
Pan Africa Insurance	29/12/2015	Adverse equity market conditions leading to decline in investments.	5/09/2015-12/05/2016
Sameer Africa (2008)	26/05/2008	Post-election crisis. Rising cost of tyre and fuel inputs.	1/02/2008-8/10/2008
Sameer Africa (2014)	30/06/2014	Sale of leasehold land booked as revenue in the previous year.	7/03/2014-12/11/2014
Sasini Limited	28/05/2014	Lower prices of tea and lower production volumes of coffee.	2/02/2014-10/10/2014
Standard chartered	25/11/2015	Increase in non-performing loan portfolio. One off disposal of property in the previous year.	2/08/2015-8/04/2016
Standard group	27/08/2015	Disruption of broadcasting due to digital migration.	4/05/2015-9/01/2016
TPS eastern Africa	21/12/2015	Challenging business environment affected by security concerns.	28/08/2015-4/05/2016

Uchumi	26/08/2015	Challenges in working capital management.	29/04/2015-4/01/2016

Appendix 3: Ranking of Companies in the NSE based on Market Capitalization

Company	Market Cap as at 01 Dec 2014	Rank	SUM
Small Cap Counters			
Hutchings	7,290,000.00	1	10

A.Baumann	42,624,732.60	2
Marshalls	143,931,060.00	3
Express	*212,422,740.00*	*4*
Olympia	248,000,000.00	5
Kapchorua	*606,360,000.00*	*6*
Eveready	766,500,000.00	7
Eaagads	1,414,908,000.00	8
Limuru Tea	1,422,000,000.00	9
Longhorn	*1,521,000,000.00*	*10*
Orchards	1,608,515,500.00	11
Rea Vipingo	1,650,000,000.00	12
Sameer	*1,739,639,956.25*	*13*
Home Africa	1,742,597,876.00	14
C & G	*1,965,062,092.00*	*15*
Uchumi	*2,415,364,187.60*	*16*
WTK	2,434,256,960.00	17
B.O.C	*2,655,460,656.00*	*18*
Crown	*2,942,148,000.00*	*19*
Mumias	*3,060,000,000.00*	*20*
Sasini	*3,112,957,575.00*	*21*

Medium Cap Counters			
Standard	*3,126,241,656.00*	*22*	7
Unga	3,179,772,666.00	23	
E.A.Cables	*4,024,687,500.00*	*24*	
NSE	4,135,781,250.00	25	
Total	4,244,446,120.50	26	
Kakuzi	*4,311,999,780.00*	*27*	
TCL	5,605,689,520.00	28	
Carbacid	5,670,456,733.00	29	
EAPCC	5,850,000,000.00	30	
TPS EA	*6,649,354,942.00*	*31*	
NBK	7,070,000,000.00	32	
CMC	7,866,577,440.00	33	
HFCK	11,080,250,000.00	34	
Pan Africa	*11,232,000,000.00*	*35*	
Kenya Re	11,759,144,342.40	36	
KQ	*12,345,869,538.75*	*37*	
Kenol	13,760,967,220.00	38	
Scan	16,670,064,488.00	39	
Liberty	*23,121,512,986.00*	*40*	

KenGen	23,632,385,652.00	41	
CIC	25,370,723,721.60	42	
Large Cap Counters			
Jubilee	26,473,590,000.00	43	4
KPLC	30,150,165,845.25	44	
Umeme	35,725,316,110.00	45	
NIC	38,226,084,032.00	46	
Centum	*40,591,948,275.00*	*47*	
ARM	42,593,650,000.00	48	
CFC	48,624,561,474.00	49	
I&M	49,829,978,953.00	50	
BAICL	*50,398,811,788.00*	*51*	
NMG	55,619,974,370.00	52	
Bamburi	56,258,687,625.00	53	
DTK	61,011,746,460.00	54	
BAT	90,100,000,000.00	55	
Barclays	92,336,112,000.00	56	
Co-op	92,652,543,790.25	57	
Stan Chart	*102,950,118,162.00*	*58*	
KCB	173,085,206,136.00	59	

Equity	184,213,156,745.00	60	
EABL	***239,604,629,868.00***	*61*	
Safaricom	552,902,906,400.00	62	