

Information Effect of Trump's Declaration of Jerusalem as the Capital of Israel on the Nigerian Stock Market

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Abstract—The study examined the information effect of Trump's declaration of Jerusalem as the capital of Israel on the Nigerian stock market. The required data spanning 1st January to 31st December, 2017 were analyzed using Event study methodology. The result of the analysis showed that the news of Trump's declaration of Jerusalem as the capital of Israel caused statistically significant negative abnormal returns in the Nigerian stock market. The study recommends that the Government and the Nigerian stock market key players should keenly monitor emerging events around the globe, as these often have implication for emerging markets through contagion.

Key words—Abnormal return; event study; information effect; stock market.

I. INTRODUCTION

The inseparable nature of information and communication technology, and the efficiency of world stock markets in recent times appears to have raised a concern among economic agents. With the advancement in information technology, stock markets have been made more open to the public, thereby making transactions and activities therein easy and fast. However, with this overwhelming flow of information available to investors, the impact of financial news on market prices is at best uncertain.

There are lots of special events, local and international, that affect the stock market, and depending on how investors view such events, they may lead to price changes in the market. Opinions of investors regarding the effects, or anticipated impact of some economic events can induce price changes which may lead to revision of investment decisions. In Nigeria, since the deregulation of the economy in 1986 and the subsequent liberalization of the capital market, the domestic markets have been linked with the rest of the world markets thereby making the Nigerian capital market a world market (Uyaebo, Atoi and Usman, 2015).

On December 6, 2017, the U.S. President, Donald Trump in his speech at the White House recognized Jerusalem as Israel's capital and announced a plan to move the USA embassy in Tel Aviv to Jerusalem. In the relatively short speech, Trump made the following key note points: first, that the United States recognizes Jerusalem as the capital of Israel; second, that Washington would start preparations for moving the U.S. embassy from Tel Aviv to Jerusalem. He emphasized that the decision did not run counter to the U.S. commitment to peace in the Middle East. He further stated that the Vice President, Mike Pence would tour the Middle East for talks with relevant countries (Koyama, 2017). The declaration is

an important event considered capable of creating a ripple in the financial markets around the world.

Some studies have documented that special events and announcements, like the said Trump's declaration, affect stock price movement and the general performance of the market. For example, Shelor, Anderson and Cross (1990); Cartaer and Simkins (2004); Suleman (2012); and Osuala, Onoh, and Nwansi (2017) variously examined the impact of presidential election result announcement, terrorist attack, natural disasters/catastrophes on stock returns and concluded that special events have significant impact on stock market returns. However, some other studies such as Floros (2008); Crowley and Loviscek, (2002) and Beaulieu, Cosset and Essaddam (2005) suggested that special events do not have significant effect on the performance of the stock market. It is this lacuna in the information effect of special events that informed the present study which aims at pointedly unravelling the contagion effect, if any, of Trump's declaration of Jerusalem as the capital of Israel on the Nigerian Stock market.

Nigeria's emerging stock market is a promising ground for both local and foreign investors, and since it is linked to the global market, it becomes expedient to investigate contagion or information effect of Trump's declaration of Jerusalem as the capital of Israel on the performance of the market. This is the main objective of this study.

II. THEORETICAL FRAMEWORK FOR STOCK MARKET REACTION TO NEWS

There are several theories in finance that try to explain the effect of special news or events on the performance of the stock market. Prominent among them are: Efficient market hypothesis, Behavioural Finance Hypothesis, Overreaction Hypothesis, Uncertain Information Hypothesis, Modern Portfolio Theory and Rational Expectations Theory.

The efficient market hypothesis (EMH) credited to Eugene (Fama, 1970) states that in a perfect market, stock prices reflect all available information in the market. According to the EMH, stock always trade at their fair value on stock exchanges making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. As such, it should be impossible to outperform the overall market through expert's stock selection or market timing, and that the only way an investor can possibly obtain higher returns is by purchasing riskier investments.

Behavioural finance deals with how psychological phenomena impact financial decision-making. In other words, behavioural finance looks at the insights of

psychological research and applies them to financial decision making (Shefrin and Statman, 2000). Behavioural finance has been growing over the last twenty years specifically because of the observation that investors rarely behave according to the assumptions made in traditional finance theory.

Overreaction Hypothesis (OH) of De Bondt and Thaler (1985, 1987) argues that investors overreact to information in some cases such that stock prices move upward too far in reaction to favorable news and move downward too far in reaction to unfavorable news.

Uncertain Information Hypothesis (UIH) holds that uncertainty and risk will increase in financial markets following the release of unexpected information so that investors cannot properly react to unexpected news and therefore they could initially set security prices below their fundamental values. According to the UIH, there will always be a positive market correction following both favorable and unfavorable events (Mehdian, Nas & Perry, 2008).

Modern Portfolio Theory maintains that there is a positive relationship between the risk and the expected return of a financial asset. When the risk of an asset increases, so does its expected returns. What this means is that if an investor is taking on more risk, he is expected to be compensated for doing so with a higher return. Similarly, if the investor wants to boost the expected return of the investment he needs to be prepared to take on more risk.

Rational expectations theory states that the players (investors) in an economy will act in a way that conforms to what can logically be expected in the future. The utility of this theory is doubtful where the general expectation of investors, as is the case presently in Nigeria, is pessimistic. This will cause the market to drag irrespective of the innovations introduced by the regulatory agencies.

III. METHODOLOGY

A. Data Type and Method of Collection

This study used secondary data collected from the Nigerian stock exchange fact book, Central Bank of Nigeria statistical bulletin, reputed journals, newspapers and online sources. The data was collected for the period spanning 1st January 2017 to 31th December 2017. The data and necessary information on All Share Index (ASI) and current market price were obtained from the Nigeria stock exchange daily official list covering the period earlier mentioned.

B. Sample Selection

The judgmental sampling approach was used and each of the companies selected was expected to meet the following criteria:

- i. It must have been listed in the Nigerian stock market six months before the period of this study.
- ii. It must also have the necessary data required for the study period.

- iii. It must be a company that does not have a constant current market price.

C. Method of Data Analysis

The event study methodology was adopted for analyzing the information effect of Trump's declaration of Jerusalem as the capital of Israel on Nigerian stock market. For the purpose of the study the data has been collected from 1st January 2017 to 31st December, 2017 from the Nigeria stock exchange.

In order to determine the Nigeria's stock market reaction to the news of Trump's declaration of Jerusalem as the capital of Israel, we analyze the cumulative abnormal returns in the market over a six-day event window by aggregating the average abnormal returns over the event window. The short event window of six days (-5 + 6) is chosen for reasons of poor information technological advancement in an emerging market like Nigeria, which constitutes an impediment to the speed of information dissemination.

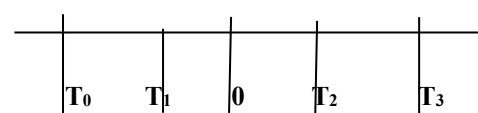
D. Model Specification

The standard event study method was used for analyzing relevant data set obtained for the study on the contagious effect of Trump's declaration of Jerusalem as the capital of Israel on Nigeria stock market. An event study measures the impact of new information on the return of financial assets.

According to Osuala (2010), the basic steps in an event study are as follow:

1. *Identification of the event date.* This is the date on which the event occurred, that is, when the market first learnt of the event.
2. *Definition of the event window.* This refers to the number of trading days preceding and following the event date that are considered necessary to capture both the leakage, if any, and the time needed for the data to effectively reach the marketplace.
3. *Definition of the estimation period.* The estimation period is the period of time over which no event has occurred. It is used to establish how the returns should behave normally (i.e., in the absence of the event).

The time-line for a typical event study is shown below:



- The interval T_0-T_1 is the estimation period (estimation window)
 - The interval T_1-T_2 is the event window
 - Time 0 is the event date in calendar time
 - The interval T_2-T_3 is the post-event window
 - There is often a gap between the estimation and event periods
4. *Selection of the sample of firms.* This entails definition of a criterion to screen the firms.
 5. *Calculation of “normal” returns* (the returns that would have occurred in the absence of the event). There are several approaches for characterizing the normal returns, namely, the mean return, the market return, portfolio return and risk-adjusted return. Each of the methods has its own pros and cons.
 6. *Calculation of abnormal returns* (that is the excess return arising from the occurrence of the event of interest. To calculate the abnormal returns (ARs) you take the actual return for the sample firms for each day in the event window and you subtract the estimated normal return for each day in the event window. The cumulating of the ARs yields the cumulative abnormal returns (CARs).
 7. *Evaluation of the statistical significance of the (Average) Abnormal Returns and Cumulative Abnormal Returns.* By determining the statistical significance of the AAR, you are thereby determining the significance of the event, which is the punch line of an event.

The market return approach was used for characterizing the normal returns, and it is given as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad [1]$$

where:

R_{it} : is realized rate of return of the *i*-th security during period *t*,

R_{mt} : is rate of return on the equally-weighted market index (m) at period *t*,

e_{it} : is a random variable that is expected to have a mean value of zero.

α_i, β_i : are the intercept and slope parameters for the firm *i*, respectively.

The abnormal return (AR) for the *i*-th common stock on day *t*, is given by:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad [2]$$

where $(\hat{\alpha}_i + \hat{\beta}_i R_{mt})$ is the expected rate of return $E(R)$; the coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$ are Ordinary Least Squares estimates of α_i and β_i , estimated from a regression of daily security returns on daily market returns from $t = -60$ to $t = -1$ ($t = -60$ to $t = -1$ is the estimation window). It should be noted however, that in an efficient market (where investors have rational or unbiased expectations), $E(AR_{it}) = 0$, where $E(AR_{it})$ is expected abnormal return.

The individual security's abnormal returns, AR_{it} , is aggregated and averaged across all the observations as shown below: \overline{AR}_t

$$\overline{AR}_t = \frac{\sum_{i=1}^N AR_{it}}{N} \quad [3]$$

Where: *N* is the number of events in the sample. The reason for averaging across firms is that stock returns are noisy, but the noise tends to cancel out when averaged across a large number of firms. Finally, the average abnormal returns are tested for their statistical significance.

Before the statistical significance of the abnormal returns can be determined, the standard deviation of the abnormal returns in the estimation period need first be computed. To do this, the following steps need to be followed:

(a) For each time period *t* in the estimation period (i.e., the pre-event period), we calculate the average abnormal return over all securities. For example, as the estimation period in this study is 60 days and there are 23 companies in the sample, after averaging over all companies in the sample there will be 60 average abnormal returns (one for each day). Algebraically:

$$\overline{AR}_t^{PP} = \frac{\sum_{i=1}^N AR_{it}}{N} \quad [4]$$

where: \overline{AR}_t^{PP} is the average abnormal return across all *c* companies at time *t* in the pre-event period.

b) The average abnormal return over all companies for the whole estimation period must be calculated. To do this, we calculate the average of the average abnormal returns in the estimation period, $\overline{\overline{AR}}_t$. Algebraically:

$$\overline{\overline{AR}} = \frac{1}{T} \sum_{t=1}^T \overline{AR}_t \quad [5]$$

Where: \overline{AR} is the average abnormal return over all companies in the control period and AR_t is the average abnormal return over all securities in period t.

\overline{AR}_t and \overline{AR} are used in the calculation of the standard deviation of the abnormal returns. Abnormal returns from the event period are not used so that the standard deviation estimate is protected from being biased by the uncharacteristic movements in stock returns during this period.

Given our estimates of \overline{AR}_t and \overline{AR} we then calculate an estimate of the expected abnormal return standard deviation.

(c) The standard deviation of the abnormal returns in the estimation period is:

$$\sigma(AR_t) = \sqrt{\frac{\sum (AR_t - \overline{AR})^2}{T-1}} \quad \text{or}$$

$$s(\overline{AR}) = \sqrt{\frac{\sum_{i=1}^T (\overline{AR}_t^{PE} - \overline{AR})^2}{T-d}} \quad [6]$$

Where: T represent the length of the pre- event window

(d) We then calculate the average abnormal return over all securities in each period in the event period. The individual security's abnormal returns (AR_{it}) is aggregated and averaged across all the observations at a distinct time using the formula:

$$\overline{AR}_t^{EP} = \frac{\sum_{i=1}^N AR_{it}^{EP}}{N} \quad [7]$$

where N is defined as the number of firms in the sample and t refers to period t in event time. By aggregating the periodic average abnormal returns over a particular time interval, L cumulatively, we obtain the cumulative average returns (CAR).

$$CAR_t = \sum_{i=1}^L \overline{AR}_L \quad [8]$$

Where L= length of the event window.

(e) The final step is to test the statistical significance of each average abnormal return AR_t and cumulative abnormal return CAR_t in the event period. This is simply done by dividing each average abnormal return in the event period by the standard deviation estimate calculated in c) above. If we

assume that the average abnormal returns over all companies are independent, identically distributed and come from a normal distribution, the test statistic is distributed as a Student's t with degrees of freedom equal to (T-1). Since we have averaged the abnormal; returns, data problems such as cross-sectional correlation have been taken into account:

$$t = \frac{AR_t^{EP}}{S(AR)} \quad [9]$$

Where AR_t^{EP} is average abnormal return at time, in the event window and $S(AR)$ equals estimate of the standard deviation of the average abnormal return estimated over the estimation window.

$$s(\overline{AR}) = \sqrt{\frac{\sum_{i=1}^T (\overline{AR}_t^{PE} - \overline{AR})^2}{T-d}} \quad [10]$$

where T = length of the estimation period

d = number of parameters (and for the one factor model, d= 1).

T-d = the degree of freedom

AR_t^{PE} - average abnormal return over all securities in period t during the pre-event period.

\overline{AR} = average abnormal return over all firms in the pre-event period.

Statistically significant t-statistics implies that the event has a bearing on returns whether it indicates positive or negative effect on the returns. ;

For cumulative average abnormal returns, the t-test formula is:

$$CAAR(t_1, t_2) = \frac{CAAR}{S(AR)\sqrt{Nt}} \quad [11]$$

Where Nt equals the absolute value of event day, t plus 1 (Kusnadi and Sohrabian, 1999).

IV. DATA ANALYSIS AND INTERPRETATION OF RESULTS

The analysis was done using the event study method's steps as outlined in the previous session. The empirical result of the test is presented in table 1:

Table 1: Result of Average Abnormal Returns and CAR

Event window	AAR	t-value	CAR	t-value
-5	-0.611266	0.836669	0.611266	0.34157
-4	0.44885	0.614363	1.060116	0.648924
-3	0.782966	1.071683	1.843083	1.261362
-2	-0.928626	-1.271055	2.771709	2.190343
-1	-1.540715	-2.108849	-4.312424	-4.173799
0	-1.533589	-2.099096	-5.846013	-8.001748
1	-1.491968	-2.042127	-7.337981	-7.102098
2	-1.91323	-2.618729	-9.251211	-7.310769
3	-1.662755	-2.275892	-10.91397	-7.469262
4	-1.666499	-2.282026	-12.58047	-7.700817
5	-1.675801	-2.293749	-14.25627	-7.966275
6	-1.648288	-2.25609	-15.90455	-8.228063

Critical Value = 1.81

Source: Compiled by the authors

The result shows above that the Nigerian stock market's response to the news of Trump's declaration of Jerusalem as the capital of Israel is negatively significant at 5% level of significance as the t-value is higher than the critical value. This result indicates that 1 day prior to and up to 6 days after the occurrences of the event, the stock market returns showed a negative response to the events. The t-values of the abnormal return results (ARR and CAR) show a negative significant effect which could be as a result of the news of Trump's declaration of Jerusalem as the capital of Israel by investors. This could also be as a result of anxiety among stock market participants surrounding the shift in US foreign policy consequent upon Trump's declaration of Jerusalem as the capital of Israel.

V. CONCLUSION AND RECOMMENDATION

The main goal of this research study is to investigate the information effect of Trump's declaration of Jerusalem as the capital of Israel on the Nigerian stock market. Empirical results showed that the market reacted sensitively to the news of Trump's declaration of Jerusalem as the capital of Israel as there was statistically significant negative abnormal return as a result of the declaration.

Based on the result, it is recommended that the Government and the Nigerian stock market key player should keenly watch and monitor emerging events around the globe,

as these often have implication on emerging markets through contagion.

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