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Annual Earnings Announcements and Stock Returns: A Test of Semi-Strong Form of Efficiency of the Banking Sector of the Nairobi Securities Exchange

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Abstract: **An efficient market is one where there are large number of rational profit makers actively competing with each other trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. This paper tested the semi-strong efficiency of the banking sector of the Nairobi Securities Exchange by examining the reaction of stock returns around annual earnings announcements. A causal research design and an event study methodology were used for five years (2011-2015). 21 days event windows were selected and daily stock returns for 6 banks that were listed and trading over the five year period examined. To ascertain the presence of normal or abnormal returns, adjusted market model was used. The average excess returns (AER) and cumulative average excess returns (CAER) were determined and their significance tested using t-statistics at 5% significance level. The results obtained indicated that there were few days that average excess returns and cumulative average excess returns were recorded. However, since the number of days that the investors could realise abnormal losses or returns were very few, this paper concluded that the investors in the banking sector of the Nairobi Securities Exchange had no scope of consistently outperforming the market; thus a semi-strong form of pricing efficiency.**

Keywords: **Annual Earnings Announcement, Stock Returns, Average Excess Returns, Cumulative Average Excess Returns, Kenyan Banking Sector, Nairobi Securities Exchange.**

I. INTRODUCTION

Ranawat and Raman (2016) defined an efficient market as that market where there are large number of rational profit makers actively competing with each other trying to predict future market values of individual securities, and where important current information is almost freely available to all the participants. The concept of efficient market started as early as 1970s when Fama studied the market under the efficient market hypothesis paradigm. The author noted that a market is efficient if security prices always fully reflect available information about their fundamental value. The notion of efficiency being invoked is that of informational efficiency, which means that information is readily and equally available without costs to all market participants, and who have homogenous expectations (Owido, Onyuma, & Owuor, 2013).

In efficient markets, the asset prices are reflective of all the available information on the stock, which reduces chances that an investor may detect mispriced assets and make abnormal returns (Kamau, 2013). Therefore, there are no assets that are undervalued or overvalued implying that securities are typically in equilibrium, fairly priced and their expected returns equal to their required rates of returns. At any point in time, security prices will reflect all publicly available information about firms and its securities since they react swiftly to new information (Owido, Onyuma, & Owuor, 2013).

The publicly available information include those reported by the companies in their annual reports (financial statements, announced merger plans, earnings and dividend announcements expectations regarding macroeconomic factors like the unemployment and inflation, and the financial situation of competitors among others). Ranawat and Raman (2016) stated that the semi-strong form is based on the premise that stock prices adjust to the publicly available new information very rapidly and in an unbiased fashion, such that no excess returns can be earned by trading on that information and neither fundamental analysis nor technical analysis techniques will be available to reliably produce excess returns. Eleke-Aboagye and Opoku (2013) stated that security prices respond instantaneously to new information in an efficient market making it impossible for investors to realise abnormal returns.

Kamau (2013) added that, informational efficiency not only implies that a market is able to process new and relevant information into the prices of the stocks in a market, but also that such information is systematically and quickly processed to reflect in present prices of securities. As a result, in an efficient market, abnormal profits are not realized since the quick reaction by investors to the readily available new information ensures that the market is always close to its true value (Maronga, Nyamosi, & Onsando, 2015). This further implies that investors cannot always and consistently beat the market. The EMH depends on three conditions which include the absence of transaction costs, public and free information, and current stock prices reflect all available information (Phan, Zhou, & Jian, 2014).

Problem statement:

In a semi-strong efficient market, the stock prices should rapidly and in an unbiased manner adjust to the newly issued information such as the announcement of earnings. As a result, no investor should persistently beat the market by earning excess returns based on the public information. However, there are capital markets that continue drifting up and down prior to and after the earnings announcement (Eleke-Aboagye & Opoku, 2013; Maronga, Nyamosi, & Onsando, 2015).

Osei (2002) noted that the emerging capital markets are less efficient, with the African markets being even lesser efficient due to lack of understanding and the poor communication state to facilitate information flow. Also the developing markets experience substantial negative stock reaction to the announcement of earnings (Eleke-Aboagye & Opoku, 2013). In addition, the young and emerging capital markets have not been deeply researched in terms of their efficiency level in respect to semi-strong form (Eleke-Aboagye & Opoku, 2013). The available studies in developing capital markets on the semi-strong form of efficiency following annual earnings announcements revealed mixed results. The studies that supported the semi-strong form of efficiency include Hussin, Ahmed and Ying (2010), Prakash (2011 and 2013), Mittal (2015) and Ogege, Ogbulu and Isu (2015). Literature that contradicted the semi-strong form efficiency is in the studies conducted by Mallikarjunappa and Dsouza (2014), Hawaldar (2016), Dsouza and Mallikarjunappa (2016), Ranawat and Raman (2016) and Nympha, Kumar and Kulal (2017).

While previous studies carried out in Kenya to test the EMH of the NSE such as those by Dickinson and Muragu (1994), Kamau (2013), Chesire (2013) and Bulla (2015) have concentrated on the weak form, and Olweny (2012) that used dividend announcement and focused on the entire NSE, none of them examined the effects on annual earnings announcements on the stock returns of the Kenyan banking sector. Therefore, this study sought to bridge this gap by analysing the effects on annual earnings announcements on the stock returns of the Kenyan banking sector.

Objective of study:

To determine the effect of annual earnings announcements on the movement of the share price of the banking sector of the NSE, Kenya.

Research hypothesis:

H_{01}: Annual earnings announcements have no significant influence on the stock's price movement of the Banking sector of the NSE, Kenya.

II. LITERATURE REVIEW

Theoretical framework:

1) Efficient market hypothesis:

Fama (1970) organized the growing empirical evidence of efficient capital markets to come up with the EMH as the market efficiency concept's formal statement. According to the EMH, an efficient market denotes that market in which information is readily and widely available to investors, and all relevant and ascertainable information is already reflected in security prices (Maronga, Nyamosi, & Onsando, 2015). The genesis of the concept of the market efficiency was the

notion of perfect competition, but since conditions for a perfect market rarely exist in a real capital market, security prices may fail to fully reflect all relevant information. Therefore, Fama pointed out the need to fully define and reflect information in the EMH in terms of the expected return from holding a security. In addition, he pointed to the need to define relevant information in the EMH, and in defining it he divided the market into three levels: the weak form, the semi strong form and the strong form (Maronga, Nyamosi, & Onsando, 2015). Each form of market efficiency deals with a different level of cumulative information.

a) Weak form efficiency:

This form is also known as the Random Walk Model and it asserts that the current security market prices reflect all the information contained in the record of past prices (Owido, Onyuma, & Owuor, 2013). It further implies that all information conveyed in past patterns of the price of a security is discounted into the current price of the stock. It will, therefore, be useless to select stocks based on information about past or recent trends in stock prices, previous rates of return, or any historical market data such as the short interest or trading volume (Ogege, Ogbulu, & Isu, 2015). Each price change that occurs in the market is independent of the previous price changes and the price movement behaves randomly such that investors cannot use the technical analysis or charts to analyse past information on stock values (Sandhar, Nathani, & Holani, 2009).

b) Semi-strong form:

The semi strong form EMH states that stocks' prices adjust rapidly and accurately to the release of all public information. A semi strong form efficient market reflects all publicly available information and is calculated into the security's current share price, and it is concerned with both the speed and accuracy of the market's response to information provided as it becomes available (Sheefeni, 2015). This implies that current share prices fully reflect all the past market information considered in the weak form hypothesis as well as all current non-market information such as earnings and dividend announcements, financial ratios, stock splits, economic news and political news (Maronga, Nyamosi, & Onsando, 2015; Sandhar, Nathani, & Holani, 2009). If the market is efficient, then, no impact should be seen before the announcement or after the announcement, and the stocks' prices should react immediately to the issuance of relevant information. Therefore, investors cannot use the fundamental nor technical analysis in forecasting the stocks' prices to earn superior returns (Sandhar, Nathani, & Holani, 2009).

c) Strong form:

The strong form EMH asserts that stock prices reflect all public and private information (Phan, Zhou, & Jian, 2014; Sandhar, Nathani, & Holani, 2009). Such market prices fully reflect the 'true' or intrinsic value of a share based on the underlying future cash flows (Maronga, Nyamosi, & Onsando, 2015). Accordingly it is impossible to use internal information, fundamental analysis and technical analysis to consistently derive above-average returns in such market. The strong for EMH is regarded rather extreme because it is obvious that an entity's insiders have access to private information long before it is made public (Ogege, Ogbulu, & Isu, 2015).

2) Signalling theory:

The theory was developed and used to explain information asymmetry in an industry. Signalling is a common phenomenon relevant in a market with information asymmetry; hence the signalling theory serves to indicate how this asymmetry can be reduced by the party with the additional information to others (Ogwe, 2014). The theory states that the company's management, who may be having important information about the entity, might be compelled to disclose it to potential investors. The signalling theory may be the driving motive behind the voluntary disclosure where the management may put forward crucial information to the users of financial statements. The signal by the company may be containing information on what the company has so far done to achieve the wishes of the owners (Gunawan & Lina, 2015).

According to Khlifi and Bouri (2010) managers who are more likely to disclose private information voluntarily bear in mind that this guarantees a good signal about their firm's performance and weakens information asymmetry. Besides, higher earnings announcements is an indication that the management hopes that the firm will perform much better in the future. Such communications have a bearing on the stocks' prices. Chowa, Nyanhete and Mhlanga (2014) noted that, applying the signalling hypothesis to public announcements and cautionary statements would imply symmetry of response behaviour depending on whether the news is good or bad.

Annual earnings announcements and stock returns:

A study by Hawaldar (2016) to test the reaction of Bahrain Bourse to announcement of annual financial results through an event study methodology and a 61 days window period found that this market was not efficient in the semi-strong form because the t-values of the CAERs were statistically significant. Hawaldar (2016)'s findings were supported by a study by Nympha, Kumar and Kulal (2017) on 32 companies listed on Bahrain Bourse and whose results contradicted the semi-strong form of efficient. The authors used an event window of 61 days. They computed AERs and CAERs and tested them for significance using t-statistics at 5% significance level.

Derdas (2009) adopted an event study methodology to test the reaction of ATHEX's 20 high capitalisation companies to the 2006's annual earnings announcement. The author found that there was a statistically insignificant post-earnings-announcement drift (PEAD) anomaly implying that ATHEX was near semi-strong efficient during the period under study. Through an event study methodology, Hussin, Ahmed and Ying (2010) conducted a study to test semi-strong form efficiency of Malaysian Stock Exchange focusing on the market reaction to dividend and earnings announcements. They sampled 120 companies that had listed on the Malaysian Stock Exchange in 2006. They concluded that the Malaysian Stock Exchange exhibited semi-strong form efficiency as the stock prices adjusted in an efficient manner following these announcements.

A similar study was conducted by Ogege, Ogbulu and Isu (2015) through an empirical review to test the semi-strong efficiency of the Nigerian Stock Market following earnings and dividend announcements. They used an event study methodology and the modified market model for a period of six years (2006-2011). Their findings were that the Nigerian Stock Market adjusted efficiently to earnings announcements. In addition, they established that the cumulative average abnormal returns were not significant, implying that the Nigerian Stock Market is semi-strong efficient.

Rono and Mokoteli (2013) carried out a comparative study to test the semi strong form of NSE and Johannesburg Securities Exchange by examining the share's price response to earnings announcements focusing on the period 1st January to 31st December, 2011. Their findings indicated that there were positive and significant cumulative abnormal returns on the announcement month in JSE while that of NSE had significant and negative abnormal returns in the second month of announcement. However, both markets did not record post earnings abnormal drift for the rest of the months. They therefore concluded that the two markets were efficient in the semi strong form as there were no abnormal price reactions occurring beyond the announcement period.

Maronga, Nyamosi and Onsando (2015) tested the semi-strong form efficiency of the NSE by reviewing the pricing efficiency after the earnings announcements. They utilised a sample of 20 companies where they used the closing day prices data of their stocks on the announcement day with the window period being the 1st, 3rd, 7th, 14th, and 28th day before and after the earnings announcements. Their finding showed that there were over and under reactions and abnormal returns did not approach zero within the 28 day window. Owing to these market anomalies, they concluded that the NSE was not semi-strong form efficient. A similar study was carried out by Kipronoh (2014) with an event window of 90 days (45 days before and 45 days after the earnings announcements) and found that abnormal returns dominated 25 days before the announcement date, and post earnings abnormal drift 25 days after the announcement.

III. RESEARCH METHODOLOGY

Research design:

The study adopted the causal research design, which was conducted in order to identify the extent and nature of cause-and-effect relationships (Burns & Bush, 2003). The event study methodology, which was designed to investigate the effect of an event on a dependent variable, also guided this study. Muntermann (2007) noted that the event study analysis is a methodological framework for testing the efficient market hypothesis, especially the semi-strong form by analysing stock price adjustments following the observed market events.

Target population and sampling:

The population of interest comprised 11 listed banks whose stocks are traded at the NSE and their respective sectional heads. Given the selected period of study (2011-2015), purposive sampling technique was used to draw only those banks which had listed and were trading their stocks at the NSE during the whole of this period. Therefore, the researcher selected six banks, from which the individuals heading various sections were also selected from every bank to give a study sample of 48 as shown in Table 3.1 below.

TABLE I. SAMPLING FRAME

Bank	Section	Sample size
KCB	Micro banking	1
	Credit administration	1
	Mobile banking	1
	Agency banking	1
	Insurance	1
	Personal banking	1
	Business banking	1
	Customer service	1
Co-Op bank	Corporate & institutional banking	1
	Cooperatives banking	1
	Mobile banking	1
	Agency banking	1
	Insurance	1
	Personal banking	1
	Business banking	1
	Coop. investment services	1
	Customer care	1
Equity bank	Agency banking	1
	Equitel	1
	Money transfer services	1
	Corporate banking	1
	Personal & business banking	1
	Investment services	1
	Customer care	1
Standard Chartered	Mortgage & auto loans	1
	Insurance	1
	Customer care	1
	Personal banking	1
	Business banking	1
	Investment services	1
	Corporate banking	1
DTB bank	Mortgage & asset finance	1
	Insurance	1
	Business and personal banking	1
	Corporate banking	1
	Mobile banking	1
	Customer care	1
Barclays bank	Insurance	1
	Customer care	1
	Personal banking	1
	Business banking	1
	Islamic banking	1
	Corporate banking	1
TOTAL		**43**

Source: HR departments of Barclays, KCB, Equity, Trust Diamond, Standard Chartered and Cooperative banks

Data collection techniques:

The secondary data was collected using the secondary data collection schedule. Narayanan (2015) noted that this schedule is a specially prepared form that contains statements and questions concerning the subject-matter of the investigation. It was useful in this study because it gave fairly reliable results. On the other hand, the primary data was collected using a structured questionnaire to ensure that the respondents responded to the same set of questions.

Data analysis and presentation:

The collected data was analysed using the market model, which was specified as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

Where; R_{it} is the actual returns on stock i at time period t,

R_{mt} is the returns in the market at time t,

ε_{it} is the error term

In their event studies' methodologies, Brown and Warmer (1985) as cited in Eleke-Aboagye and Opoku (2013) suggested three models used in the determination of normal returns: Mean Adjusted Returns, Market Adjusted Returns, and Market and Risk Adjusted Returns. These models are useful in the determination of the stock's abnormal returns. The study used the Market Adjusted Returns, which states that the normal returns for a given stock at a given time are equal to the market returns at that period. It further assumes that the expected returns for all securities are same during a given period.

The actual returns were calculated as follows:

$$ARit = [(P_{t+1} - P_t) / P_t]*100\% \quad (2)$$

Where, AR*it* is the actual return on stock *i* on time period *t*, P_t is the price of stock *i* on time period *t* and, P_{t+1} is the price of stock *i* on time period t+1.

The abnormal (excess) returns were estimated before, during and after the announcement time to test for the banking sector's reaction to the earnings announcements using:

$$ERit = ARit - MRit \quad (3)$$

Where;

ER*it* = excess rate of return of security *i* in period *t*,

AR*it*= actual rate of return on security *i* in period *t*,

MR *it* = market rate of return on security *i* in period *t*, and the paper will use the market index returns (NSE Index).

The excess returns are the percentages change in share price below or above was normally expected. The average excess returns (AER) were obtained across all the observations to improve the reliability of the analysis using the model:

$$AER = (\Sigma ER)/N \quad (4)$$

Where;

N is the number of the selected banks.

The AER of each day during the window period was tested for statistical significance using the t-statistic:

$$tAER = AER_{t1}/\sigma(AER) \quad (5)$$

where σ(AER) is the standard deviation of the abnormal (excess) returns

The cross-sectional series of abnormal returns for every period, commonly known as the cumulative abnormal returns were computed as follows:

$$CER_t = {}^{N}\Sigma_{t=1}[ER_i\ (t,H)] \quad (6)$$

Where CER_t is the cumulative abnormal return at holding period *t*,

N is the total number of sample firms,

ER_i is the individual firm's abnormal return

H is the total number of holding periods (event window)

The cumulative abnormal returns were also tested for significant, where the t-statistic was computed as:

$$tCAER = CAER_{it} / \sigma(CAER) \quad (7)$$

The null hypothesis of H_0: CAERt = 0, which stated that cumulative abnormal returns were not significantly different from zero was tested against the alternative hypothesis H_1: CAERt ≠ 0 (that the cumulative average abnormal (excess) returns (CAER) were significantly different from zero.

IV. DATA ANALYSIS AND PRESENTATION

Annual earnings announcements and average abnormal returns:

Table II presents the 2011 through 2015 AERs for each day of the event window for the Kenyan banking sector's sampled stocks following the annual earnings announcements and their corresponding calculated values of t-statistics. Across the five years, it is observed that positive and negative AERs were recorded thereby supporting the findings by Nympha, Kumar and Kulal (2017) that both positive and negative AERs were recorded in the days prior to and after the annual earnings announcement. In the 2011 pre-event period, the AERs ranged from the highest value of 0.0095 on T-4 to the lowest -0.0163 on T-1.

On the event day, the AER was 0.0048 and the post-event period had 0.0154 on T+9 and -0.0237 on T+7 as the highest and the lowest AER respectively. It is also observed that following the 2012 annual earnings announcement, the highest and the lowest AERs values prior to the event were 0.0100 on T-8 and -0.0099 on T-4 respectively. On the event day, the AER value was 0.0020 and in the post-event period the highest value was 0.0133 on T+5 while the lowest was -0.0112 on T+1 as shown in Table II. The 2013 pre-event period's AERs ranged from the lowest value of -0.0058 on T-8 to the highest one of 0.0038 on T-6. On the event day, the AER was 0.0068 and in the post-event period, the lowest and the highest values were -0.0104 on T+2 and 0.0109 on T+1 respectively.

At 5% significance level and with five degree of freedom, the statistical significance of these AERs was computed as indicated in Table II. The results indicate that, other than on T+7 in 2011 and T-3 in 2013 that the investors had a scope of incurring significant abnormal losses, and on T-8 in 2012 and T-6 when they had a scope of realising significant excess returns, all other days' computed t-values were below the critical t-value of 2.015. The results also indicate that before the 2014 annual earnings announcement day, the lowest AER was -0.0076 on T-1 while the highest one was 0.0145. The event day itself recorded a value of 0.0084 and in the post event period, the AERs ranged from the highest value of 0.0096 on T+4 to the lowest one of -0.0098 on T+7. The results also indicate that the period before the 2015 annual earnings announcement had AERs range from the highest value of 0.1648 on T-8 to the lowest one of -0.1698. An AER value of 0.0015 was recorded on the event day and in the post announcement period of the event window, the lowest and the highest AERs values were -0.0138 on T+1 and 0.0182 on T+6 respectively.

To test whether these AERs were statistically different from zero, the t-statistics was computed. As depicted by the results in Table II, the majority of the days in the event window had computed t-values lower than the critical value of 2.015, except on T-2, T+4 and T+5 in 2014, and T-3 and T+7 in 2015. The presence of some days with abnormal returns concurs with Maronga, Nyamosi, & Onsando (2015)'s work where they noted that the NSE experienced over and under reactions within a 28 day event window. However, since the AERs for the majority of days were not different from zero as noted by Nympha, Kumar and Kulal (2017), this study fails to reject the null hypothesis that "Annual earnings announcement have no significant effect on the stock returns of the Banking sector of the NSE, Kenya" and concludes that the investors had no scope of consistently realising abnormal losses or returns; thereby exhibiting the features on semi-strong form of market efficiency. These findings agree with the studies by Chavannavar and Patel (2016) who established that when the AERs are closer to zero and t-statistics are insignificant, then the market is efficient in semi-strong form; and Rono and Mokoteli (2013)'s findings that the NSE could not record post earnings abnormal drift beyond the announcement period.

TABLE II ANNUAL EARNINGS ANNOUNCEMENTS AND AVERAGE ABNORMAL RETURNS

	2011		2012		2013		2014		2015	
DAY (T)	AER	T-values	AER	T-values	AER	T-values	AER	T-values	AER	T-values
T+10	-.0042	-.433	-.0008	-.130	.0009	.376	.0039	1.229	.0045	.920
T+9	.0155	1.991	-.0056	-1.243	.0001	.007	.0071	1.075	-.0046	-.521
T+8	.0031	.491	-.0018	-.185	.0036	.863	-.0009	-.107	-.0068	-.417
T+7	-.0237	-2.346	.0088	.659	.0047	.963	-.0098	-1.521	-.0054	-2.697
T+6	.0018	.169	.0041	1.164	.0049	.767	.0025	.934	.0182	.915
T+5	.0041	.771	.0133	1.783	.0068	.731	.0059	3.190	-.0026	-.449
T+4	.0034	.257	.0083	1.165	-.0029	-1.220	.0096	2.290	.0023	.344
T+3	-.0052	-.628	.0016	.120	-.0014	-.228	-.0097	-1.477	-.0023	-.582
T+2	-.0019	-.378	-.0046	-1.271	-.0104	-1.688	-.0011	-.236	.0101	1.153
T+1	.0025	.318	-.0112	-1.115	.0109	1.673	.0049	2.033	-.0138	-1.436
T0	.0048	.558	.0020	.235	.0069	.602	.0084	1.260	.0015	.120
T-1	-.0163	-1.465	-.0033	-.442	.0016	.688	-.0076	-.845	.0150	1.326
T-2	.0085	.971	.0044	.559	.0020	.557	.0145	2.391	.0055	.767
T-3	.0008	.045	.0064	.829	-.0047	-3.244	-.0076	-1.729	.0110	3.089
T-4	.0095	1.421	-.0099	-1.337	.0011	.203	-.0024	-.624	.0070	1.221
T-5	-.0073	-.936	.0085	.995	-.0033	-.989	-.0052	-.952	-.0008	-.265
T-6	-.0042	-1.531	.0036	.479	.0038	2.633	-.0074	-1.273	.0014	.265
T-7	.0003	.059	.0015	.472	-.0007	-.148	.0008	.143	-.1698	-1.035
T-8	-.0039	-.555	.0100	2.490	-.0058	-1.889	.0005	.222	.1648	1.007
T-9	-.0025	-.503	.0094	1.373	-.0012	-.268	.0010	.423	.0096	1.300

Source: Field data (2017)

Annual earnings announcements and cumulative average abnormal returns:

Table III depicts the CAERs for every day of the event windows surrounding 2011, 2012, 2013, 2014 and 2015 annual earnings announcement and the corresponding calculated values of the t-statistics. Results indicate that in the 2011 pre-event period, the CAERs were negative except on T-2, and the same trend continued after the event day. In contrary, the 2012 CAERs were all positive over the event window. Further results show that prior to the event day and the event day itself, the 2013 CAERs were all negative. Other than on T+3 and T+4, the CAERs after the event day were positive. To establish whether the CAERs following 2011, 2012 and 2013 annual earnings announcement were significantly different from zero, t-statistics was used. The results depict that other than on T-8 and T-7 in 2012, all other 2011, 2012 and 2013 CAERs were lower than the critical t-value of 2.015 at 5% significance level.

The results also show that prior to the event day, the 2014 CAERs were positive on T-7, T-8 and T-9 and negative on the days that followed. In this case, the highest CAER value is 0.0024 on T-7 and the lowest one is -0.0202 on T-3. On the event day, the CAER was negative and it continued to T+4. After the event day, the CAERs ranged from the lowest value of -0.0108 on T+3 to the highest one, 0.0076 on T+10. Further results show that the CAERs around 2015 annual earnings announcement were positive for all days in the event window. T-statistics as used to establish whether the CAERs were significantly different from zero at 5% level significance. It was found that other than on the 2014 T-3, and 2015 T-3, T-2 and T-1, all other computed t-values were lower than the critical t-value, 2.015. Overall, these results agree with the findings of Ogege, Ogbulu and Isu (2015) who noted that cumulative average abnormal returns were not significant following earnings announcement. However, they contradict the findings by Ranawat and Raman (2016) and Hawaldar (2016) who established that the t-values of the CAARs of the studied were statistically significant following earnings announcement. Though these studies focused on the developing economies, these discrepancies in the results could be attributed to the choice of the event window, investors' behaviour and their management.

TABLE III ANNUAL EARNINGS ANNOUNCEMENTS AND CUMULATIVE AVERAGE EXCESS RETURNS

	2011		2012		2013		2014		2015	
DAY (T)	CAER	T-values	CAER	T-values	CAER	T-values	CAER	T-values	CAER	T-values
T+10	-.0148	-.671	.0448	1.805	.0166	.869	.0076	.587	.0447	1.060
T+9	-.0106	-.407	.0455	1.761	.0157	.855	.0037	.311	.0402	.871
T+8	-.0261	-.791	.0511	1.711	.0157	.694	-.0034	-.243	.0448	.984
T+7	-.0292	-.887	.0530	1.400	.0121	.560	-.0025	-.197	.0516	1.103
T+6	-.0055	-.232	.0442	1.678	.0074	.422	.007273	1.040	.0570	1.240
T+5	-.0074	-.246	.0401	1.622	.0026	.169	.0047	.674	.0388	1.342
T+4	-.0114	-.340	.0267	.893	-.0042	-.216	-.0012	-.158	.0414	1.578
T+3	-.0149	-.566	.0185	.548	-.0013	-.063	-.0108	-1.268	.0391	1.351
T+2	-.0097	-.391	.0169	.690	.0001	.004	-.0011	-.137	.0414	1.368
T+1	-.0078	-.329	.0215	.920	.0105	.433	-.0000	.000	.0314	1.289
T0	-.0104	-.472	.0327	1.876	-.0004	-.021	-.0049	-.529	.0452	1.968
T-1	-.0151	-.677	.0307	1.947	-.0073	-.466	-.0133	-1.679	.0437	2.312
T-2	.0012	.062	.0340	1.706	-.0089	-.610	-.0056	-.736	.0287	2.544
T-3	-.0074	-.307	.0296	1.512	-.0109	-.853	-.0202	-2.282	.0232	2.438
T-4	-.0081	-.673	.0232	1.485	-.0062	-.529	-.0126	-1.521	.0122	1.141
T-5	-.0177	-1.051	.0331	1.637	-.0073	-.942	-.0102	-1.112	.0052	.719
T-6	-.0103	-1.012	.0245	1.880	-.0039	-.702	-.0050	-.517	.0060	1.326
T-7	-.0062	-.571	.0209	2.109	-.0078	-1.435	.0024	.507	.0046	.624
T-8	-.0064	-.932	.0193	2.311	-.0070	-.983	.0016	.346	.1744	1.073
T-9	-.0025	-.503	.0094	1.373	-.0012	-.268	.0010	.423	.0096	1.300

Source: Field data (2017)

V. CONCLUSION

The research concludes that, though there were very few days that both the AERs and CAERs were statistically different from zero around the annual earnings announcements, the Kenyan banking sector was semi strong efficient as the investors could not continuously outperform the market.

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