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Electioneering activities and their impact on the Ghana Stock Exchange

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Orientation: Literature is scanty on the euphoria around Ghana's electioneering activities and their impact on economic activities.

Research purpose: This article studies electioneering activities and their impact on the Ghana Stock Exchange (GSE) returns.

Motivation for the study: Literature have established that political risk is statistically significant in emerging stock markets and from 5 January to 7 December 2016, the GSE lost 23.47% of its trading values. Hence, this article finds it imperative to examine whether electioneering activities indeed have an impact on GSE.

Research approach/design and method: Using daily data span from 5 January 2016 to 7 December, 2016. The autoregressive distributed lag (ARDL) bound test approach to cointegration and Granger causality test was used to examine the data.

Main findings: The result suggests that electioneering activity impact negatively on the GSE returns both in the short-run and long-run, but its cause is not clear. It impacts creates arbitrage opportunities for investors and may punish the political party in power.

Practical/managerial implications: Political parties in power should recognize that electioneering activities creates a dilemma between regaining power or managing the economy.

Contribution/value-add: Ghana's electioneering activities disproves some investment theories, that is, investors assume risk may not reflect their expected return since the stock market efficiency is nullified by arbitrage opportunity.

Keywords: electioneering activities, Ghana Stock Exchange, political party, ARDL bound test, Granger causality test.

Introduction

The overthrow of Ghana's first president through a *coup d'état* [seizure of power] never ended there; the nation experienced three different *coups d'état* and two democratic elections. These inconsistencies led to an unstable economy after independence for an extended period. However, in 1992, a referendum to return to democracy was passed, which resulted in the 1992 national elections won by Mr. Jerry John Rawlings. Ghana's changing into a democratic country resulted in several aids from western countries, which boosted the country's economic recovery. Besides, the referendum empowered politicians to make a significant policy decision and formulate regulations to govern the nation directly or indirectly affect the nation's economic activities.[1] To attain the nation's mandate to rule, every 4 years political parties campaign vigorously to unseat the government in power or to retain power. These activities have not been free of incidents. In 1992, most opposition parties boycotted the general elections.

In 2012, after the declaration of the results of the elections (the party in power polled 50.7%, the major opposition party (MOP) polled 47.7% and other opposition parties polled 1.6%), the MOP filed a petition in court against the final result, citing irregularities, manipulations and improprieties. The MOP debated their case based on two key areas: bloated voters register and the electoral commission (EC) collusion, incompetence and deliberate negligence. This court action was sat on by nine-member high court supreme judges for 8 months. During the 8 months hearing of the case, partisan analysts wrote critical commentaries and traded accusations over the media. This brewed political tension in Ghana, which negatively affected economic and social activities and created fear for life and property (Bamfo 2014).

1.Ghana's Constitution of 1992 with amendment through 1996, www.constituteproject.org.

On the other hand, Africa's stock market can be classified as an emerging market and is made up of 29 markets with 21 registered as members of the African Security Exchange Association (ASES).[2] The Ghana Stock Exchange (GSE), being a member of ASES, was incorporated in 1989 with trading commencing on 12 November 1990.[3] The GSE was started with three stockbrokers, 11 equities and one commemorative bond, but in 2016, the GSE can boast of 38 listed equities, 97 government bonds, 21 license dealing members, fully automated trading system and a fully automated trading system more than GH¢2.1 billion raised through equity finance. The GSE Composite index grew from 70.25% in 1990 to 857.98% by the end of 2000. Nonetheless, it experienced negative performance in 2015 (−11.77%) and 2016 (−15.33%).

Investing in the stock markets attracts several risks, such as political risk, exchange rate risk, capital flow risk across national boundaries and inflationary risk (Bodie, Kane & Marcus 2014). Political risk is defined by Günay (2016) 'as the destabilization which arises from government turnover and the resulting policy changes in the economy and international relations'. Political risk comes in many forms like political instability, electioneering activities, corruption, coup d'état, presidential elections, civil uprising and terrorism. It is well established that political risk is statistically significant in emerging stock markets (Perotti & van Oijen [2001] cited in Lehkonen & Heimonen [2015]). Besides, from 05 January to 07 December 2016, the GSE lost 23.47% of its trading values (i.e. dropping from 1996.52 to 1527.94). Hence, this article finds it imperative to examine whether electioneering activities indeed have an impact on GSE.

Therefore, this article seeks to study electioneering activities and their impact on the GSE. This is achieved by answering the short-term and long-term effects of electioneering activities on the GSE. The autoregressive distributed lag (ARDL) bound test approach to cointegration and Granger causality test were used to examine the daily data. The result shows that electioneering activity negatively affects the GSE returns both in the short-run and long-run, and the results correlate with work of Angelini et al. (2018), Döpke and Pierdzioch (2006) and Günay (2016). The abysmal performance of the GSE market may send the political party in power into opposition and does create arbitrage opportunities for speculators (disproving the arbitrage pricing model). The remainder of this article is arranged as follows: the 'literature review' section looks at literature in the field of study, and the 'methodology' section describes the methods used to analyse the daily data used. The 'results and discussion' section dives into the result implication, whilst the 'conclusion' section captures the finding and future research of the article.

Literature review

The *Collins Dictionary* defines electioneering as the activities politicians and supporters carry out to persuade people to vote for them or their political party in an election. In the same vein, Bassey (2013, cited in Edegoh & Anunike 2016) defined the electioneering campaign as 'an effort to persuade or dissuade prospective voters in an attempt to gain partisan advantage in the electoral process'. Another definition by Obikaeze and Ernest (2016) emphasised that electioneering campaigns are mainly activities by political parties to promote their party, especially during election periods, and are aimed at convincing the electorates to vote for the party during the elections. They identified rallies, house-to-house campaigns, one-on-one discussions, conventions, candidate forums and modern media of communication (radio, television, newspapers, magazines, internet, billboards and others) as forms of electioneering campaigns. In this article, electioneering activities is defined as the activities that politicians, their supporters and all stakeholders carry out to persuade or dissuade prospective voters from gaining an electoral advantage for a party in power or opposition during elections. This includes rallies, house-to-house campaigns, one-on-one discussions, conventions, candidate forums and others reported by Ghanaweb during the 2016 elections.

Electioneering activities can be classified as a systematic risk under the arbitrage pricing model. Systematic risk is common to all stock on a stock market and cannot be diversified, while idiosyncratic risk emanates mainly from the industry and can be diverse. Arbitrage pricing theory (APT) draws it strength from the law one price, which states that in an equilibrium market, the price of two assets bearing the same risk must be equal; otherwise, arbitrage opportunity will arise to take advantage of such disequilibrium (Nguthi 2013). Another key theory is the efficient market hypothesis (EMH.), which states that a share price reflects all the relevant information on the market (Fama et al. 1969; Markowitz 1952). From this definition, two key assertions can be made: stock price adjusts rapidly to any new information and fully reflects all suitable information (Nguthi 2013). Finally, the modern portfolio theory reveals a positive relationship between risk and expected return of financial assets (Markowitz 1952). That is, the higher the risk, the higher the reward. Summing these three key theories, it clear that during the electioneering year, investors assume critical risk, which must reflect in their expected return base depending on the stock market efficiency nullifying any arbitrage benefits. However, is that really the case during Ghana's 2016 electioneering year?

Electioneering Campaigning sets the tone for political parties to market their manifestoes to the electorate (Alom 2013), but at the same time, it may be marred by defamatory, derogatory and insulting attacks on rival parties and individual personalities (Obikaeze & Udalla 2016). Political activities' impact on stock market performance can be grouped into pre-election and post-election impacts. In terms of pre-election impacts, Döpke and Pierdzioch (2006) studied politics and the stock market evidence from Germany. Using the popularity functions and Vector Autoregression (VAR), they found that Germany's stock

2.https://en.wikipedia.org/wiki/List_of_African_stock_exchanges, 2018; viewed 06 June 2018.

3.https://gse.com.gh/about/overview, 2018, viewed from 06 June 2018.

market movement significantly affects the government's popularity as measured by its approval. The approval rate tends to increase when the stock market is bullish and tends to decrease when the stock market is bearish. Besides, there is weak evidence that political process had an impact on the stock market, and Germany's stock performance does not favour the left-wing or right-wing government. Ramesh's (2015) article focused on return volatility around nation elections evidence from India. His result suggests that investors can earn abnormal returns by systematically investing during the event of political uncertainty in India. Fauvelle-Aymar and Stegmaier's (2013) article captioned the stock market and U.S. presidential approval, utilising the presidential popularity equation, and concluded that as the stock market growth accelerates, the president is rewarded, and conversely, during the time of decelerating growth, the president is punished. Stockholding and stock market changes affect support for parties and presidents as parties and presidents want to win election. These findings suggest that the government have political incentives to use their power to boost the stock returns, especially at election times. Günay's (2016) article concluded that the Turkish stock market responds to political events. As political regimes change, the Turkey stock market's response to political event keeps diminishing.

That of post-election impacts, Carvalho and Guimaraes's (2018) article titled 'State-controlled companies and political risk evidence from the 2014 Brazilian election' extended the standard asset diffusion model to capture the effect of an election and estimate it with data on stock option. Their findings suggest that: (1) Petrobas preference shares would have cost 65%–70% more (in Reais), and the company valuation network increased to about $45 bn had the opposition candidate been elected as president, and (2) the effect of the 2014 Brazilian election on the price of ordinary shares of Petrobas was less responsive to movement in the odd of election and the opposition victory would have raised the stock market index by 18%. Angelini et al.'s (2018) article looked at the relationship between post-election main sentiments on Donald Trump and financial market. Using cointegration analysis, their results show that Trump sentiment index has a short-run and long-run impact on 10 years treasury bond and gold. Besides, change in Trump's favourable opinions leads to a positive change on the stock market and treasury bond returns and negative change on gold returns. Blanchard et al.'s (2018) article why has the stock market risen so much since the US Presidential elections found that the stock market rise can be attributed to higher actual and expected dividends and 100 basis point decrease in the equity risk premium. Girardi and Bowles' (2018) article touched on institution shock and economic outcomes. Allende's election, Pinochet's coup and the Santiago stock market concluded that share prices following Allende's election were not primarily moved by growth prospect or expected wage dynamics. If it were so, it would have impacted firms and sectors differently. The literature reviewed has touched on several aspects of political activities and how clear political activities (both pre- and post-election) affect the stock market. This article differs from the reviewed articles in two areas: the study has been undertaken in an emerging stock market and it is the first of its kind in Ghana.

Data and methodology

Data

The data were collected daily from 05 January 2016 till the day of election, that is, 07 December 2016, summing up to 232 sample sizes. Data on holidays and weekends, however, were exempted as the stock market is not functional on such days. The data for this study were the GSE returns (GSER). This index is computed from the values of all the market's listings (both financial and non-financial). The daily interbank exchange rate (XRATE) is the price of a currency (cedi) in terms of the other currency (dollar) every day, whilst for interest rate (INRATE) the 91-day Treasury bill rate was used as a proxy for it, as it is the opportunity cost of holding money. Electioneering activities, as defined earlier data, were collected by scrutinising each day new items one by one as reported by Ghanaweb website (www.ghanaweb.com). For example, on 24 November 2016, Dr Mahamudu Bawumia (New Patriotic Party [NPP], Vice President-Elect) tagged the National Democratic Congress (NDC) as 'The most corrupt and incompetent administration since the era of Dr Kwame Nkrumah "under the new headline" NDC Govt most corrupt, incompetent – Bawumia'.[4] All such political activities by politicians, their supporters and all stakeholders carry out to persuade or dissuade prospective voters from gaining the electoral advantage for a party in power or opposition on that day sum up to 58 data sets (as shown in Appendix 1). This was repeated for each day electioneering activities data. The data for XRATE and INRATE were collected from Bank of Ghana and GSER from the GSE market.

Empirical methods

Autoregression distributed lag bound test

In examining the short-run and long-run impact of electioneering activities on GSE returns, the estimated model is specified in Equation 1:

$$Ghana\ Stock\ Exchange\ Returns =$$

$$f\left(Electioneering\ Activities,\ Exchange\ Rate,\ Interest\ Rate\right)$$

$$*LGSER_t = \beta_0 + \beta_1 LEAC_t + \beta_2 LXRATE_t + \beta_3 LINRATE_t + u_t \quad \text{[Eqn 1]}$$

where *LGSER, LEAC, LXRATE,* and *LINRATE* are the logarithm of Ghana stock exchange returns, logarithm electioneering activities, logarithm exchange rate, and logarithm interest rate respectively and u_t is the error term

4.https://www.ghanaweb.com/GhanaHomePage/NewsArchive/NDC-gov-t-most-corrupt-incompetent-Bawumia-489602 22 June 2018.

assumed to be normally distributed. In order to perform ARDL bound test (Pesaran Shin & Smith 2001), there was the need to establish whether the variables are nonstationary. This was ascertained by applying these unit root test analyses: Augmented Dicky–Fuller (ADF) with trend and intercept and a maximum lag of three and Phillips–Perron (PP) with trend and intercept and bandwidth of three. The ARDL bound test was performed using Equation 1:

$$\Delta LGSER_t = \alpha_0 + \sum_{i=1}^{k} \theta_i \Delta LGSER_{t-i} + \sum_{i=1}^{n} \vartheta_i \Delta LEAC_{t-i} + \sum_{i=1}^{p} \mu_i \Delta LXRATE_{t-i} + \sum_{i=1}^{q} \rho_i \Delta LINRATE_{t-i} + \phi_1 LGSER_{t-1} + \phi_2 LEAC_{t-1} + \phi_3 LXRATE_{t-1} + \phi_4 LINRTE_{t-1} + \varphi_t \quad \text{[Eqn 2]}$$

where all the variables are as previously defined, Δ is the difference operator, and φ_t is the error term. The ARDL bound test model is preferred to Engle-Granger (1987) and Johansen's (1991) cointegration because it is feasible for iteration of the same level that is *I(0)* or *I(1)* and a combination of different iterations *I(0)* and *I(1)*. From Equation 2, the short-run ARDL based on error correction model is as follows:

$$\Delta LGSER_t = \alpha_0 + \sum_{i=1}^{k} \theta_i \Delta LGSER_{t-i} + \sum_{i=1}^{n} \vartheta_i \Delta LEAC_{t-i} + \sum_{i=1}^{p} \mu_i \Delta LXRATE_{t-i} + \sum_{i=1}^{q} \rho_i \Delta LINRATE_{t-i} + \delta_t ECT_{t-1} + \omega_t \quad \text{[Eqn 3]}$$

where θ_i, ϑ_i, μ_i and ρ_i represent the short-run coefficient and δ_t is the extent of disequilibrium correction or speed of adjustment to restore the long-run equilibrium relationship. If δ is negative and significant, it implies that any short-run disequilibrium will converge back to the long-run relationship.

Granger causality test

Granger causality test was applied to examine the causal relations of the variable or any possible short-run prediction interrelationship among the variable. This often tests any temporal relationship between the two variables (Granger 1969). The equation for Granger causality test is shown in Equations 4 and 5:

$$g\left(LGSER_t\right) = \kappa_0 + \sum_{i=1}^{m_1} \nu_{1i} g\left(LGSER_{t-i}\right) + \sum_{i=1}^{n_1} \nu_{2i} h\left(LEAC_{t-i}\right) + \tau_i \quad \text{[Eqn 4]}$$

$$h\left(LEAC_t\right) = \varpi_0 + \sum_{i=1}^{m_2} \xi_{1i} h\left(LEAC_{t-i}\right) + \sum_{i=1}^{n_2} \xi_{2i} g\left(LGSER_{t-i}\right) + \varepsilon_i \quad \text{[Eqn 5]}$$

where τ_t and ε_t are assumed to be independently and identically distributed. The test hypothesis $H_0 = \upsilon_1 = \upsilon_2 = \ldots\ldots = \upsilon_n = 0$ is the GSE return and is not a prima facie cause of electioneering activity in Equation 4, and $H_1 = \xi_1 = \xi_2 = \ldots\ldots = \xi_n = 0$ is the electioneering activity and is not a prima facie cause of GSE returns. If H_0 is rejected, it implies that electioneering activity causes GSE returns, whilst if H_1 is rejected, GSE performance causes electioneering activity.

Results and discussions

Results

Table 1 gives the descriptive statistics of the data set. *LEAC* has the largest mean and *LXRATE* registers the smallest mean, whilst *LGSER* has the most significant standard deviation and *LXRATE* has the smallest standard deviation. Each data set is left-skewed, with a flatter tail kurtosis. All the data set rejected the Jarque–Bera normalcy test. The unit root test (Table 2) indicates that *LXRATE* and *LINRATE* were nonstationary at the level for both ADF and PP, whilst *LEAC* and *LGSER* were stationary and significant at 1%. After differencing it once, all the nonstationary variables became stationary at 1%. This implies that the variables in Equation 1 contain a mixture of *I(0)* and *I(1)* variables and satisfy the conditions of the ADRL bound test to cointegration.

The bound test result with *F*-statistics value of 95.9568 is significant at 1% (Table 3). The null hypothesis is rejected, signifying that a long-run cointegration relationship exists between the GSE returns and electioneering activities. The long-run coefficient of electioneering activities and interest rate were negative and significant at 5% and 1%, respectively, while that of the exchange rate was positive and significant at 1%. The intercept coefficient was significant (refer to Table 4).

Table 5 reports the results of the short-run error correction for the ARDL model with the appropriate diagnostics test performed to ensure the accuracy and reliability of the results. The outcome suggests that there is no evidence of serial correlation and any misspecification in the ARDL model but failed the heteroskedasticity test. Besides, the *F*-statistics shows a robust predictability character, and the Cumulative Sum of Recursive Residuals (CUSUM) is stable, as shown in Figure 1. The lagged error correction term (ECT_{t-1}) was negative and significant, at 1%. This implies that about 111% of the short-run disequilibrium is corrected in the long run – Table 6 reports the Granger causality test results. There was significant evidence of bilateral causality between *LGSER* and *LINRATE*, and *LINRATE* and *LXRATE*, and a unilateral causality between *LGSER* and *LXRATE*, and *LXRATE* and *LEAC*, respectively. The unilateral causality between *LXRATE* and *LEAC* recorded the highest *F*-statistics of 5.8369.

TABLE 1: Descriptive statistics of data set.

Data set	Mean	Median	Max	Min	Standard deviation	Skewness	Kurtosis	JB	Obs
LGSER	−2.0114	−0.6950	34.5200	−44.210	8.1527	−0.8889	9.4007	430.299***	232
LEAC	3.6158	3.6109	4.5432	1.9459	0.4913	−0.6146	3.6845	19.1358***	232
LXRATE	1.3603	1.3621	1.3954	1.3310	0.0167	−0.1008	1.6588	17.7812***	232
LINRATE	3.1144	3.1260	3.1299	2.8250	0.0453	−4.8850	27.6065	6775.69***	232

LGSER, Ghana Stock Exchange returns.

Table reports mean, median, maximum, minimum, standard deviation, skewness and kurtosis, as well as the Jarque–Bera test for the data set *LGSER, LEAC, LXRATE* and *LINRATE*. JB is Jarque–Bera test for normalcy (significance indicating non-normality).

***, ** and *, indicate significance at 1%, 5% and 10%, respectively.

TABLE 2: Unit root test.

Log level	ADF (with trend and intercept)		PP (with trend and intercept)	
	t-statistics	*p*	*t*-statistics	*p*
LGSER	−16.3725	0.0000***	−16.3337	0.0000***
LEAC	−4.4176	0.0025***	−8.9163	0.0000***
LXRATE	−1.0276	0.9370	−1.2361	0.9000
LINRATE	0.7150	0.9923	−1.4217	0.1444
First difference				
Δ*LXRATE*	−15.0923	0.0000***	−15.2048	0.0000***
Δ*LINRATE*	−3.7898	0.0188**	−16.0375	0.0000***

The table reports the results of the unit root test at trend and intercept level for both Augmented Dicky–Fuller (ADF) and Plillips–Perron (PP).

The corresponding *p*-values, ***, ** and *, indicate significance at 1%, 5% and 10%, respectively.

TABLE 3: Critical value bound for F-statistics with trend and intercept.

Variable	99%		95%		90%		*F*-statistics	Decision
K	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	-	-
3	4.29	5.61	3.69	4.89	2.72	3.72	-	-
F_{GSER}(*GSER*|*LEAC, LXRATE, LINRATE*)	-	-	-	-	-	-	95.9568***	Cointegration

The table reports the results of the bound test for cointegration relationship with a null hypothesis that no long-run relationship exists with Schwarz Bayesian information criterion (SIC) model ARDL (1,0,0,4).

***, ** and * indicate significance at 1%, 5% and 10%, respectively.

TABLE 4: Autoregressive distributed lag long-run estimates.

Variable	Coefficient	*t*-statistics	Probability
LEAC	−2.8082	−2.3026	0.0222**
LXRATE	128.568	3.6075	0.0004***
LINRATE	−118.728	−3.8760	0.0001***
Intercept	205.159	1.9266	0.0553*

The table reports the results of the long-run estimates of the ARDL model based on SIC (1,0,0,4).

The corresponding *p*-values, ***, ** and *, indicate significance at 1%, 5% and 10%, respectively.

TABLE 5: ARDL short-run error correction estimates.

Variable	Coefficient	*t*-statistics	Probability
Δ*LEAC*	−3.1394	−2.2747	0.0239**
Δ*LXRATE*	143.7300	3.5708	0.0004***
Δ*LINRATE*	−577.2520	−7.0136	0.0000***
Intercept	229.3540	1.9896	0.0479**
ECT_{t-1}	−1.1179	−17.8229	0.0000***
Adjusted R-squared	0.2950	-	-
Durbin–Watson statistics	1.9293	-	-
F-statistics	12.8743	-	0.0000
Breusch–Godfrey serial correlation	1.4671	-	0.2592
Breusch–Pagan–Godfrey heteroskedasticity	3.1307	-	0.0023
Ramey reset test	1.9176	-	0.1675

The table reports the results of the short-run error correction for the ARDL model based on SIC (1,0,0,4).

The corresponding *p*-values, ***, ** and *, indicate significance at 1%, 5% and 10%, respectively.

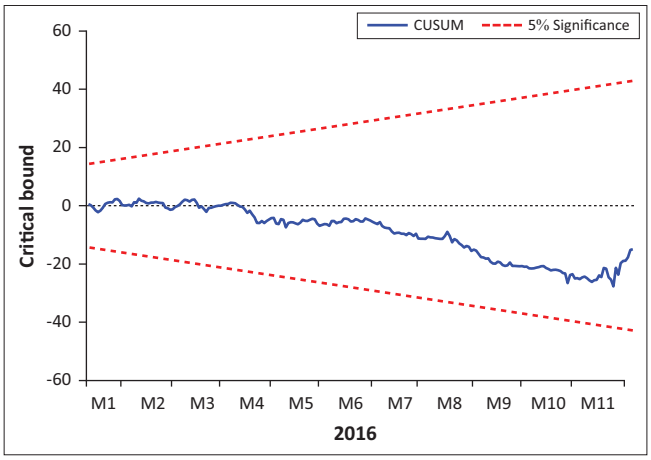

FIGURE 1: Results of the cumulative sum of recursive residuals (CUSUM).

TABLE 6: Granger causality test results.

Granger causality test	*F*-statistics	Probability
LEAC does not Granger cause *LGSER*	2.1781	0.1156
LGSER does not Granger cause *LEAC*	1.3862	0.2521
LXRATE does not Granger cause *LGSER*	0.2308	0.7941
LGSER does not Granger cause *LXRATE*	3.9984**	0.0197
LINRATE does not Granger cause *LGSER*	9.3082***	0.0001
LGSER does not Granger cause *LINRATE*	8.6788***	0.0002
LXRATE does not Granger cause *LEAC*	5.8369***	0.0034
LEAC does not Granger cause *LXRATE*	0.5584	0.5729
LINRATE does not Granger cause *LXRATE*	5.9883***	0.0029
LXRATE does not Granger cause *LINRATE*	2.6518*	0.0727
LINRATE does not Granger cause *LEAC*	0.8023	0.4496
LEAC does not Granger cause *LINRATE*	0.3006	0.7407

This table reports results from *f* the Granger causality test. The data range from 05 January 2018 to 07 December 2018.

***, ** and * indicate significance at 1%, 5% and 10%, respectively.

Discussion

Electioneering activity and Ghana Stock Exchange performance

The long-run results (Table 4) suggest that electioneering activities negatively affect the GSE returns, with a 280.82 basis point. The same was recorded for the short-run effect (Table 5) but with a higher loss of 313.94 basis points. That is, during the 2016 election year, the possibility of investors making daily losses on their investment is high, and this makes the stock price very cheap. This result implies that the 2016 electioneering activities contributed to the poor returns on the GSE market. Such returns performance has a high tendency of affecting the political party in power fortunes of retaining its electoral mandate (Fauvelle-Aymar & Stegmaier 2013). However, it creates a massive arbitrage opportunity for speculators to apply their trade

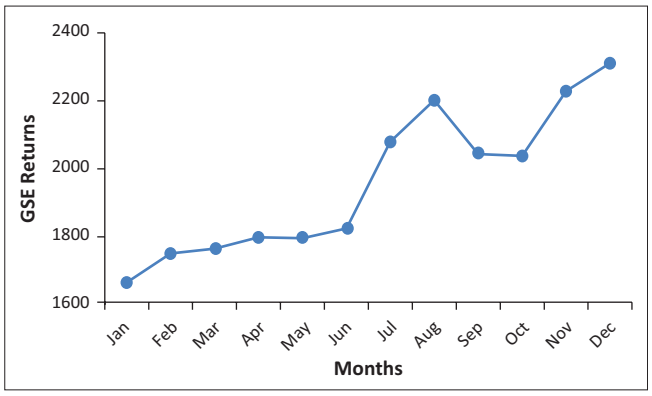

FIGURE 2: Ghana Stock Exchange performance in 2017.

effectively (Günay 2016; Savita & Ramesh 2015) by buying cheap stocks in 2016 and selling it short in 2017. This assertion is supported by the 2017 GSE returns performance as shown in Figure 2. This finding disproves all the theories stated (i.e. A.P.T., E.M.H., and modern portfolio theory) in that electioneering activities investors assume risk may not reflect their expected return since the stock market efficiency is nullifying by arbitrage opportunity. In sum, it is clear that during the general election, a sitting president elected as a presidential candidate for his party is under several duress to manage the affairs of the nation and that of his party. Meaning any unpopular decision may affect the fortunes of the party. This avowal confirms Ghana's former president H.E. John Dramani Mahama, saying 'he was not elected to take the popular decision'.[5]

Other variables and Ghana Stock Exchange performance

The exchange rate impact on GSE returns is positive and significant at 1% both in the long-run and short-run (refer to Tables 4 and 5). That is, all thing being equal, a percentage point increase in the exchange rate will increase the GSE returns by 143.73% (refer to Table 5). This implies the cedi depreciated against the dollar, thus, cheap stock price in the short-run and expensive in the long-run. This is because the cedi may appreciate against the dollar making the GSE market prevalent to exchange rate risk in the long run. This phenomenon can be attributed to politician's divided attention during an election year, especially for the political party in power, that is, regaining power and managing the economy. The result supports the well-known trend of exchange rate impacting the GSE positively both in the short-run and long-run (Asamoah Agana & Sakyi 2016; Ibrahim & Musah 2014; Kwofie & Ansah 2018). The interest rate negatively affects the GSE returns in the short-run (–577.25, significant at 1%) and long-run (–118.73, significant at 1%), refer to Tables 4 and 5. The result is consistent (Addo & Sunzuoye 2013) with the interest rate predictive power being very high. This suggests that the interest rate quoted during the electioneering activities was very high and detrimental to the GSE performance in the short-run. The high-interest rate offered by the government shifted funds from risky assets to risk-free assets, thus reducing the GSE market size. Such an interest rate practice during election year affects nations' growth as the private sector that employs the majority of the Ghanaian workforce may face serious financial challenges when listed on the GSE.

5.https://www.ghanaweb.com/GhanaHomePage/NewsArchive/I-wasn-t-elected-to-take-popular-decisions-Mahama-407133 viewed 07 July 2018.

Granger causality test results

The test was run to ascertain if electioneering activity causes GSE return performance and vice versa. The results suggest that there is no causal relationship between electioneering activities and the GSE returns. This means that electioneering activities is not a significant determinant of the GSE returns. Implying no matter the intensity of electioneering activities, the GSE returns performance does not depend on that. That is, although electioneering activities impact GSE return performance, its causes are not precise and suggest that there exists political risk on the GSE market. Besides, there was a unidirectional cause between electioneering activities and the exchange rate. However, there was no causal effect between electioneering activities and interest rates. This suggests that electioneering activities are independent of interest rate policy. A bidirectional cause exists between GSE returns and interest rate, with the interest rate causality on GSE returns being higher. This result confirms the competition existing between government and industry borrowing from households. The outcome is that the government might attract many household savings as it offers risk-free assets with high-interest rate returns. The causality between the interest rate and the exchange rate was bidirectional, confirming the existence of arbitrage on the GSE. Finally, there was a unidirectional cause between the exchange rate and GSE returns.

Conclusion

For the past two decades, Ghana's democracy has witnessed significant elections. During these elections, several electioneering activities took place (house-to-house campaign, major rallies, new conference and presidential debates) to promote or condemn a candidate or political party to gain electoral advantage. This article studied electioneering activities and their impact on the GSE. Using daily data of GSE returns, electioneering activities, exchange rate and interest rate summing up to 232 sample sizes, an ARDL bound test approach to cointegration and Granger causality test were performed to study the short-run, long-run and causal relationship of the variables. The results imply that electioneering activities impacted negatively on GSE returns both in the short-run and long-run. This confirms that electioneering activities affect GSE market performance, and it tallies with the studies by Angelini et al. (2018), Döpke and Pierdzioch (2006) and Günay (2016). The GSE's poor performance can affect the political parties in power negatively and create an arbitrage opportunity for speculators.

The results suggest that during elections, the cedi depreciation is swift in the short-run but does not appreciate in the long-run. This phenomenon may

contribute to the exchange rate risk in the GSE market. Also, the high-interest rate on risk-free assets pushes household funds away from stock resulting in weak growth and money-raising by private companies. Another interesting result is that electioneering activities do not Granger cause GSE returns performance and vice versa. This indicates that although electioneering activities impact GSE returns negatively, its cause is not clear, and there may be a possibility of political risk on the GSE market. The result still makes room for further studies to improve the literature based on this topic: for example, post-election activities impact the GSE market, political party regimes impact the stock market and does the Ghana Stock Exchange performance favour NDC or NPP?

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Competing interests

The authors declare that they have no financial or personal relationships, which may have inappropriately influenced them in writing this article.

Authors' contributions

This work was carried out in collaboration between all authors. A.T. designed the study, wrote the literature, carried out the analysis and arranged the manuscript. J.K.A. aided with the data collection and commented on the research. Both authors read and approved the final manuscript.

Ethical consideration

This article followed all ethical standards for a research without direct contact with human or animal subjects.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

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Appendix 1 starts on the next page →

Appendix 1

TABLE 1-A1: Electioneering activities data on 24 November 2016.

News headline reported	Electioneering activities
Has President Mahama violated Articles 19 and 20(2) of ICCPR?	Stakeholder debates on possible violation of the constitution by the party in power leader
Nana Akufo-Addo is an embodiment of violence	Political party attacking the opposition presidential candidate
NDC should concentrate more on Greater Accra	Party in power advice to concentrate its campaign in the capital city
Mahama killing Ghanaians hope – Sir John	Opposition party accusing sitting president
NDC has done more for the north than any party – Mahama	Party in power campaigning
Vigilante groups can plunge the country into chaos – Ahmadiyya leader	Religious leader raising concern of Ghana's peace
It is your responsibility to vote – Palmer-Buckle to Ghanaians	Religious leader admonishing why Ghanaian should vote
NPP demands fairness from IGP	Opposition party demanding fairness
Ghana's military to be on high alert on election day	Military alert
NPP goes nationwide with 'adopt a polling station' blitz	Opposition party training polling agents
NPP could win first round – political scientists predict	Stakeholders' election predictions
Innolink denies conniving with NDC to rig polls	-
Bawumia only an 'Accra Northerner' – Greenstreet	Opposition party leader accusing another opposition party
Police cannot overrule pockets of chaos during elections – Cephas Arthur	Stakeholder caution electorates
We will help Ghana's farmers – Akufo-Addo	Opposition leader campaign promise
Tensions ahead of polls too high – Ward-Brew	Stakeholder cautions political parties
I am 'sad' Upper West no longer backs NPP as before – Akufo-Addo	Opposition leader campaigning
Akufo-Addo championed 'Akan Agenda' in NPP – Haruna Attah	Party in power accusing opposition leader
Mahama is a novice in democracy – Akufo-Addo	Opposition leader throwing jab as party in power leader
Help us make 2016 elections peaceful – Amissah-Arthur	Party in power campaigning for peace elections
Bring the violence on – Koku Anyidoho tells NPP	Party in power daring opposition party
Mahama is 'an unrepentant ethnic bigot' – Mustapha Hamid	Opposition party casting smear on party in power presidential candidate
NDC gov't most corrupt, incompetent – Bawumia	Opposition party accusing party in power of corruption and gross incompetence
Samira, others hit street over 'Adopt a Polling Station' drive	Opposition party leader's wife goes on campaign
Visually impaired voters to vote without aides during 2016 polls	Stakeholder making sure all citizens are well covered during the elections.
In spite of 'war of lies' country is moving forward – Mahama	President and presidential candidate for the party in power condemning lies allegations
Effutu chiefs apologise to Akufo-Addo over 'Simpa Panyin' comment	Stakeholder making peace with opposition party leader
Three polls tip Akufo-Addo for victory	Stakeholder prediction about 2016 polls
December Polls will not be free and fair – PPP, PNC and NDP allege	Opposition parties crying for free and fair elections
Nana Addo will remain a survey president – Kofi Adams	Party in power counteracting polls
Mahama is creating a fair and just society – Chief of Staff	Party in power praising the president and presidential candidate of the party in power
NDC has done more for the North than any party – Mahama	Party in power campaigning
Greenstreet sings NDC's propaganda tune against Bawumia – Karbo	Opposition party accusing another opposition party
NDC, NPP are nation wreckers – Greenstreet	Opposition party condemning the two major parties
Dec polls will be rigged – Konadu, Nduom, Edward Mahama	Opposition parties casting slur on December polls
Ketu South ballot papers not 'compromised' – EC	Electoral commission promising free and fair election in every constituency
NDC fans allegedly stone, water-bomb Akufo-Addo	Party in power supporter attacking opposition party leader
Mahama has an interest in Woyome's GH¢ 51 m judgement debt – Amidu	A party faithful of the party in power accusing their presidential candidate of protecting a member accused of causing financial loss to the state
Hon. Azong exposed in NPP scheme to reject polls result	Party in power accusing opposition party
Advise youth to avoid violence – Veep tells Zongo Chiefs	Party in power vice president elect calls on Zongo Chiefs to advice their youth against political violence
Police erred in handling NDC, NPP Nima clash – ACP Gariba	Opposition party and party in power clash and the police support favours the party in power
Claim NPP is anti-Northern 'rubbish' – Mike Oquaye	Opposition party rubbishing party in power political gimmicks
New House of Chiefs president calls for credible elections	Stake holder calls on the electoral commission to ensure free and fair elections
Police to arrest voters who capture votes with phones	Police caution voters
Aliu Mahama Foundation exposes Haruna Atta	Loyal group in favour of the opposition party disproves a slur against the party
I will introduce 'Thinking' as subject at basic level – Edward Mahama	Opposition party promises to voter for vote
Council of Ga Rural Chiefs pledge support for Mahama	Chiefs pledge their support to the party in power
NDC will lose Dec. polls at all cost – Nana Boakye	Youth leader of the opposition party campaigning against the party in power
PPP, PNC, NDP election rigging fears baseless – E.C.	Electoral commission refutes opposition party accusation of election rigging
Vote for Sorogho and we will make him a Minister – Julius Debrah	Opposition party promising voter
Stop NDC from harassing us – PPP, PNC, NDP to Peace Council	Opposition party calls on peace council
GBC refutes bias findings over political reportage	Opposition party accusing the national broadcaster of reportage biasness
Do not vote with particulars of dead relatives – NCCE	Stakeholder educating voters
I will win 65% of votes in KEEA – Nduom's in-law brags	Opposition party parliamentary candidate predicting victory
NDC man allegedly beaten for defecting to NPP	Party in power not happy with faithful member defecting to opposition party
NPP to increase per diem of security – Nitiwul	Opposition party promising security agencies in the country of a better pay to win votes
NPP will unseat Okity-Duah – Ledzokuku Chairman	Opposition party sure of winning a constituency seat
NDC's free education policy deceptive – PPP	Opposition party condemning party in power campaign promises
Total	**58**

NDC, National Democratic Congress; GBC, Ghana Broadcasting Corporation; ACP, Assistance Commissioner of Police; PPP, Progressive People Party; PNC, People's National Convection; NDP, National Democratic Party; NPP, New Patriotic Party; IGP, Inspector General of Police; ICCPR, International Covenant on Civil and Political Rights; KEEA, Komenda Edina Eguafo Abirem; NCCE, National Commission for Civic Education.