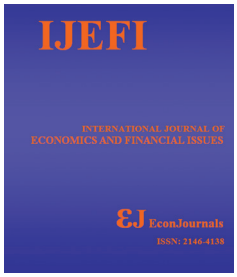

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Price of Political Uncertainty: Evidence from Ghanaian Treasury Bills

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ABSTRACT

Whilst democracy facilitates stabilization, political uncertainty around elections can be costly to economic growth, especially if investors believe it increases earning uncertainty and causes them to reduce their investments until after elections. The paper conjectures that new democracies (whose political environments are widely accepted to be characterized by political uncertainty problems) will even have investors demanding some compensation to buy assets which are generally considered risk-free. Data on the Ghanaian treasury bills (T-bills) market empirically supports this: Rates increase around elections (compared to non-election period), suggest that political uncertainty is even priced in a risk-free asset such as T-bills, thus creating electoral cycles. The paper proposes that new democracies should endeavor to strengthen financial institutions and frameworks that promote policy credibility to help mitigate the cost of political uncertainty.

Keywords: Political Uncertainty, New Democracies, Elections and Public Debt Financing
JEL Classifications: D72, H59, G11, H30

1. INTRODUCTION

The relationship between political uncertainty and economic growth has been a keen area of research in past years and survey of the extant literature shows that the empirical examinations have been active (Alesina and Perotti, 1994a). In some studies, political uncertainty enters the empirical model set-up as a constraint that is expected to adversely impact on optimal investments and economic growth policies; other studies examine the reversed causal relationship between political uncertainty and economic growth as it is expected that weak economic prospects can induce political uncertainty (Schneider and Frey, 1985; Vega-Gordillo and Alvarez-Arce, 2003).

The political experience[1] in recent years has reignited interest on the widely accepted relationship between political uncertainty and economic growth with the focus now shifted to understanding financial markets and related channels through which political uncertainty is transmitted into the real economy (Kelly et al., 2014): Understanding these channels of transmission should aid policymakers to design appropriate frameworks, institutions and policy interventions to help mitigate the cost associated with political uncertainty. The main purpose of this paper is to empirically examine the influence of electoral uncertainty on Ghana's borrowing/public financing costs. This paper is similar to the study done to analyze the impact of US gubernatorial elections on municipal bonds by Gao and Qi (2013) who showed that municipal yields increases around election; an indication of how uncertainty is priced in municipal bonds during elections.

New democracies including Ghana are mostly developing or emerging economies whose governments rely on private investments and borrowing to finance their developments and real growth plans. Adverse effects of political uncertainty (if not mitigated) can impact on governments' ability to borrow as well as servicing the real cost of existing debts obligations[2].

1 Kelly et al. (2014) attribute political actions as the main reason for the downgrade of US treasury debt in 2011 and European sovereign debt crises that began in 2010.

2 For instance, Block and Vaaler (2005) empirically examined data from 19 developing economies and observed that agency sovereign ratings decrease whilst bond spreads increases during.

Thus findings on how political uncertainty impacts on the real economy via government financing instruments should be very useful for the policymaker. This paper empirically examines the implications of political uncertainty on public financing. Specifically, this paper investigates how uncertainties induced by national elections is priced in the treasury bills (T-bills) market. The focus on T-bills for this analysis is motivated by two main reasons: Firstly, as a financial instrument with short maturity, fluctuation of T-bills prices within electoral cycles should reflect uncertainty including those induced by politics (Kelly et al., 2014). Secondly, they are assumed to be risk-free assets, thus findings should inform future comparable analysis on assets that are not guaranteed by governments or more liable to inflationary risks.

T-bills are issued by governments to cover short-term budget deficits. However, political elections can induce economic uncertainty, therefore agents could demand some premium[3] to buy them (around elections); hence rates fluctuations (around national elections) are therefore expected to impact on the data generating process differently relative to non-election periods. Further, it is expected that within the sub-period around elections, the period before elections will have a different impact on the data generating process of the T-bill rates compared to post-election period. To empirically examine the nature of impact of elections on T-bills pricing, monthly Ghanaian 91-day T-bill rates data are analyzed for five presidential elections between 1993 and 2013. Based on the assumption that T-bills rates follow a mean reversion process, the Ghanaian monthly T-bills rates is first modelled using the parsimonious AR(1) model. The paper then experimented with dummy variables designed to examine the contributions of elections on fluctuations of T-bills rates. The empirical findings generally confirm that yield rates increases around election. The paper attributes the higher rates around elections to investors' inclusion of risk pricing in T-bills around elections (compared to non-election periods): Investors' demand for compensation to buy them around elections thus increased their rates around this period. The rest of the paper is structured as follows; in Section 2, the paper discusses motivations and the conceptual framework; Section 3 presents data, empirical framework and findings; Section 4 summarizes and concludes the study.

2. MOTIVATIONS AND CONCEPTUAL FRAMEWORK

Let us consider a cross-border representative investor whose portfolio includes T-bills in a developing economy. This investor adjusts his portfolio periodically based on his view of economic and political conditions. Assume that financial markets operate without friction and restriction. During periods of higher political uncertainty (when investors deem it riskier to invest in Ghana) they may demand compensation to buy the T-bills or alternatively adjust their portfolios accordingly.

The factors that influence investors' incentives to demand higher compensation during periods of uncertainty can be summarized as follows:

i. Risk aversion which may have developed from personal and historical experience of investing in countries with high economic and political uncertainty
ii. Policy credibility problems and uncertainty on expected investment earnings which inform the reluctant investor to demand a higher compensation
iii. Opportunistic games by some investors around elections (for every opportunistic incumbent, there exist an opportunistic investor who takes advantage of eagerness to spend around elections).

This section presents complementary theories and supporting literature on factors that induce political uncertainty in developing economies. The section further proposes explanations on how uncertainty around elections informs the investor to incorporate some premium in their T-bills buying around elections.

2.1. Aversion to Economic and Political Uncertainties and Nature of Investment Environment in New Democracies

A widely accepted financial market stylized fact and common practice is the use of T-bills to proxy risk-free asset, and risk-premium on other assets estimated over their prevalent rates. This is because apart from T-bills being backed by the government (making default risk practically zero), they are also short-term debt obligations (making them less liable to inflation risk). So with all these positives, what will influence investors to demand some compensation on T-bills around election? Kelly et al. (2014) explains that high "political risk premium" is associated with periods of high political uncertainty and weak economic conditions. These new democracies are mainly small and developing economies. A number of studies conducted on this group of countries show that such countries are characterized by economic uncertainty and vulnerabilities (Koren and Tenreyro, 2007; Lupu and Riedl, 2012). In addition, these countries have to contend with relatively high degree of political uncertainty compared to highly developed economies whose advanced democratic institutions provides some level of automatic mitigation against political shocks.

The two major causes for the relatively high degree of political uncertainty within these new democracies are electoral volatility (changes in election results across successive elections) (Ferree, 2010) and regime uncertainty (possibility of current democratic dispensation been interrupted by military intervention) (Lupu and Riedl, 2012): These are countries that previously experienced military interventions and single-party regimes. These historical legacies of political uncertainties have negative implications on the current democratic dispensation as they affect the stability of democratic politics and governance, contributing to an increasing uncertain investment and political environment. Further, some

3 As an example, a news report on Reuters website after Kenya Election read: Kenyan T-Bill yields rise on election worries (March 6, 2013)-"Kenya's short-term borrowing costs jumped at an auction on Wednesday and were seen climbing further as the uncertain outcome of this week's presidential vote prompted investors to price in more risk….Due to uncertainty on the release of election results, investors will demand high interest rates to compensate risk, Alex Muiruri a trader at African Alliance said" (Gachenge, 2013).

studies including Koudijs and Voth (2014) show that personal and historical experience shapes investment decisions and such experience take time to dissipate.

2.2. Electoral Cycles, Uncertainty and Fluctuation in T-bills Rates

Political business cycles (PBC) theories explain how interactions between political actors and market agents (including electorates) influence the behaviour of economic variables around elections. Empirical examination of the theory has flourished and has been applied to a variety of relationships including the analysis on the sensitivity of market earnings to the political party in power (Niederhoffer et al., 1970; Booth and Booth, 2003) as well as to cross country comparative examinations of electoral budget deficits amongst new and established democracies (Shi and Svensson, 2002; Brender and Drazen, 2005). Two main strands of researches or motivations that have shaped the theories underlying PBC in economic variables are:

i. The opportunistic theory, attributed to Nordhus (1975) -Argues that PBCs results from the actions of opportunistic incumbents whose main objective is to maximize their reelection chances and thus tend to influence fiscal and monetary policies to achieve this.
ii. Partisan theory, which is credited to Hibbs (1977) - Attributes ideological differences as the major contributing factor on PBC; expectations about the party who is likely to form the next government influence economic agents and voters behavior which in effect influence behaviour of economic variables.

For new democracies with no clear-cut or established demarcation between political parties ideologies and at the same time having less scientifically advanced public opinion polling systems, this paper argues that incumbents (irrespective of party in power) will be tempted to influence economic conditions (prior to elections) to maximize their chances of re-election[4]. Thus the phrase "good times keep parties in office, bad times cast them out" (Lewis-Beck and Stegmaier 2000. p. 183) cannot best describe the main underlying motivation that drives opportunistic incumbents in these new democracies. Incumbent's actions have the potential to influence T-bills rates around elections.

Empirical studies based on the traditional opportunistic framework usually analyze how incumbents exploit the short-run trade-off between unemployment and inflation (as in the downward-sloping Philips Curve) in electoral cycles. With the knowledge that potential electorates prefer best of both worlds (that is low unemployment and inflation rates), the incumbent policymaker problem is to identify the net-preferred position of the median voter[5]; knowing that prices are sticky and expectations of inflation depend on past inflation, the incumbent attempts to solve this problem by embarking on expansionary policies prior to elections and dealing with the associated inflationary costs in the post-election era.

Despite the theoretical attractiveness of the opportunistic model (both the traditional and other improved modifications[6]) the extant empirical evidence has been mixed. The weak empirical support for the opportunistic theory has helped to shift the focus of empirical experiments on testing for electoral cycles in fiscal and monetary instruments instead of national aggregates (including output, unemployment and inflation) (Rogoff, 1990).

Studies further suggest that monetary and fiscal instruments (and any means of financing government spending) should be considered substitutes. This means that incumbents have a number of means to shape economic outcomes around elections. Incumbents therefore can use a variety of instruments to influence policies which voters are assumed to prefer, therefore, any instrument that can be utilized to achieve this is a fair game to the opportunistic incumbent (Treisman and Gimpelson, 2001). Thus T-bills presents a possible policy instrument of choice for the opportunistic incumbent.

Around elections, we expect demand for T-bills to increase as investors flee from riskier investments; this is expected to reduce rates. On the other hand, it should also not be unusual to observe higher interest rates on T-bills issued around elections, especially for developing economies incumbents who embark on a massive expansionary policy prior to elections and sees T-bills as one of the many instruments to achieve their aims. This is possible if central banks are not independent enough and cannot withstand incumbents' pressure. Alpanda and Honig (2010) observed that monetary policies are easily manipulated in countries that lack effective central bank independence. In fact, the 2013 International Monetary Fund report on Ghana for Article IV consultations raised concerns about Bank of Ghana (BOG) independence and policy credibility as BOG direct financing of the fiscal deficit in the run-up to the 2012 elections alarmingly exceeded the statutory limit of 10 percent of revenue for total bank financing.

Studies suggest that legal framework and institutions are designed to give more discretionary powers to leaders in most new democracies. Brunetti and Weder (1994) attributed policy credibility problems in developing countries to the lack of effective control on this discretionary powers. During election periods, incumbents in developing economies could use this discretionary powers to manipulate policies in their re-election bids and consequently further worsening the credibility problem. Brunetti and Weder (1994) further argue that investors' decisions are affected by policy credibility as they believe this increases earning uncertainty. This may inform them to hold on to their capital (especially around elections) until political uncertainty induced by the election wanes. Based on the arguments and explanations presented, it can be argued that investors would want some compensation in the form of higher returns before buying

4 Schuknecht (1996), Block (2002) and Block and Vaalar (2004) support the application of the opportunistic framework rather than the partisan models as the left-right ideological divide found in most developed countries are less apparent in developing economies.

5 Drazen (2000) proposes a number of functions and equations to describe and illustrate such scenarios.

6 Rogoff and Sibert (1988) as well as Persson and Tabellini (1990) modified the traditional model to cater for impact of rational behaviour of voters.

T-bills around elections. It is therefore assumed that this should result in electoral cycles of relatively higher returns during election years compared to non-election years.

A probable but less explored reason may be attributed to opportunistic investors who take advantage of a desperate opportunistic incumbent: Knowing that the opportunistic incumbent will do whatever it takes to maximize its reelection bid, the opportunistic investor holds out for a higher return on the T-bills. Thus the interaction of actions of such an opportunistic investor and that of the opportunistic incumbent may raise rates around elections and induce political cycles in T-bills.

3. EMPIRICAL INVESTIGATION ON THE IMPACT OF POLITICAL UNCERTAINTY ON PRICING OF 91-DAY T-BILL RATES IN GHANA

3.1. Data

The monthly 91-day T-bills data for the study are obtained from the BOG website. Sample used for this analysis is from January 1993 and November 2013, covering five national elections[7]. The time series plot in Graph 1 suggests a general downward trend with a maximum of 47.93% and a minimum of 9.1% (Table 1).

Casual observations of the T-bill rates series indicate that on the average, "unusual changes" around election years were observed. Between March and December of each election year under consideration (1996, 2000, 2004, 2008 and 2012), it is observed that rates approximately jumped by 3, 14, 0.25, 12 and 9% points respectively (Figure 1).

It should not come as a surprise that 2004 elections comparably saw the lowest increase in T-bill rate changes. With benefits of hindsight, it can be attributed to Ghana's great economic performance for that year. Review of economic performance by the Centre for Policy Analysis (2005) for 2004 showed exceptional growth and stable macroeconomic environment for an election year. Credible policies that helped achieved this economic performance may have helped to reduce investment earnings uncertainties, which could have affected T-bills pricing. It is very interesting to note that the 2 years that observed the relatively higher rate changes are years that experienced higher electoral volatility[8]. 2012 also saw a significant increase in rates prior to elections. This may be attributed to the series of events that occurred prior to the elections[9]. These may have induced uncertainty on the policy path that might be adopted by the political party likely to form the next government and this consequently reflected on investment decisions.

With this background of T-bills fluctuations, time series properties

Graph 1: Time series plot of Ghanaian 91-day T-bill rates

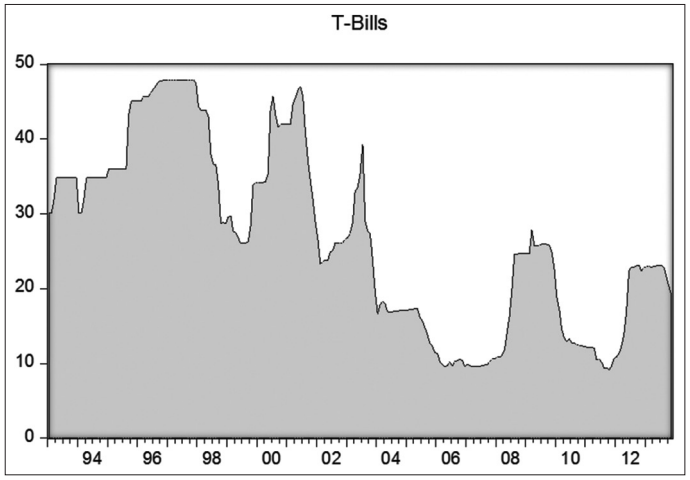


Table 1: Descriptive Statistics of Ghanaian 91-Day T-bill Rates

Sample observations	01/1993 to 11/2013
Mean	26.81
Median	25.90
Maximum	47.93
Minimum	9.13
Std. Deviation	12.30
Skewness	0.20
Kurtosis	1.86
Jacques-bera	15.33
Probability	0.000468

were further examined for existence of unit root. This is tested using the Augmented Dickey Fuller (ADF test) (Dickey and Fuller, 1981; Elder and Kennedy, 2001) based on the test equation:

$$r_t = \alpha_0 + \theta Tbr_t + \gamma_t + \sum_{i=1}^{p} r_{t-1} + \varepsilon_t \quad (1)$$

Where r_t is the first-differenced monthly T-bills rates calculated as ΔTbr_t; α_0 is an intercept component; γ_t caters for the time trend; ε_t is an independently distributed zero-mean random disturbance term. Lags of r_t take up any dynamic structure present in the T-bills data. Number of optimum augmented lags are determined using the Akaike Information Criteria. It is observed that the null hypothesis of the existence of a unit root cannot be rejected at the 5% level of significance (Table 2).

Casua observation of the differenced series (Graph 2) however appears to be stationary. This was confirmed by ADF test (Table 2). Differencing the T-bill series however did not eliminate the observed "unusual fluctuation" around election years.

3.2. Econometric Framework

The predictability of the monthly 91-day T-bill rate is first examined. A mean reverting T-bill pricing process (whereby period of relatively higher rates is expected not to persist in the long-run) is assumed. One toolkit of choice that is known to sufficiently and adequately handle mean reversion process is a well estimated univariate time series model with well-behaved roots. The general time series model (Liu, 2009) is estimated as:

7 National elections were held on December of 1996, 2000, 2004, 2008 and 2012.

8 2000 and 2008 election years saw incumbent parties losing power to the opposition.

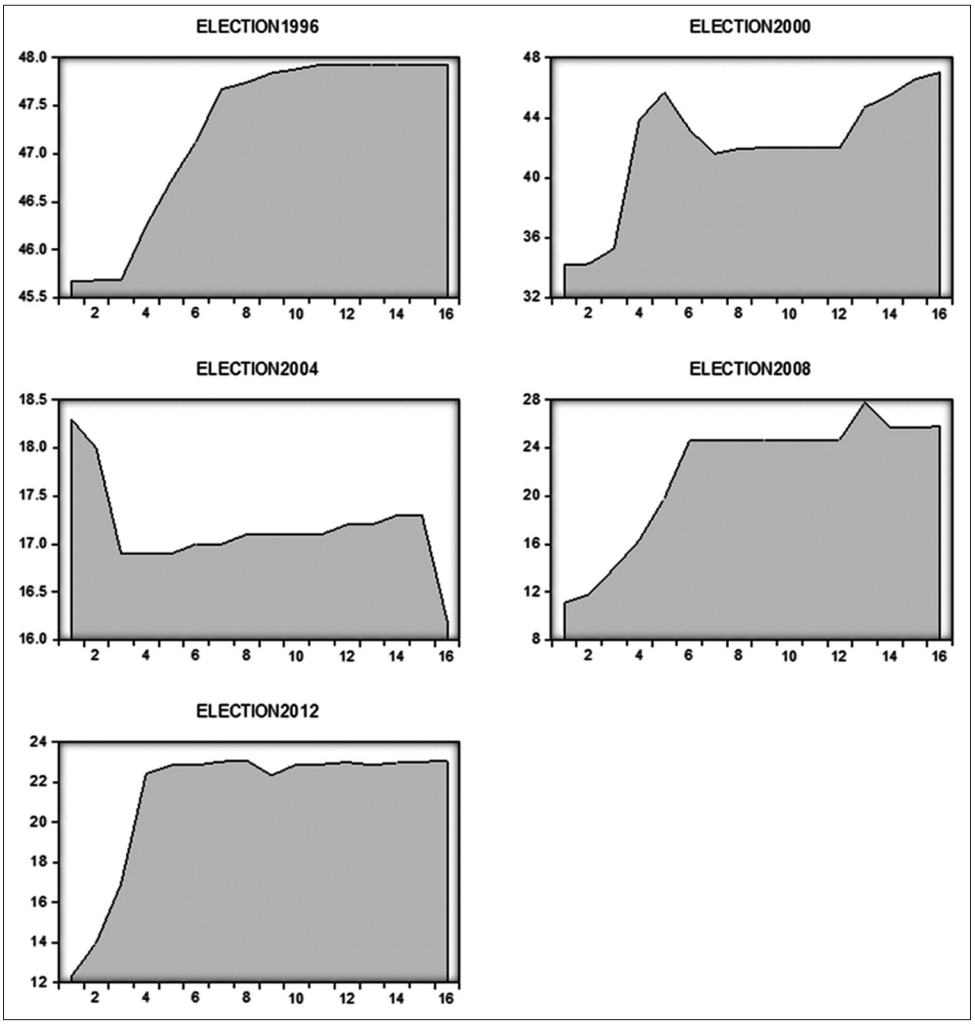
9 The incumbent party (NDC) presented a new candidate (President John Mahama) upon the death of President Mills which induced some political and policy choice uncertainty prior to the elections.

Table 2: ADF tests at 5% Mackinnon critical values

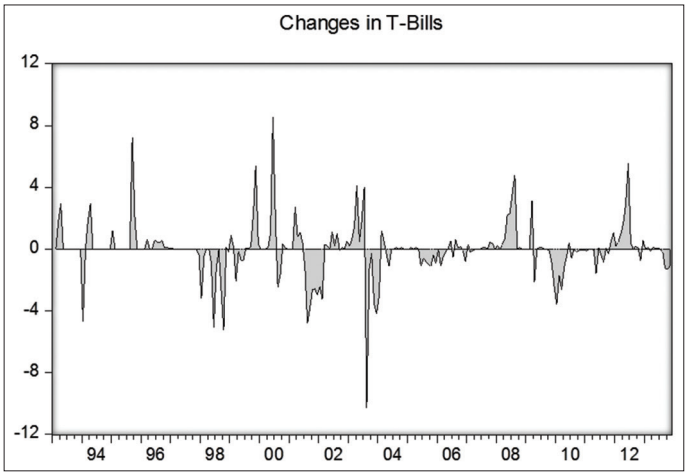
T-bill rates	Intercept included	Intercept and trend included	None included
Levels	Test critical values:−2.87	Test critical values:−3.42	Test critical values:−1.94
	ADF test statistics:−1.52	ADF test statistics:−2.55	ADF test statistics:−0.90
First difference	Test critical values:−2.87	Test critical values:−3.42	Test critical values:−1.94
	ADF test statistics:−10.95	ADF test statistics:−10.93	ADF test statistics:−10.96

ADF: Augmented Dickey Fuller

Figure 1: Behaviour of Ghanaian 91-day T-bill rates around elections



Graph 2: First-differenced Ghanaian T-bill series



$$(1-B)^{d} r_t = \mu + \frac{\theta(B)}{f(B)} \alpha_t \quad (2)$$

Where;

r_t: Represents changes (first difference) in T-bill rates to be modelled

t: Indexes time

μ: Represents the mean term

B: Is a backshift operator, such that $Br_t = r_{t-1}$

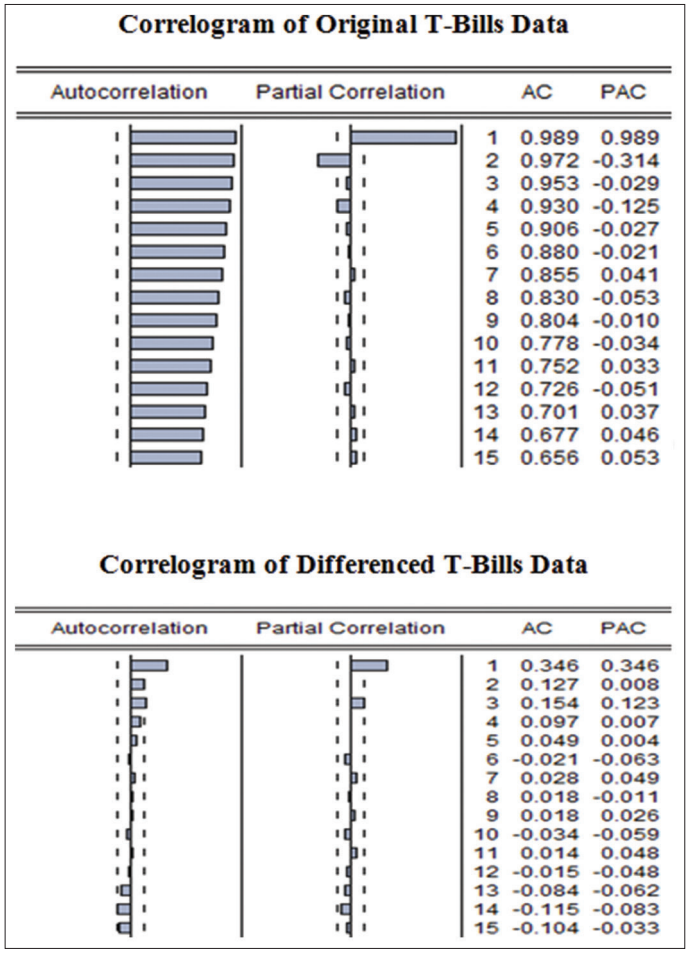
∅(B): Is the autoregressive operator, represented as a polynomial in the backshift operator such that $\varnothing(B) = 1 - \varnothing_1 B - \ldots - \varnothing_p B^p$

θ(B): Is the moving average operator, represented as a polynomial in the backshift operator such that $\theta(B) = 1 - \theta_1 B - \ldots - \theta_q B^q$

α_t: Is the independent disturbance term.

The Box and Jenkins (1970) time series technique is applied to

Figure 2: Correlograms



estimate the appropriate time series model that fits the data well. Both the correlograms of the original and differenced series (Figure 2) were used to identify whether an autoregressive (AR), moving average (MA) or both processes (ARMA) describes the data generating process of the differenced series.

After experimenting with different ARMA specifications using information from the correlograms, it is observed that the parsimonious AR(1) process of the form:

$$r_t=\theta_1 r_{t-1}+\alpha_t \quad (3)$$

Fits the data well. Results on estimated parameters are tabulated under regression one in Table 3.

Presidential elections in Ghana are held quadrennially usually in first week of December. Since the election dates are predetermined and assumed to be exogenous to T-bills pricing, its 4 year cyclical influence and effects can be likened to a seasonal activity, particularly in Ghana broad political space. Thus in the context of testing for electoral cycle hypothesis (Borelli and Royed, 1995; Alesina et al., 1997), the study first constructed two binary variables specified as follows:

$$\delta_1 = \begin{cases} 1 & \textit{for election period} \\ 0 & \textit{otherwise} \end{cases} \quad (4)$$

$$\delta_2 = \begin{cases} 1 & \textit{for non - election period} \\ 0 & \textit{otherwise} \end{cases} \quad (5)$$

δ_1 and δ_2 control for investors' perception of level of political uncertainty in Ghana in different periods. Thus both dummies are used to compare the relative level of risks investors attach to T-bills pricing around elections and non-election periods: Their significance are tested by including them in Equation 3 and re-estimated as follows:

$$r_t=\theta_1 r_{t-1}+\beta_1\delta_1+\beta_2\delta_2+\alpha_t \quad (6)$$

Similar to previous studies (Alesina et al., 1992) the paper also tested the behaviour of T-bills few months prior to election and few months post elections. The aim is to analyse whether investors' perception of political uncertainty changes immediately after elections. Two dummy variables δ_3 and δ_4 are designed to analyze investor' perception on T-bills risk for these two periods. The two dummies are designed as:

$$\delta_3 = \begin{cases} 1 & \textit{for pre - election} \\ 0 & \textit{otherwise} \end{cases} \quad (7)$$

$$\delta_4 = \begin{cases} 1 & \textit{for post - election} \\ 0 & \textit{otherwise} \end{cases} \quad (8)$$

Their significance are tested by including them in Equation 3 and re-estimated as follows:

$$r_t=\theta_1 r_{t-1}+\beta_3\delta_3+\beta_4\delta_4+\alpha_t \quad (9)$$

A major challenge in this and other experiments is how to choose (within the time series data) the "non-election" and "election periods" in association with the formulated dummy variables[10]. Constrained by the size of the data and helped by the information gleaned from the graphical representations[11] (Figure 1), the paper selected these periods as follows:

i. Our designated "election period" for this experiment is from last the month of the first quarter in the election year to the last month of the second quarter for the year after elections. Taking 1996 election year as an illustration, the "election period" runs from March 1996 to June 1997 making a total of 15 months around the election month (December). For this period, the dummy variable δ_1 assumes the value of 1. For all dates outside this period, the dummy variable assumes a value of 0. Within this defined sub-period, "pre-election" (where δ_3 assumes the value of 1 and 0 elsewhere) runs from March to December, with immediate "post-elections" where δ_4 assumes the value of 1 and 0 elsewhere) representing January to June (immediate 6 months after election month).
ii. The "non-election" period is all dates in our sample outside the designated "election," period. For this period, δ_2 assumes the value of 1 but 0 for the "election" period.

10 That is the difficulty in accurately gauging the exact period in the election cycle where these effects are supposed to begin or end.

11 The behaviour of T-Bill rates around the chosen election period show similar trend in all elections (apart from 2004). For all election years, rates generally observe a sharp rise from start of the period around elections and by election month, rate stabilizes.

Table 3: Estimation results

Variable	Equation three (inverted roots=0.35)	Equation 6 (inverted roots=0.30)	Equation 9 (inverted roots=0.32)
r_{t-1}	0.35 (3.46***)	0.30 (4.97***)	0.32 (5.28***)
δ_1	NA	0.49 (2.036***)	NA
δ_2	NA	−0.31 (−1.81*)	NA
δ_3	NA	NA	0.66 (2.09***)
δ4	NA	NA	0.31 (0.85)

T-statistics in (); ***.**, and * indicate level of significance at 1%, 5% and 10% respectively

3.3. Empirical Findings and Analyses

Results of all three regressions (Equations 3, 6 and 9) are respectively tabulated in Table 3. All regressions are observed to have well-behaved roots. The "election period" dummy variable (δ_1) is statistically significant at the 5% level of significance whilst the "non-election period" dummy (δ_2) is only significant at the 10% level. This observation indicates how an election can exogenously influence the pricing of T-bills in Ghana. The positive signage on the coefficient of δ_1 shows that elections generally induce a net positive effect on the data generating process than other periods in the T-bills data considered.

As a new democracy, one may be tempted to conclude that around elections, investors in Ghana would rush for risk-free assets such as T-bills due to political uncertainty. We expect lower T-bills rates around election if demand increases around this period. The empirical evidence rather indicated that T-bills rates tend to increase around elections: Thus the positive contribution of the variable δ_1 lends empirical support to the incentives (that induces investors to demand for higher premium around elections) and the propositions discussed earlier in Section 2.

The negative signage on the coefficient of δ_2 (although only significant at the 10% level of significance) show that relative to "election periods," "non-election" periods induces a net negative effect on the data generating process of the T-bills data considered. This phenomenon can be attributed to two main factors which are: (1) Investors perceives such periods as less riskier to invest, and hence accepts a relatively lower returns to invest in T-bills (2) Attempt by the elected government in dealing with the after effects of electoral spending and reluctant to offer comparable lower price (higher rates).

In the further tests to identify which sub-period around elections impacts more on the data generating process of the available historical T-bill rates series, it is observed that the estimated coefficients on δ_3 and δ_4 both have positive signage however only δ_3 impacts significantly (at 5% level). The positive coefficient on the dummy δ_4 further suggests political uncertainty still exists in the immediate aftermath of an election. However, the net positive effect on the T-bills data generation process is not statistically significant. Thus findings in this study show that the few months prior to an election is a period of uncertainty for investors in Ghana and this uncertainty informs their investment decisions.

4. SUMMARY AND CONCLUSIONS

Ghana has come a long way in its efforts to consolidate constitutional democracy. Periods of experimenting with different governing regimes in the past have given way to over two decades of uninterrupted democratic politics. Whilst it is widely accepted that democracy facilitates good governance and stability, there is also evidence that political uncertainty contributes immensely to economic vulnerabilities in new democracy. Identifying the many channels through which political uncertainty is transmitted into the real economy should inform the policymaker on the establishment of appropriate frameworks, institutions and interventions that will help mitigate the cost associated with political uncertainty. Thus any information on economic variables that help transmits the costs associated with political uncertainties can prove useful to policy authorities.

The paper identified T-bills as one of the many channels that can help transmit political uncertainty shocks to the real economy. Empirical evidence showed that political uncertainty is priced in the Ghanaian T-bills yields, inducing electoral cycles. The demand for relatively higher premium around elections can be attributed to (1) Risk aversion which may have developed from personal and historical experience of investing in countries with high economic and political uncertainty (2) Policy credibility problems and uncertainty on expected investment earnings which inform the reluctant investor to demand a higher compensation, and (3) Actions of opportunistic investors and political incumbents.

Governments rely on private investments and borrowing to finance their developments and real growth plans but political uncertainty can impact on governments' ability to borrow as well as servicing the real cost of existing debts obligations. The paper proposes that policymakers should strengthen institutions and frameworks and implement credible policies that can mitigate the adverse effects of political uncertainty on borrowing and public financing costs.

REFERENCES

Alesina, A., Cohen, G., Roubini, N. (1992), Macroeconomic policy and elections in OECD democracies. Economic and Politics, 4(1), 1-30.

Alesina, A., Perotti, R. (1994a), The political economy of economic growth: A critical survey of the recent literature. The World Bank Economic Review, 8(3), 351-371.

Alesina, A., Roubini, N., Cohen, G. (1997), Political Cycles and the Macroeconomy. Cambridge, MA: The MIT Press.

Alpanda, S., Honig, A. (2010), Political monetary cycles and a de facto ranking of central bank independence. Journal of International Money and Finance, 29(6), 1003-1023.

Block, S. (2002), Political business cycles, democratization and economic reform: The case of Africa. Journal of Development Economics, 67, 205-228.

Block, S., Vaaler, P. (2004), The price of democracy: Sovereign risk

ratings, bond spreads and political business cycles in developing countries. Journal of International Finance, 23, 917-946.
Booth, J., Booth L. (2003), Is the presidential cycle in security returns merely a reflection of business conditions? Review of Financial Economics, 12, 131-159.
Borelli, S., Royed, T. (1995), Government strength and budget deficits in advanced democracies. European Journal of Political Research, 28(2), 225-260.
Box, G., Jenkins, G. (1970), Time Series Analysis, Forecasting and Control. San Francisco: Holden-Day.
Brender, A., Drazen, A. (2005), Political budget cycles in new versus established democracies. Journal of Monetary Economics, 52, 1271-1295.
Brunetti, A., Weder, B. (1994), Political credibility and economic growth in less developed countries. Constitutional Political Economy, 5(1), 23-43.
Centre for Policy Analysis. (2005), Ghana Economic Outlook 2005: CEPA Macroeconomic Review and Outlook.
Dickey, D., Fuller, W. (1981), Likelihood ratio statistics for autoregressive time series with a unit root. Econometrica, 49(4), 1057-1072.
Drazen, A. (2000), Political Economy in Macroeconomics. Princeton, NJ: Princeton University Press.
Elder, J., Kennedy, P. (2001), Testing for unit roots: What should students be taught? Journal of Economic Education, 32(2), 137-146.
Ferree, K. (2010), The social origins of electoral volatility in Africa. British Journal of Political Science, 40, 759-779.
Gachenge, B. (2013), Kenyan T-Bill Yields Rise on Election Worries", Reuters. Available from: http://www.206.132.6.105/article/investingNews/idAFJOE92502R20130306. [Last retrieved on 2013 Apr 09].
Gao, P., Qi, Y. (2013), Political Uncertainty and Public Financing Costs: Evidence from U.S. Gubernatorial Elections and Municipal Bond Market. Presented at the 27th Australasian Finance and Banking Conference, 2014.
Hibbs, D.A. (1977), Political parties and macroeconomic policy. American Political Science Review, 71, 1467-1487.
International Monetary Fund. (2013), Ghana: 2013 Article IV Consultation. IMF Country Report No. 13/187.
Kelly, B., Pastor, L., Veronesi, P. (2014), The Price of Political Uncertainty: Theory and Evidence from the Option Market, NBER Working Paper No. 19812.
Koren, M., Tenreyro, S. (2007), Volatility and development. Quarterly Journal of Economics, 122, 243-287.
Koudijs, P., Voth, H. (2014), Leverage and Beliefs: Personal Experience and Risk Taking in Margin Lending, CEPR Discussion Papers 9920, C.E.P.R. Discussion Papers.
Lewis-Beck, M., Stegmaier, M. (2000), Economic determinants of electoral outcomes. Annual Review of Political Science, 3, 183-219.
Liu, L.M. (2009), Time Series Analysis and Forecasting. 2nd ed. Villa Park, IL: Scientific Computing Associates Corp.
Lupu, N., Riedl, R. (2012), Political parties and uncertainty in developing democracies. Comparative Political Studies, 46, 1339-1365.
Niederhoffer, V., Gibbs, S., Bullock, J. (1970), Presidential elections and the stock market. Financial Analysts Journal, 26, 111-113.
Nordhus, W.D. (1975), The political business cycle. Review of Economic Studies, 42, 169-190.
Persson, T., Tabellini, G. (1990), Macroeconomic Policy, Credibility and Politics. London: Harwood.
Rogoff, K. (1990), Equilibrium political budget cycles. American Economic Review, 80, 21-36.
Rogoff, K., Sibert, A. (1988), Elections and macroeconomic policy cycles. Review of Economic Studies, 55, 1-16.
Schneider, F., Frey, B. (1985), Economic and political determinants of foreign direct investments. World Development, 13(2), 161-175.
Schuknecht, L. (1996), Political business cycles and fiscal policies in developing economies. Kyklos, 49, 155-170.
Shi, M., Svensson, J. (2002), Political Budget Cycles in Developed and Developing Countries, Centre for Economic Policy Research, CEPR Discussion Paper No. 3352.
Treisman, D., Gimpelson, V. (2001), Political business cycles and Russian elections, or the manipulations of Chudar. British Journal of Political Science, 31, 225-246.
Vega-Gordillo, M., Alvarez-Arce, J.L. (2003), Economic growth and freedom: A causality study. Cato Journal, 23(2), 199-215.