Effect of Demonetization on Securities Market Performance in Kenya

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Abstract

Purpose - *The objective of this study was to examine the effect of demonetization on securities market performance in Kenya.*

Methodology - *The study employed an event study methodology which evaluated the performance of NSE 20 share index prices. The sample consisted of twenty firms listed and included under the NSE 20 share index and whose stocks traded in the entire period under consideration for this particular study.*

Findings – On the 31st of May 2019, the Kenyan government effected a major economic change by demonetizing the old Ksh 1000 shilling bank note. The government issued a 122-day notice ahead of full withdrawal of its old 1000 shilling bank notes out of circulation by October 1, 2019. During this period, the old currency note was gradually removed from circulation and replaced with the new currency note. The main objective of demonetizing was to fight corruption and black money concerns in the country. Results from the study were based on the comparison between performance of the NSE 20 share index prices during the pre-demonetization and post demonetization period. The comparison revealed that demonetization had a statistically significant effect on securities market performance in Kenya.

Implications:

The demonetization announcement had significant effect on the securities market performance in Kenya. Securities prices did not confiscate the new information that came to the public through demonetization of Ksh.1000 announcement thus giving investors an opportunity to reap abnormal returns from trading of securities. The findings showed that securities reacted to the demonetization announcement as both AR and CAR slightly increased after the announcement date and then fluctuated thereafter possibly because demand for financial securities increased in the period with limited supply.

Value: This study has presented a new dimension that may explain the forms of efficiency at the Nairobi securities exchange. The objective of the Central Bank of Kenya was to maintain a

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stable economy while at the same time mopping out illicit cash from the population. The gradual approach used was practical as it reduced any collateral damages to the real economy and it ensured that there was sufficient time to reach out to its people with relevant information on demonetization.

Key words: Demonetization, Share index, Securities Market Performance

1.0 Introduction

1.1 Background of the study

Demonetization is the process of stripping a currency unit of its status as legal tender. In Kenya, the Central bank of Kenya made an announcement through a gazette notice dated 31st May 2019 that it had launched new generation notes of 1,000, 500, 200, 100 and 50 Shilling denominations. On June 1st, the Central Bank Governor Patrick Njoroge further unveiled new currencies and issued a 122-day notice ahead of full withdrawal of its old 1000 shilling bank notes out of circulation by October 1, 2019. All other denominations were however unaffected and would continue to circulate alongside the new generation banknotes. The purpose of this particular demonetization was to fight corruption and black money issues in the country (Central Bank of Kenya, 2019).

Relationship between economic sectors and financial sectors has been studied by various researchers who have proved that the two sectors profoundly depend on each other. However, the issue of impact and relationship of demonetization and securities market has elicited divergent views from academicians. A study conducted by Judias (2014) to investigate the benefits of demonetization attributed to micro, small and medium entreprises evidenced elimination of hyperinflation and better value of money as well. On the other hand, a study to investigate the impact of demonetization on stock market performance by Anoop, Parab, and Reddy (2018) evidenced a significantly negative impact.

According to the Central Bank of Kenya (2019), a total of 217,047,000 pieces of Ksh. 1000 Shilling notes were in circulation as at 1st June 2019. However, as at the 30th of September 2019, only 209,661,000 pieces of the old bank notes had been surrendered thus rendering 7,386,000 pieces worth Ksh. 7.386 billion worthless. In this regard, uncertainty about the consequences of

the demonetization announcement may be high and that could be extended to the economy at large. Market participants also expect market reaction towards this policy announcement however, they may lack the expertise to measure the direction of the reaction. Therefore, this current empirical study evaluates the effect of demonetization announcement on securities market performance in Kenya. For this purpose, the study develops the following Hypothesis; H_0: There is no significant effect of demonetization on securities market performance in Kenya.

1.2 Research Problem

Studies linking demonetization and other macro-economic factors have been widely conducted globally and regionally. Anoop et. al. (2018) evidenced that the effect of demonetization on securities market was significant. Bharadwaj et. al. (2017) concluded that demonetization caused an impact that was significant on Indian stock market. Sunil and Smitha (2017) carried out an event study to ascertain how demonetization impacted the stock of the selected sectors which concluded that there was no impact on stock returns while Sudhindra (2017) realized a significant impact of currency demonetization on the chosen benchmark indices; Nifty, Sensex and BSE100. Meriküll and Tairi (2014) in their study on inflation related to euro changeover using de integrated price level data found that inflationary effects of euro adoption across different market segments were significantly different. Marin (2000) established that demonetization in Russian economy was driven by lack of trust and liquidity.

Regionally, Buigut (2015) in his study concluded that Zimbabwe's bilateral trade had been depressed by 15% by the adopted multi-currency arrangement. .Judias (2014) established that the major benefits from Zimbabwe's transition to multi- currency system were found to be better value for money and elimination of hyperinflation. On the other hand, the exploratory study by Dzokoto and Mensah (2008) to assess the subjective experience of the new Cedi in Ghanaian workers revealed that the new currency had a lot of advantages in terms of its security, portability and its performance in comparison to the Euro and Dollar.

Locally, studies are yet to be done on the effect of demonetization on securities market performance in Kenya. Thus the need of this research project which aims to examine the effect of demonetization announcement on the performance of securities market in Kenya.

1.3 Research Objective

The study is undertaken with the objective to determine the effect of demonetization announcement on securities market performance in Kenya.

2.1 Literature Review

2.1.1 Efficient Market Hypothesis

Fama (1970) states that new information is immediately incorporated into securities prices immediately it comes into the market thus making it impossible for fundamental or technical analysis to aid generation of excess returns. He describes an efficient market as to one in which large numbers of rational investors, with similar investment objectives and access to the same information, actively compete. Information may refer to what is currently known about a security and future expectations such as earnings announcements or dividend payments if any. Fama (1970) further defines adequate conditions for market efficiency as to where; market participants costlessly access information, with no transaction costs and of which players in the market come to an agreement on how the current information would be implicated to the current prices and distributions of future prices of every security. These conditions ensure that investors do not earn above competitive returns because all investors possess the same information. In efficient markets, securities prices are presumed to constitute all the effects of new information basing on past, current and expected future events. These markets reflect accurate signals for apportionment of resources as the market prices reflect each security's intrinsic value, although deviations can occur. Changes in prices are expected to arise from the release of new information into the market (Mabhunu, 2004).

Fama (1970) Designed Efficient Market hypothesis with an empirical base which he divided into strong, semi-strong and weak form of hypothesis. The strong form of EMH postulates that the current stock prices already incorporate all information including public as well as private. This form of EMH assumes a perfect market. The semi strong form of EMH suggests that current stock prices have factored in all the information availed to the public about the past performance of a company as well as a company's prospects. The weak form of EMH presumes that the current prices of stocks reflect the available information and that past performance of a security

has no relationship with the future performance of a security. This hypothesis implies that predicting future securities' price movement based on the trend analysis is fruitless. Investors will not earn profits from studying past price movements. Studies on this hypothesis concluded that stock price movements follow a random walk. This implies that it is not possible to make a prediction of changes in stock prices based on the information available which is consistent with the notion of an efficient market.

2.1.2 Random Walk Theory

Random walk theory was first introduced by Maurice Kendall in 1953. In 1964, American financial economist Paul Cootner further expanded on it and inspired the work of Professor Burton Malkiel who clearly laid it out in 1973. Random Walk Theory presumes that it is not possible to make a prediction of the stock prices movement and there is no possibility for an investor in the securities market to gain excess profits or "beat" the market in the long run. The implication is that it is not possible for a market investor to make excess returns without taking on high additional risks. This theory posits that there is an equal probability that there will be either a rise or a fall in stock prices from their current stock prices. Intervals of new information under this theory are received at random by the investors who read randomly to the information. A stochastic process approach is employed in determining the prices of securities where securities prices change continuously in relation to the new information coming into the market (Thomsett, 2011).

2.1.3 Portfolio Theory - Sharpe Single Index Model

SIM was generated by William Sharpe in 1963. It is a simplified model of Markowitz theory that reduces the work involved in compiling data and carrying out computations. The model measures risk and return on the stock. SIM assumes systematic risk is caused by only one macro-economic factor. SIM further assumes that the sudden movement of securities in parallel is caused by market index changes. A causal relationship between stock prices and market indices was observed over a pre specified time period which established that stock prices change with the changes in market index (Sollis, 2012). Security prices generally increase with the increase in the market indices which implies that there are some fundamental factors which affect both the market index and the security prices.

2.2 Global Studies

Anoop et.al (2018) conducted a study to analyze whether or not Indian stock market is impacted by demonetization which evidenced a significantly negative impact. 15th January 2016 to 29th August 2017 was the period selected for this study. The researchers used various statistical techniques which included summary statistics and graphical analysis e.g. standard deviation, mean, Augmented Dickey-Fuller (ADF) test, and measures of skewness and kurtosis and GARCH model. GARCH is a statistical model that was employed in analysis of demonetization impact level on Nifty 50 Index and across sectoral indices in India for a period of 200 trading days preceding to the event date and after the event date.

A study conducted by Bharadwaj et.al. (2017) concluded that demonetization's impact on Indian stock market was significant. The research employed 16 companies that actively trade on the National Stock Exchange India as its sample which ranged from 2012 to 2016 and for 5 months separately from November 2016 to March 2017.An optimum portfolio was constructed using SIM and the values for the risk and return were subjected to examination for both periods in the pre and post demonetization period.

Swati and Kaushik (2017) in an event study analyzed the stocks of S&P BSE 100. The analysis was done for both the pre and post demonetization window and the results for both periods compared. The study established that demonetization had no impact on stock market. A sample was drawn from Prowess IQ and the prices of closing stock of 100 companies under the S&P BSE 100 index were considered from October, 30th 2016 to November21st 2016.

An event study carried out by Sunil and Smitha (2017) to ascertain the demonetization impact on the stocks of selected sectors concluded that demonetization had no impact on stocks returns. Data on closing stock prices was collected for a period of 6 months, beginning 7th September 2016 to 8th March 2017. This consisted of 2 months prices recorded before demonetization and prices of stocks in the remaining 4 months after demonetization. A sample of 5 sectors was used with 5 companies being selected from each sector. Companies considered for this study included;

Telecommunication, Banking, Real estate, Automobiles and Consumer durables. Analysis was carried out using ANOVA on the BHAR in the three windows.

Sudhindra (2017) in their investigation evidenced a significant impact on the selected benchmark indices; BSE100Sensex and Nifty by currency demonetization. To conduct this study, data was collected from 26th October 2015 to 30th of November 2016. Stationary test was performed on the data collected by applying ADF test statistics. To capture the historical variability, standard deviation of the AR of the selected benchmark indices was computed.

Meriküll and Tairi (2014) in their study on inflation related to euro changeover using deintegrated price level data found that inflationary effects of euro adoption across different market segments were significantly different. Inflation that occurred as a result of euro changeover was reported to be higher for commodities that were comparatively cheaper than the euro area average. The researchers used the difference-in-differences technique where the treatment country was Estonia and the control group was built from 12 area countries. Nielsen Company was selected for study and its deintegrated price data were employed at 5 brand categories, 45 products and 7 shop-types in a period ranging from November 2008 to September 2011.

The study by Marin (2000) sought to understand what drives demonetization in Russia - Trust or Illusion. He found that demonetization in the Russian economy is driven by lack of trust and liquidity. To conduct this study, the researcher collected data on 165 barter deals across industrial sectors in Ukraine. In order to measure the impact, Marin made a comparison based on the price differential between barter prices and cash prices for individual deals exchanged.

2.3 Regional Studies

Buigut (2015) in his study concluded that Zimbabwe's bilateral trade had been depressed by 15% by the adopted multi-currency arrangement. The study used a gravity model which accounted for endogeneity to measure the level of demonetization's effect on Zimbabwe's bilateral trade. The study employed 50 countries that were potential trading partners selected from Eastern Europe, Western Europe, Asia, Africa, South and North America for the years 2004 to 2012. However, it

is important to note that on the 29th of January 2014, a second set of four more currencies were included in the Zimbabwean multicurrency system as legal tender. Results from this study do not highlight the effects of this arrangement on the bilateral trade. Since more data is now available to include all the nine currencies altogether, more studies need to be done reach concrete conclusion.

Judias (2014) endeavored to examine the benefits attributed by the multi- currency system to Micro, Small and Medium Enterprises (MSMEs) in Zimbabwe. According to his study, the objective to demonetize local currency in order to adopt a multi-currency system was achieved. The major benefits from this transition were found to be better value for money and elimination of hyperinflation. To conduct this study, a questionnaire survey was used. A total of 265 out of 350 respondents answered and returned the questionnaire. Results from this study agrees with the previous empirical studies and therefore conceivable that when a country's currency become valueless, the economy declines.

The exploratory study by Dzokoto and Mensah (2008) to assess the subjective experience of the new Cedi in Ghanaian workers revealed that the new currency had a lot of advantages in terms of its security, portability and its performance in comparison to the Euro and Dollar. To achieve this results, the researcher, after six months of new currency adoption as the sole legal tender, conducted a five to ten minutes interview on twenty Ghanaian consumers from the Accra-Tema Metropolitan area in Ghana. This study should be considered from a case study perspective in which broad suggestions have been provided for countries planning to demonetize their currencies.

2.4   Local Studies

Kenya experienced demonetization for the first time on the 1st of June 2019. The nation demonetized its old 1000 Kenyan Shilling denomination and replaced it with new currencies. In this regard, no empirical studies have been conducted on this topic at the moment.

3.0 Methodology

3.1 Procedure for Model Estimation

Six step standard event study methodology is used to analyze how demonetization announcement affect the securities market performance.

The procedure is as follows;

3.1.1 Event of Interest Identification

Demonetization announcement which was made on the 31st of May, 2019 is the event of interest.

3.1.2 Identification of the Event Window

31st May, 2019 is defined as the event date i.e. day 0 and the event window is estimated to be 30 trading days before and after 31st May, 2019 i.e. -30 and +30 of the 31st May 2019. An estimation window is taken to be 53 trading days and post event window to be 53 trading days.

Below is the timeline of events:
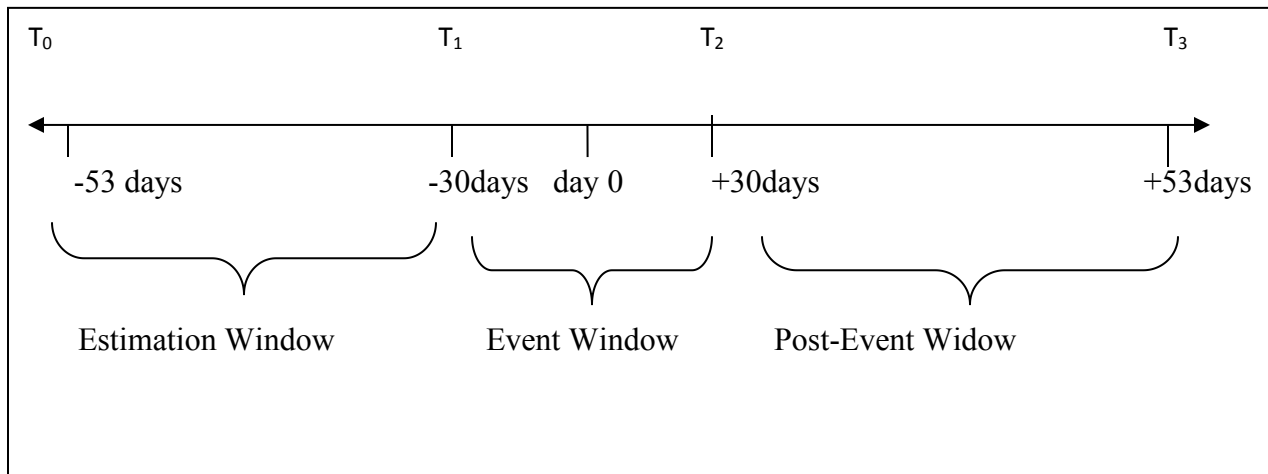
3.1.3 Sample Selection Criteria

20 firms listed and included under the NSE 20 share index were selected for the study. The sample comprised of companies whose stocks were already listed for trading in the entire period under consideration for study i.e. (T_0 to T_3).

3.1.4 Estimation of Normal Returns

Market model is used to predict normal returns in this study. The assumption of no demonetization announcement is the premise to generate normal returns. We therefore assume that there was no effect of demonetization on securities prices during and after the announcement was made to generate normal returns.

Return generation process is stochastic in nature. Therefore, a security return (r_{it}) over time is computed as follows;

$R_{it} = r_{it} + e_{it}$ (1)

$r_{it} = \alpha_I + \beta_I R_{mt}$ (2)

Where;

Return in time t (NSE20 share index); Market Return $(R_m) = \frac{NSE_t - NSE_{t-1}}{NSE_{t-1}} \times 100$

Individual Stock Returns $(R_t) = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$

r_{it} = Expected security return

e_{it} = Stochastic error term

α = Constant

β = Market Risk

3.1.5 Estimation of the abnormal returns

AR for the event window were computed using Standard event analysis technique. Daily expected returns for the share index were first computed which were then deducted from the market daily returns for the index in the event window days to get the AR.

Abnormal returns = Actual returns - Expected returns

3.1.6 Diagnostic Tests

In this study, AR of the securities were computed using the Market adjusted return model by Brown and Warner (1985) and Mackinlay (1997). In this model, the observed return of the reference market on day t, R_{mt} is subtracted from the return R_{it} of the observation i on day t. abnormal return from the stock index was calculated as follows;

$$AR_{it} = R_{it} - R_{mt}$$

Where;

AR_{it} = Abnormal return for index at time t

R_{it} =daily stock price return of NSE 20share index at the time of event t

R_{mt}= daily return on market portfolio

To measure the accumulated effect of demonetization announcement during the post event window, CARs were estimated for each day in the post event window. To compute the actual values of CAR, daily AR were summed up over the pre-specified period starting from k1 to K2.

$$CAR_t = \sum_{t=1}^{k} ARt$$

Where;

CAR_t = Cumulative abnormal returns at time t

ARt = Abnormal returns at time t

3.1.7 Test Statistics

3.1.7.1 Hypothesis

H0: Demonetization announcement has no significant effect on the securities market performance in Kenya i.e. $H1_0$: AR= 0, CAR (T_1, T_2) = 0, T $_e$[-30, +30]

Ha: Demonetization announcement has significant effect on the securities market performance in Kenya i.e. $H1$: AR $\neq$ 0, CAR $(T_1, T_2) \neq$ 0, T $_e$[-30, +30]

3.1.7.2 The Standardized t-test

The standardized t-test was used for analysis. The standardized t-test tested the significance of standardized abnormal returns (SAR) where each abnormal security return is normalized by its estimation period standard deviation. The RGM was used since the sample (n) is less than 30. Significance level for the study was 5% i.e. α=0.05 and the critical values were taken to be -1.96 and 1.96.

4.1 Data Analysis and Findings

Companies listed and included under the NSE 20 Share Index in the 167 trading days of the entire demonetization period were considered for the study. The period ranged from 31st January, 2019 to 16th July, 2019. Event window was selected to be 30 trading days prior to and after the event i.e. -30 and +30 of 31st May, 2019. Pre and post demonetization period returns were analyzed using comparison approach. To compute AR, expected returns were subtracted from NSE 20 share index daily market returns. To determine the market behavior around the demonetization date, CAR were obtained by adding up the AR for the period before the date of the announcement as well as adding up AR for the pre- specified period after the day of the event. The CAR and AR for the pre and post periods were compared. To observe the trend of CAR and AR over the event window, graphs were plotted. A graph of daily prices of NSE 20 share index was plotted too to observe the movements in the market returns around the demonetization date.

An event window of 60 trading days was selected in order to measure the AR trend around the event date. In most scenarios, reaction of securities prices to news (rumors) normally begin before the information is officially launched into the public. Therefore, 30 days past the date of announcement helps to evaluate the validity of EMH. A graphical analysis was employed in investigation of the securities market returns behaviour around the demonetization announcement date. Graphical analysis showing the trend in returns movements is as follows;
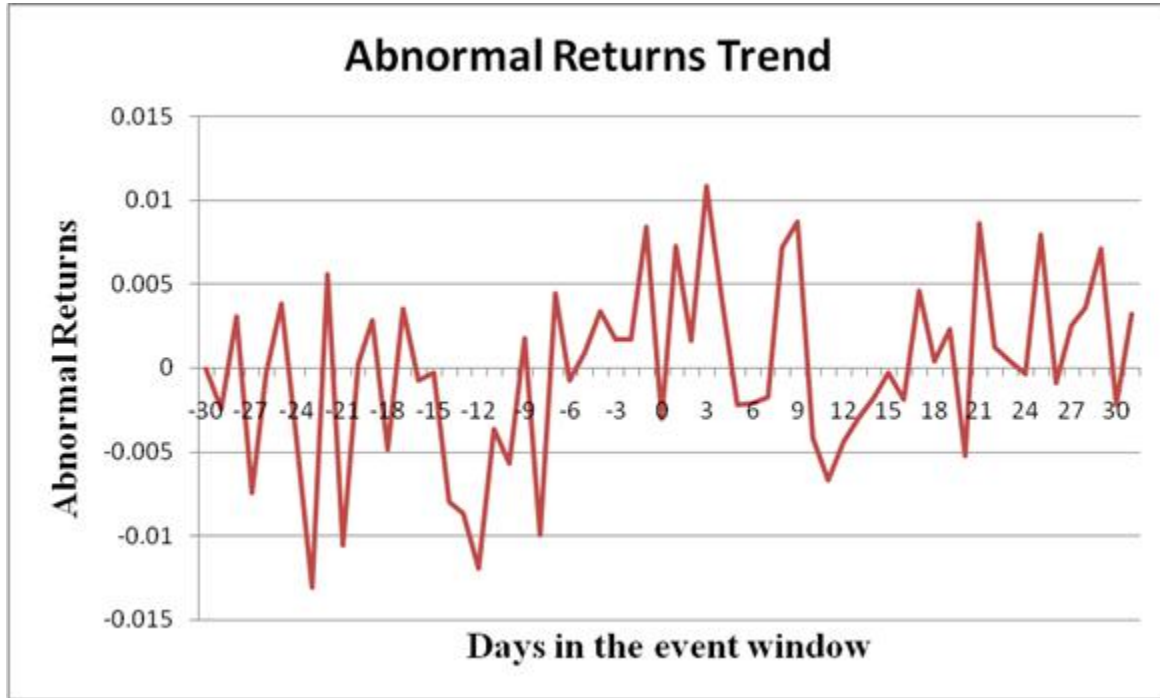
Figure 1 AR during the Event Window

The figure above shows the AR curve movement over the window of the event. The curve fluctuates in the entire days of event window. On day 0, the curve slopes upwards and continues to fluctuate thereafter. From observation in figure 1, demonetization announcement yielded a kink in the abnormal returns. The curve shifted upwards and remained positive for a few days before it continued to fluctuate thereafter. Most of the returns were positive in the post event phase as compared to the pre event phase.
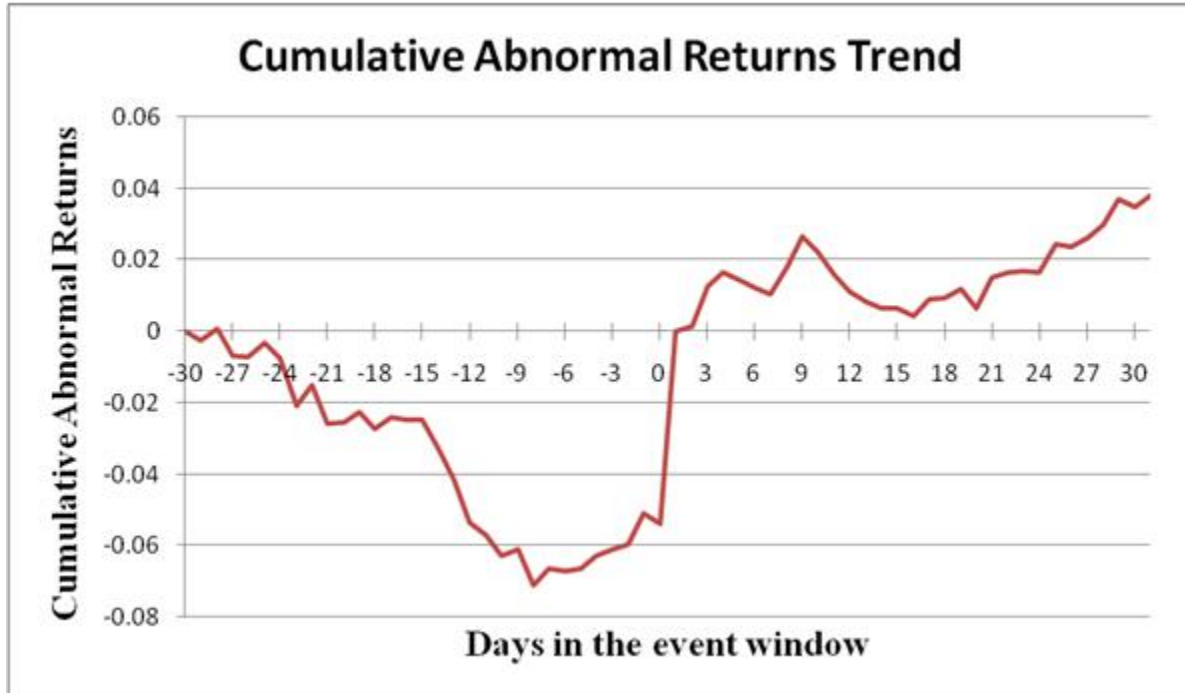
Figure 2 CAR during the Event window

The movement in CAR during the event window is portrayed in the figure 2. The curve gradually slopes downwards to the negative before the event. It then slopes upwards on the day 0 of the event and remains positive throughout in the post demonetization phase. On the day of the demonetization announcement, the CAR rapidly increases as evidenced by the graph. The graph shows that securities highly react to the demonetization announcement as both AR and CAR slightly increase after the announcement date and then fluctuates thereafter.
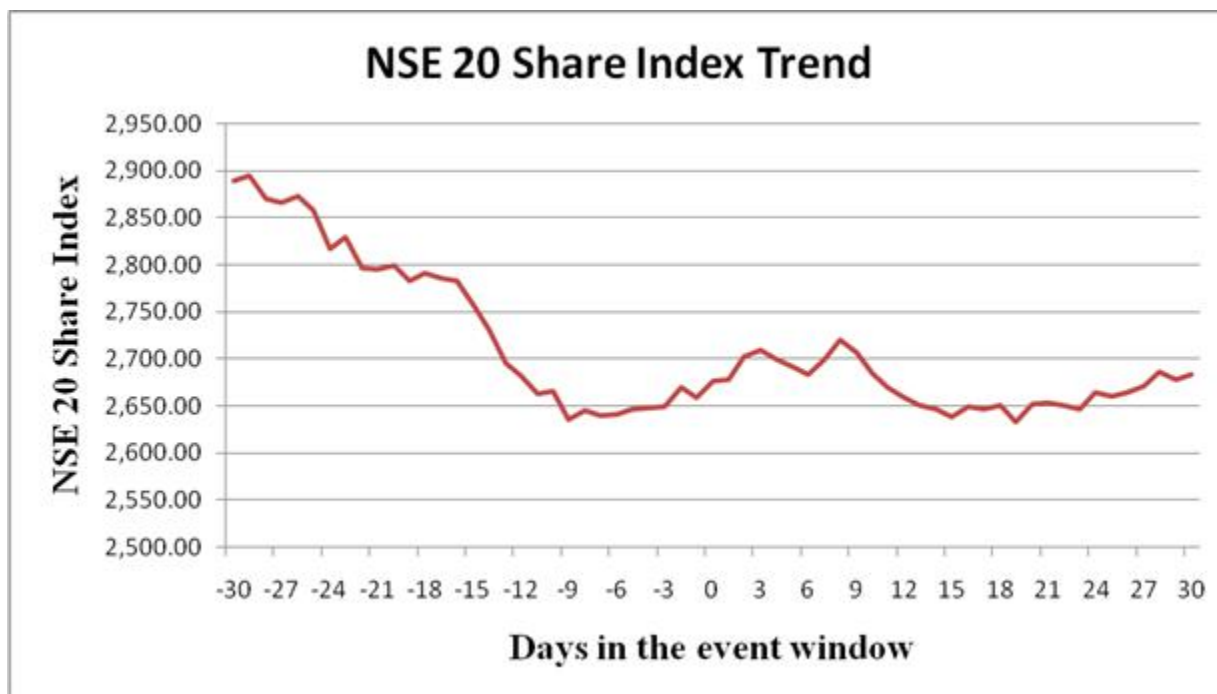
Figure 3 Daily NSE 20 Share Index Price Movement

The trend of daily NSE20 share index prices in the event window is portrayed in the figure 3. Prior to the event date, the prices of the NSE20 share index were on a decline. From the figure 3, the curve gradually slopes downwards before the announcement date. It then changes direction immediately after the announcement was made and begins to slope upwards. It remains stable throughout in the event window. It is evident from the graph that demonetization announcement has significant effect on the securities prices.

4.2 Test of Significance

CAR and AR in the event widow have been presented in Table 1 and 2. The Market model as presented earlier aided to measure if the returns reported in the event window were greater than the market returns. Paired T-tests for the AR and CAR were conducted and the results tabulated as follows;

Table 1 Test of Significance for AR
Paired t- test

	Df	T	Sig. (2-tailed)	Mean difference	Std. Err.	Std. Dev.	Test Value = 0 [95% Conf. Interval of the difference	
							Lower	Upper
AR	29	-2.2469	0.0324	-0.0030644	0.0013638	0.00747	-0.0058537	-0.0002751

Table 1 contains the parametric test results of paired T-Test across 60 days in event window. The results includes; degrees of freedom (df), t-test value and the two tailed significance value. In this test, 5% level of significance was used to calculate the parametric tests. The two tailed value of significance is -2.24692 with 29 degrees of freedom. The P value of 0.0324 indicates the significance of the AR in the event window which confirms the parametric tests and thus accepting the null hypothesis since the value is less than 5% significance level.

Table 2 Test of Significance for CAR
Paired t test

	Df	T	Sig. (2-tailed)	Mean difference	Std. Err.	Std. Dev.	Test Value = 0 [95% Conf.Interval of the difference	
							Lower	Upper
CAR	29	-9.9780	0.0000	-0. 053576	0 .0053694	0.0294095	-0 .0645577	0.0425943

Table 2 contains the results of paired T-Test across the 60 days event window. The results includes; degrees of freedom (df), t-test value and the two tailed significance value. In this test, 5% level of significance was used to calculate the parametric tests. The two tailed value of significance is -9.9780with 29 degrees of freedom. The P value of 0.0000 indicates the

significance of the CAR in the event widow confirming the results of the parametric tests and thus accepting the null hypothesis since the value is less than 5% significance level.

4.3 Interpretation of the Findings

The analysis was conducted with an aim to investigate whether or not demonetization announcement has an effect on securities market performance. Expected returns were subtracted from the daily market returns to obtain AR. CAR were computed by summing up the AR before and after the demonetization date.

Graphs of AR and CAR were plotted to show their movement in the event window. Daily share index prices were also plotted in a graph to bring out the price movement trend in the period around demonetization announcement date. Finally, significance tests for both AR and CAR were conducted. From the research findings, it was observed as in Graph 1 and 2 that there was a slight kink in the AR and CAR after the demonetization announcement date. Graph 3 shows a decrease in the share index prices before the event date and an increase in the prices after the event date.

Generally, AR and CAR curves were downward sloping before the announcement. The curves change direction soon after the announcement was made and begin to slope upwards. This implies that the securities market had a positive reaction towards the demonetization announcement. The tests of significance carried out for the AR and CAR posits that we cannot accept the null hypothesis. The t-test vale for AR was found to be -2.2469 and -9.9780 for CAR. P-values were 0.0324for AR and 0.0000 for CAR. Since the two values are less than the 5%significance level, the null hypothesis that demonetization announcement has no significant effect on the securities market performance in Kenya is rejected. This indicates that demonetization announcement is statistically significant and has an effect on the securities market performance.

Sudhindra (2017) in their investigation evidenced a significant impact on the selected benchmark indices; BSE100Sensex and Nifty by currency demonetization. Anoop et. al. (2018) conducted a study to analyze whether or not Indian stock market is impacted by demonetization which

evidenced a significantly negative impact. The findings of this study show that demonetization announcement has a significantly positive effect on securities market performance in Kenya.

5.1 Summary, Recommendations and Conclusions

The aim of this study was to evaluate whether or not demonetization announcement affect securities market performance. In this chapter, we outline the findings in summary and Conclusions drawn based on the study's objectives. Findings of this study and data collected are analyzed to come up with conclusions and recommendations.

AR returns were obtained from the difference between expected returns and the daily market returns. CAR for the pre-demonetization phase were computed by summing up AR in the pre-demonetization period. CAR was also computed for the post-demonetization period by summing up AR in the post-demonetization phase. Graphs of AR and CAR were plotted to show AR and CAR movement around the demonetization period.

From the findings analysis, there was a decline in the CAR thus the curve slopped downwards in the phase prior to the date of announcement. The CAR curve gradually slopes upwards after the announcement and remains positive thereafter. The AR fluctuated throughout the event window. On the event day (day 0) though, the AR returns depicted a positive shift and the curve sloped upwards to the positive. The share index prices reacted positively to the announcement. The share index prices were on a decline before the announcement and suddenly started to increase and remained stable in the phase after the announcement. The P-values from the test of significance conducted were 0.0324 for AR and 0.0000 for CAR. Since the values are less than the 5% significance level, hence we cannot accept the null hypothesis. This infers that demonetization announcement is indeed significant enough to affect securities market.

5.2 Conclusions

The conclusion drawn from the research was that demonetization announcement has significant effect on the securities market performance in Kenya. Securities prices did not confiscate the new information that came to the public through demonetization of Ksh.1000 announcement thus giving investors an opportunity to reap abnormal returns from trading of securities.

5.3 Recommendations

The objective of the Central Bank of Kenya was to maintain a stable economy while at the same time mopping out illicit cash. The gradual approach used was practical, it reduced any collateral damages to the real economy and it ensured that there was sufficient time to reach out to its people with relevant information on demonetization. In our analysis, we conclude that the CBK's objective was achieved since after the process, the effect on securities market was significantly positive. CBK however needs to be firm with its regulatory rules to protect the country against money laundering and counterfeiting of the new currencies to maintain a stable economy in the long run.

5.4 Limitations of the Study

Market model which is a one-factor model for regression analysis was employed in this study. A multi factor model would give wider explanation about the variance in normal returns and as well reduce variance of AR.

The period used for this study was relatively short due to the fact that demonetization announcement is a recent event in Kenya. Therefore, analyzing the securities performance in the long run is not possible.

The data used in this study is historical. Hence, due to the ever changing economic trends and factors, the results from the study might not be the best presentation of future performance of securities market.

This study factored companies listed and included in the NSE20 share index. There are other market indices including NSE25 share index and NASI share index which are considered excluded from this study. These indices could have generated different results if used in the study.

Data from NSE is deemed to be accurate and timely given that it is a trading platform for securities in Kenya. However, it was too costly to obtain data from them and given that the data was only required for academic purposes.

5.5 Recommendations for further research

This paper was only limited to securities market. However, more studies can be extended to all other sectors. Economic factors and trends which could have an influence on the prices during the demonetization period could be considered.

This study is done with the NSE20 share index prices of up-to the 30th of September 2019 which was the last day of transaction with the Ksh.1000 old note. Further research can be done with the market returns realized after the demonetization period to ascertain the exact impact in the long-run.

This study was done using an event study methodology. However, more studies need to be done using other various statistical techniques in data analysis such as; ANOVA analysis, GARCH model among others.

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