Political Cycle and Stock Market – The Case of Malaysia

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Abstract

The orchestration between the political cycle and the stock market behavior has been long found by many researchers. However, the research contexts of those findings usually do not cover the developing countries. Hence, it raises a question whether the political cycle is generalizable in the context of Malaysia. This paper examines the presence of a political cycle in Malaysia stock market returns and volatilities over the period of February 1982 to April 2012. Seven (7) general elections are covered in this paper. The political cycle is defined in terms of the effect of election information, Prime Minister and associated political instrument. Tests of equality, regression analysis and GARCH models are adopted to test each effect in order to come out with consistent output that is significant to discover the profound nature of a political cycle. Findings indicate the absence of a political cycle in Malaysia stock market returns, in which these findings are in contrary to many previous researches. However, the presence of a political cycle in Malaysia stock market volatilities is statistically significant, in which this result is consistent with a number of previous studies. This result indicates that the investors take asymmetric treatments to the election information and the government policy. The presence of a political cycle effect might challenge the information efficiency level of Malaysia stock market. These findings might suggest investors a guidance to decide whether to enter or exit the stock market around the general election is going to take place.

Key words: Political Cycle, stock markets, volatility, stock returns, efficient markets, presidential election cycle, Prime Minister Effect, partisan effect, electoral effect, weak form efficiency, semi-strong form efficiency, strong form efficiency
1. Introduction

1.1 Introduction of the political cycle

The volatility in stock returns, an essential for the investors to evaluate the feasibility of investing in certain stocks. Due to the impressive sensitivity of the stock volatility, it is subject to the impacts of many independent variables, such as changes in interest rates or import and export. However, the key to influence these changes is the view of the political party which elected by the public. Thus, the subtle effects of political business cycle or election cycle have been long researched by many analysts and researchers. There are a number of researchers have stepped into the core of election cycle, including Norhaus (1975), Peel and Pope (1983), Huang (1985), Pantzalis et. al. (2000), Bialkowski et. Al (2008) and so on.

Nordhaus (1975) pioneered the first formal model on quantifying the political business cycle, which has been extensively adopted by the following researchers to estimate the magnification of political decisions towards the stock market. The political decisions regarding improving either improving current welfare or future welfare were discussed in this study. It concluded that a perfect democracy with retrospective evaluation of parties will make decisions biased against future generation. Further, there was a regular pattern of policy, which is beginning with relative austerity in early years and ending with the expansionary policy before the election to improve the economic condition and influence the voters’ decision towards the current ruling party.

Apart from the relationship between political decisions and stock returns, Huang (1985) further found that there was a consistent and statistically significant relationship between regular pattern of stock return and presidential election. Huang’s result showed that the stock returns exhibited a four-year cycle, in which the stock market returns are lower in the first and second year after an election and higher in the third and fourth year. Government partisanship does impact the stock returns over time such as the stock market returns are higher under the Republican government than the Democratic government in U.S. Huang’s result is further substantiated by. His result supported the notion of political control on the economy.

Pantzalis et. al. (2000) research also indicated a positive stock market reaction in the two week-period prior to the election and the positive abnormal return was stronger for elections with higher degree of uncertainty. Preceding results show that the year of presidential term, government partisanship and presidential election do systematically influence the rhythm of stock market returns and associated volatilities. Thus, the existence of these seasonal patterns is clearly against the Efficient Market Hypothesis which asserts that the market is informational efficient and no consistent pattern is lasting over periods.
However, Jones and Banning (2000) called the presidential cycle effect in question as their research finds no significant relationship between the year of presidential term and stock market return. Doepke and Pierdzoich (2006) also found that the election cycle was not observable with enough statistical significance in German stock market by using VAR approach. Further, Abidin et. al. (2010) research also concluded that although the political business cycle existed, there was no evidence of an election impacting the New Zealand stock market. Instead, Abidin’s researches indicated that stock market returns did impact the government’s popularity rather than the election impacted the stock market return.

Recently, Koulakiotis et. al. (2008) adopted both standard event study methodology and various univariate GARCH models to sophisticatedly investigate the relationship between the political elections in Greece and the Athens Stock exchange returns and volatility. Their research indicated positive market reactions on the last working day prior to election date and negative market reaction on the first post-election day. However, the informational deficiency in the market was absorbed shortly after the official result became publicly available. The results from two polar raise the question of whether the general election impacts the movements of Malaysian Stock Market. If the elections do consistently impact the stock market, the applicability and generalization of Efficient Market Hypothesis in the Malaysia Stock Market will be oppugned accordingly.

### 1.2 Background of Malaysia general elections

The first official general election of Malaya (previous name of Malaysia) was held on 19 August 1959, about two years after its independence from the British rule in 31 August 1957. In the election, the Barisan Nasional emerged as the winner and won 74 out of 104 seats in the House of Representatives (Ahmad, 1999). Barisan Nasional has been successfully elected as the ruling government over all past general elections in Malaysia.

There are two levels forming the general election in Malaysia, the national level and state level (Ahmad, 1999). At the national level election, voters elect the members to form the lower house of parliament or House of Representatives. Initially, there were only 104 seats in the House of Representatives. However, due to the expansion of urban area and growth of population, the seats of House of Representative have been expanded to 222 seats today. The party that wins major seats in the House of Representative forms the federal government of Malaysia. The constitutional parliamentary law requires that a general election must be held at least once every five years.

At the state level election, voters elect the representatives who are forming the various State Legislative Assemblies (Ahmad, 1999). Due to various level of population, different states may have different number of representatives. For example, there are 71 electorates in Sarawak and only 15 in Perlis. Usually, state elections for Peninsular Malaysia are held
simultaneously with the parliamentary election. The party that holds major state assembly will form the state government accordingly. Thus, the state government and national government might not be the same.

Table 1: Comparative Electoral Seats between government and Opposition

<table>
<thead>
<tr>
<th>Period Covering 1959 -2008</th>
<th>Year</th>
<th>Government</th>
<th>Opposition</th>
<th>Total seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seats % seats % vote Seats % seats % vote</td>
<td>Seats % seats % vote</td>
<td>Seats % seats % vote</td>
<td>Seats % seats % vote</td>
<td></td>
</tr>
<tr>
<td>1959</td>
<td>74</td>
<td>71.15</td>
<td>51.7</td>
<td>30</td>
</tr>
<tr>
<td>1964</td>
<td>89</td>
<td>85.58</td>
<td>58.5</td>
<td>15</td>
</tr>
<tr>
<td>1969</td>
<td>95</td>
<td>65.97</td>
<td>49.3</td>
<td>49</td>
</tr>
<tr>
<td>1974</td>
<td>135</td>
<td>87.66</td>
<td>60.7</td>
<td>19</td>
</tr>
<tr>
<td>1978</td>
<td>140</td>
<td>84.42</td>
<td>57.2</td>
<td>24</td>
</tr>
<tr>
<td>1982</td>
<td>132</td>
<td>85.71</td>
<td>60.5</td>
<td>22</td>
</tr>
<tr>
<td>1986</td>
<td>148</td>
<td>83.62</td>
<td>55.8</td>
<td>29</td>
</tr>
<tr>
<td>1990</td>
<td>127</td>
<td>70.55</td>
<td>53.4</td>
<td>53</td>
</tr>
<tr>
<td>1995</td>
<td>162</td>
<td>84.38</td>
<td>65.2</td>
<td>30</td>
</tr>
<tr>
<td>1999</td>
<td>148</td>
<td>76.68</td>
<td>56.5</td>
<td>45</td>
</tr>
<tr>
<td>2004</td>
<td>198</td>
<td>90.41</td>
<td>63.9</td>
<td>21</td>
</tr>
<tr>
<td>2008</td>
<td>140</td>
<td>62.61</td>
<td>52.2</td>
<td>82</td>
</tr>
</tbody>
</table>

By referring to the Table 1, although Barisan Nasional has been successfully winning the majority of House of Representatives in all general elections, the percentages of seats and vote have been significantly incongruent and inconsistent since the first election. For example, in the 1964 general election, Barisan Nasional won 85.58% seats with 58.5% vote whereas the opposition party only won 14.42% seats with 41.5% vote. Specifically, Barisan Nasional never obtained majority votes (2/3) whereas it has consistently obtained major seats in almost every general election (except 1969 and 2008). There were also reports that Barisan Nasional has breached the Election Offence Act 1954 in several general elections, such as spending more than RM 100,000 for campaigning in the 2004 general election or providing free mineral water to voters in the 2011 Sarawak State Election (Malaysia Today, 2006; Malaysiakini, 2011). This has raised the reliability and independence of Malaysian voting system as well as the fairness of allocating seats of House of Representatives.

Siang (1991) alleged that the General Election system was not independent from the influences and controls of the current ruling party. He considered the General Election did not meet the criteria of being free, fair, clean and honest because the Barisan Nasional was dominating the mainstream media and over-spending public funds for the election. Further, Rajaratnam (2009) research also shows that the dominance of mainstream media does influence the decision making of voters because the ruling party is using the mainstream media to portray their nobleness at the disadvantages of the opposition party. Moreover, due to the loopholes in the Election Law and election system, the Coalition for Clean and Fair Elections (Bersih, 2012) has proposed a memorandum to reduce the possibility of malpractices and improve the cleanliness and fairness of electoral processes as a whole.
Therefore, the instability, poor transparency and loose discipline of current political condition post significant interferential noises to the Malaysian stock market.

1.3 Background of Malaysia stock market

The first formal securities business organization in Malaysia was the Singapore Stockbroker’s Association which was established in 1930. After that, the Malayan Stock Exchange was established in 1960 to connect the boards between Malaysia and Singapore. Due to the secession of Singapore from Malaysia in 1965 and the cease of currency interchangeability between Malaysia and Singapore, the Stock Exchange of Malaysia and Singapore was divided into the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. On 2004, following the demutualization exercise to enhance competitive position of Malaysia stock market, the Kuala Lumpur Stock Exchange Berhad was renamed into Bursa Malaysia Berhad. On 2009, Bursa Malaysia revamped the Bursa Malaysia’s listing requirements and further merge the original Main and Second boards into a single unified board which is Main Board to enhance the efficiency, access and certainty in the fund raising process as well as ensuring that investors protection remains intact (Bursa Malaysia, 2012).

Currently, Malaysia has two stock markets which are the Main market and the Ace market. The Ace market is listing the technology stocks and the Main market is listing the remaining part of other natures of business. There are 821 listed stocks in the Main market and 117 listed stocks in the Ace market, which are 938 listed stocks in total. The current market capitalization of Malaysia stock market is around RM 1.3 trillion. Kuala Lumpur Composite Index is the main index to reflect the quantifiable value of the whole Malaysia stock market. It can be divided into several industrial indices such as plantation index, financial service index and construction index.

The last downturn crisis in the Malaysia stock market was on 2008 due to the subprime mortgage crisis. Although Malaysia is a developing country, the Malaysia stock market is less subject to the transmission of negative information from the developed country. For example, the losses in percentage caused by the subprime mortgage crisis over 1 Dec 2007 to 31 Jan 2009 were 52.59% in NYSE (U.S. stock index), 52.36% in DAX (German stock index) and 50.59% in Nikkei 225 (Japan stock index) whereas Kuala Lumpur Composite Index only decreased by 38.4% over the same period. Currently, the Kuala Lumpur Composite index has almost recovered to the pre-crisis level (Yahoo finance, 2012). A lower decrease in asset value may be come from the relatively weaker correlation between Malaysia stock market and U.S. stock market. However, this crisis was considered as one of the factors that caused the greatest losses (36.93 seats were won by the opposite party, refer to Table 1) in the seats of House of Representatives in the history of Malaysia General Election.
1.4 Problem statement

Results of empirical studies show that elections do impact the stock market return and volatility as well as the stock market returns’ pattern of movement (Norhaus, 1975; Peel and Pope, 1983; Huang, 1985; Pantzalis et. al., 2000; Bialkowski et. al., 2008). However, majority of these researches were established on the background of developed countries or two coalition parties which rule the government by turns. Thus, these results may not be applicable to Malaysia stock market because Malaysian government has been controlled by the ruling party (Barisan Nasional) since the first General Election aside from the fact that Malaysia is a developing country. Although there were two researches carried out under the background of Malaysia stock market, their results were inconsistent with each other (Pantzalis et. al., 2000; Ali et. al., 2010). Hence, the generalisability of political cycle effect in the Malaysia stock market is unknown.

Additionally, the Coalition for Clean and Fair Elections and foreign countries such as U.S. and Singapore has questioned the fairness of voting processes and election system in Malaysia. Accordingly, due to high nepotism, corruption and misuse of authority, the integrity and efficiency of Malaysia stock market are questionable. Further, there has been high level of incongruence and inconsistency between the percentage and seats over all Malaysia General Elections. According to Chang and Lai (1996), these incongruence or politics shock may impact the investor’s sentiments and induce higher volatility after the election. Investors might also suffer losses due to the existence of non-value added exposures as excessive volatilities have been discovered between the two-week to four-week period prior to the election (Crowley and Loviscek, 2002; Beaulieu et. al., 2005; Floros, 2008). Hence, an ignorance of the presidential cycle effect could cause impairment to the investors’ wealth. These issues raise the importance of having better understandings on the magnitude (return and volatility) of political shocks towards the stock market for investors.

As a result, the impact of elections to Malaysia stock market should be researched in order to understand whether previous empirical results are generalizable in Malaysia and further resolve the doubt regarding the informational efficiency level of Malaysia stock market. Most importantly, the question of whether the investors can benefit or less suffer from the occurrence of general elections is likely to be resolved in this paper.

1.5 Research objectives

The main objective of this study is to investigate whether the political cycle effect is generalizable in the Malaysia stock market. The electoral effect, presidential election cycle effect and presidential personal effect are also tested in this paper. The specific objectives of this study are:

1. To test whether Malaysia stock market exhibits the seasonal pattern of presidential cycle.
2. To examine the abnormal returns and excessive volatilities of Malaysia stock market during the election period by the aspects of pre- and post-announcement of election result.

3. To investigate whether different Prime Ministers post different impacts to the Malaysia stock market.

4. To provide a preview of the information efficiency level of Malaysia stock market.

1.6 The significance of this study

Given the puzzling results from two poles, evidences from developing countries other than developed countries might produce more useful insights into root of the association between the general election and Malaysia stock market sentiment (return and volatility). The main significance of this study is providing empirical proof on the association between the impact of political cycle effect and stock market sentiment to fill the loopholes between literatures by examining the unique context of Malaysia (developing country and a consistent single winning party). In addition, a better understanding on the political cycle anomaly could be useful for individual investors on minimizing exposures to the political and electoral shocks; provides investors a guidance to stylishly adjust their portfolio exposure by sophisticatedly embedding the political cycle into the consideration of portfolio allocation. The results of this study will also provide investors seasonal opportunities of obtaining superior capital gains without exposing to additional risk, as well as furnish them an indirect indicator of evaluating the informational efficiency of Malaysia stock market.

2. Literature Review

2.1 Efficient Market Hypothesis (EMH)

Theoretically, stock prices follow no direction and pattern in their future movement, which means that stock market moves randomly by only considering informational efficiency as the dominant determinant (Alexander, 1961; Cootner, 1962; Fama, 1965; Jensen and Benington, 1970). Namely, all subsequent price changes represent random departures from previous prices (Dimson and Mussavienm, 2000; Malkiel, 2003). New information will be incorporated and reflected in the stock price immediately or rapidly (Cooray, 2003; Malkiel, 2003). This disallows the use of technical analysis or past price trends as an indicator to predict the future price (Fama, 1991). Further, fundamental analysis will be ineffective in pricing a stock because past information has no magnitude to the future stock prices (Malkiel, 2003; Malkiel, 2005). Thus, investors can only achieve higher returns by absorbing more risks into their portfolio.

Preceding information describes the basic idea of EMH which was initially proposed by Fama (1965). According to the EMH, only new information posts impacts to the stock prices and constitutes the random movements in the stock prices (Fama 1970; Fama, 1995; Fama, 1998). This is because the value of different information might be varied so the movement of
stock prices is supposed to be unpredictable. In other words, an efficient market is a platform or mechanism which fully and accurately reflects all relevant information in pricing a stock (Gilson and Krsakman, 1984; Timmermann and Granger, 2004). Although a market might be efficient, stock prices still have contained temporal components due to mediocre speed of market reaction (Fama and French, 1988). Hence, efficiency does not mean reflecting new information instantly but effectively.

To sophisticatedly differentiate the information handling mechanism of various markets, Fama (1970) divides the nature of market efficiency into three subsets: weak form efficiency, semi-strong form efficiency and strong form efficiency. Weak form efficient market disallows investors to gain any extra profits than buy and hold strategy by using historical prices. Semi-strong efficient market prohibits the investors to gain extra from using obviously publicly available information. Investors in the strong efficient market are unable to gain extra even they have insider information.

There are many evidences supporting the applicability of EMH in the stock market. According to Uri and Jones (1990), U.S. common stock, preferred stock and government bonds express the manners of weak-form efficiency to semi-strong form efficiency. Opkara (2010) also finds that the Nigerian stock market is in weak-form efficient market because all information presented in past patterns of a stock price is reflected in the current stock price. Apart from the stock market, Goldman (2000) finds that weak-form efficiency can be found in the dollar-sterling gold standard exchange rate. Kan and Callaghan (2007) also find that Asia-Pacific countries’ exchange markets are efficient by examining the movement of exchange spot rates and forward rates. Therefore, these empirical researches prove that the EMH is valid in the sense of generalization of result.

2.2 Deficiencies of EMH

However, EMH has been one of most controversial debate within financial studies due to the inconsequence between EMH assumption and reality (Jensen, 1978; Lo and Mackinlay, 1986; Fama, 1991; La Porta et. al., 1997; Fama, 1998; Beechey et. al., 2000; Malkier, 2003; Malkier, 2005). Assumptions of EMH are investors are rational and risk-averse, investors will make use of all available in investment decision making and investors hold homogenous expectation towards the same information (Fama, 1970). In other words, these assumptions postulate all investors are sophisticated and they are identically same in nature.

However, these assumptions are inconsistent with the basic human psychology, which is cognitive bias and heterogeneity in characteristics (Chopra and Ritter, 1992; Ritter, 2003). Evans (1968) considers naive buy-and-hold strategy is unable to beat purposive investment strategy because the difference in investment capabilities posts a gap in return between naïve investors and sophisticated investors. Further, Hunter and Coggin (1988), Jacobsen (1999), Green (2004) and Brandt and Kavajecz (2004) debate that EMH assuming all market
participant make full use of all available investment information is unreasonable because heterogeneity causes investors reacting differently to the same information. Dreman and Berry (1995) and Bondt and Thaler (1985; 1987) contradict the investors’ rationality and risk aversion assumed by the EMH because behavioral factors has stronger influences than rationality during the information process of investors.

Usually, EMH is rejected at the weak-form efficiency and this further result in the rejection of all three forms of market efficiency. Mobarek and Keasey (2008) find that there is weak-form inefficiency in the Bangladesh stock market and this result is consistent with previous research carried out by Miambo and Biekpe (2007) with the background of 10 African countries. By investigating more than 13 Asia-Pacific countries, Worthington and Higgs (2007) and Hamid et al. (2010) also find that there is weak-form market inefficiency and no random walk in the Asia-Pacific region. By expanding the coverage of markets, Lee et al. (2010) investigate 32 developed countries and 26 developing countries and further find that there is presence of stationality of stock prices and exhibition of arbitrage opportunities among stock prices in these countries. Thus, these findings imply that the EMH is ineffective to characterize the movement of stock prices.

If the market does follow a random walk behavior, the future market price is not possible to be predicted unless the information is more superior to the information prevailing in the current market efficiency (Malkier, 2003). However, the predictability of stock return and deficiency of risk-return tradeoff has been proven by many researchers and these results post challenges to both EMH and CAPM which are dominantly used to explain the sentiment of market prices (Umstead, 1976; Basu, 1977; Schlater et al., 1980; Keim and Stambaugh, 1986; Balvers, 1990; Hawavini and Keim, 1994; Ferson et al., 2005; Lee and Lee, 2009; Daniel and Titman, 2012). For example, researchers are able to derive the predictable abnormal return by using past information (Balls, 1992; Collin and Hribar, 1999; Avramov and Chordia, 2006). Thus, this raises an issue regarding the feasibility of a single theory to explain the sentiments of different stock markets.

The components that are unexplained by the EMH are being addressed as market anomalies (Yalcn, 2010). Normally, market anomalies which are unexplained by the EMH are also puzzles to the CAPM because CAPM is built on the assumption and fundamental of EMH (Schwert, 2003). Hence, the presence of market anomalies the challenge the generalization and applicability of dominant financial theories, which are EMH and CAPM. One of the typical issues that cannot be explained by the EMH is seasonal effect or stock return seasonality in the stock price movements (Keim, 1981; Bondt and Thaler, 1987; Yalcn, 2010).

Seasonal effect is an inherently consistent pattern of stock price behavior happen over times (Lim, 2007). Usually, these stock price patterns are tested on a time series basis to
discover the regular pattern of stock market behavior (Keim, 1981; Bondt and Thaler, 1987). The interval between each seasonal effect can be varied due to different frequency between various incidences. Namely, the pattern can repetitively happen daily, weekly, monthly, quarterly, annually or even more over times. For example, Keim (1981) and Haug and Hirshey (2006) find that January effect is inherent in the U.S. stock market, in which this effect shows that the stock market return is usually higher than the remaining 11 months. Apart from the January effect, stock markets do also exhibit Monday effect, calendar effect, weekend effect, holiday effect and etc over times (French, 1980; Ariel, 1983; Bondt and Thaler, 1987; Lakonisshok and Smidt, 1988; Schwert, 2003; Rosenberg, 2004; Liu and Li, 2010).

2.3 Political cycle effect
2.3.1 Theoretical background of political cycle effect

On the basis of market seasonality researches, this paper apply this concept on the Presidential term, government partisanship and electoral period to observe the impacts of political factors to the stock market returns and volatilities, in which these relationships are characterized as a political cycle effect.

The first pioneer to consider the pertinence between political choices and business cycle is Nordhaus (1975). According to Nordhaus (1975) and Nordhaus et. al. (2000) researches, there is a political business cycle in U.S. and this cycle demonstrates that ruling party tends to adjust the government policies over the presidential tenure. Usually, government usually starts with relative austerity in early years of the tenure and ends with the fiscal stimulative expansion before elections. This kind of fiscal policy setting tendency is found in U.K. as well (Easaw and Garratt, 2000). This is because an expansion in government spending is able to stimulate the market and subsequently create a good image to the ruling party in return (Chang and Lai, 1997; Nadeau and Lewis-Beck, 2001). This kind of opportunistic behavior might be hazardous to the public because it harshly improves the current welfares at the cost of future welfares (Nordhaus, 1975; MacRae, 1977; Ploeg, 1984).

However, after Nordhaus (1975) research, Mccallum (1978) finds weak support as governments may manipulate stock returns around election time. Mccallum (1978) and Alesina et. al. (1982) asserts that the effects of government policy will be negated because any government’s monetary or fiscal policy will be anticipated by the public. However, the view of government’s incapability to influence the market is rejected by Grier (1989), Thorbecke (1997) and Sellin (2001) since there is significant pertinence between fiscal or monetary policies and economy. For instance, the expansionary policies are proved to an effective stimulus to increase ex-post stock returns (Thorbecke, 1997). Therefore, the positive social climate transmitted by the government will affect investors’ expectations towards the
future stock market trend and these expectations will eventually be reflected in the stock returns (Welch, 2000; Leblang and Mukherjee, 2005; Baker and Wurgler, 2006).

Cowart (1978), Hibbs (1979), Drazen (2000) and Sturm (2011) find that the incumbent ruling parties are able and capable to manipulate macroeconomic results to a favorable voting environment before an election. Further, change in government policy (spending and tax) and enactment of new law might impact the stock market and economy as well (Bittlingmayer, 1993; Blanchard and Perroti, 2002). These purposive actions of government are observable in the four-year politic-economic cycle in the U.S. stock market returns since the stock market reflects the coherent expectation of the success or failure of government policies into stock prices as the stock market is influenced by the electorates (Umstead, 1976; Herbst and Slinkman, 1984 and Huang, 1985). Therefore, the significant incumbent government’s capabilities to influence the stock market behavior construct the theoretical fundamentals of political cycle effect.

The regular pattern of political cycle effect to stock returns can be characterized into three stock return seasonality, they are presidential cycle effect, partisan effect and electoral effect. Only partisan effect and electoral effect do impact the volatility of stock market return.

2.3.1.1 Presidential election cycle effect

Presidential election cycle effect is a four-year regular pattern of stock returns, which explains the regular market anomalies from the fundamental of presidential tenure (Wong and McAleer, 2009). To test the practicability of presidential cycle in the U.S. stock market, Allvine and O’Neil (1980) carry out intentional trading strategy over buy-hold strategy and they find out the stock returns are higher during the last two years than the first two years under the presidential term. Further, by examining the large and small-cap stock returns, Jensen et. al. (1996), Johnson et. al. (1999) and Booth and Booth (2003) also support the existence of presidential cycle, in which the U.S. stock market exhibits a four-year presidential cycle pattern. Similar results of stock returns of the second half tenure is higher than the first half tenure can also be found in researches of Stovall (1992), Gartner and Wellershoff (1995), Foerster and Schmitz (1997), Banning and Jones (2002), Swenden and Patel (2004) and Kraussl et. Al (2008).

This pattern of stock returns is believed to be associated with stimulative fiscal or monetary policies and corporate friendly policies to create favorable electoral climate before the election (Rogoff, 1990; Kayser, 2005; Hirsh and Hirsch, 2007). This is because the public might perceive increases in infrastructure development spending, improvement in household liquidity and tax cut as indicators of good economic perspective (Grier, 1989; Zhao et. al., 2004; Johnson et. al., 2005). The policy that might be adopted by the incumbent government will be different over time due to different incentives from one election to the next one.
(Schultz, 1995). Alt and Lassen (2006) find that presidential election cycle effect usually takes place in low fiscal balance transparency countries by examining 19 advanced industrialized countries. This is because when a fiscal policy is highly transparent to the public, fiscal deficits and increases in government spending will be effectively anticipated by the investors and no influence from the government can be posted to the stock market.

Although the stock market returns are impacted by the political cycle effect as a whole, the effect to each industrial index or sector might be varied due to heterogeneity between industries. Specifically, the different repercussion might be determined by the varied degrees of political sensitivity of different economic sectors (Herron et. al., 1999). For example, Homaifar et. al. (1988; as cited in Nippani and Arize, 2005) find that a presidential candidate advocating increases on defense spending will cause significant abnormal returns to defense industry stocks. This impact of presidential candidates’ political advocacy does present in other sectors, such as Tobacco, Energy and Pharmaceuticals (Knight, 2004). Thus, a change in government or policy might spread the abnormal return from one sector to another sector which is a concern by the new or incumbent government (McGillivay, 2000).

Bohl and Gottschalk (2005) also studied the presidential cycle effect in 15 developed countries by examining the behavior of stock returns of these countries. This regular pattern of stock market behavior is observable in Canada stock market (Chretien and Coggins, 2009) and India stock market (Chowdhury, 1993) as well. Hence, the presidential cycle effect is considered to be generalisable among countries, especially developed countries. Therefore, the political cycle effect provides investors opportunities to gain abnormal return over the simple buy-hold strategy suggested by the EMH and CAPM (Riley and Luksetich, 1980; Hobbs and Riley, 1984; Huang, 1985; Nguyen and Roberge, 2008).

2.3.1.2 Partisan effect

Partisan effect refers to the regular pattern of stock returns under the same ruling party over different time periods. Usually, the pattern of stock returns is different from party to party since the divergence in economic policies between different parties brings different degree of impacts to the stock market (Niederhoffer et. al., 1970). For example, Democratic government’s (left wing) policies are more beneficial to the public and small business than Republican governments (right wing) because Democratic government tends to boost the employment, household liquidity and living standard of citizens in U.S. (Mevorach, 1989; Hensel and Ziemba, 1995). Further, stock returns are significantly higher under a Democratic president than a Republican president in U.S. (Huang, 1985; Johnson et. al., 1999; Bohl and Gottschalk, 2005). This result is further supported by Johnson et. al. (1999) and Santa-Clara and Valkanov (2003) as they find that real stock return for small-cap stocks perform better under Democratic government and the stock prices are more volatile under the tenure of Republicans.
Moreover, the cyclical pattern is much significantly observable during a Republican administration than a Democratic administration on average (Wong and McAleer, 2009). This explicitly implies that Republican Party may actively manipulate the policies to improve the possibility of being re-elected than the Democratic Party. Further, Beyer et. al. (2004) finds higher T-bill returns under Republican administrations. Hence, the partisan effect provides investors guidance to sophisticatedly adjust their portfolio to reflect the unique characteristics of incumbent ruling party as stock returns are higher under Democratic Party and government bond returns are higher under Republican Party (Grant et. al., 2006).

The eventual winner of election will also bring partisan effect to the stock market. For example, prices increase sharply when an election is won by the Republican presidential candidates whereas prices decrease with the victory of Democratic presidential candidates (Yantek and Cowart, 1986; Fuss and Bechtel, 2008). This is because minimal dividends and higher taxation over investment returns are anticipated during Democratic government period and higher disposable incomes from investment are anticipated during Republican government period. Cahan et. al. (2005) and Abidin et. al. (2010) finds that the stock returns are significantly higher during right-leaning party (National Party) than the left-leaning party (Labour party) in New Zealand. Worthington (2006) finds similar result in the Australian stock market. Although these results are opposite to the U.S. research, this also proves that government partisanship does bring difference in stock market returns.

The volatility of market returns is higher during the right-wing administration in the pre-election period (Siokis and Kapapooulos, 2007). The volatility is lower when a victory of left-wing party is anticipated in the pre-election period (Leblang and Murkherjee, 2003). However, when the right-wing incumbent party is likely to be replaced the left-wing contender, higher credit spreads on the sovereign bonds are evident as higher investment risks in bond are perceived by the bondholders, vice versa (Vaaler et. al., 2005). These results show that the government partisanship does bring difference to the stock market returns and volatilities due to inherent heterogeneity in administration orientation.

2.3.1.3 Electoral effect

Electoral effect is the overreaction or under reaction of stock market returns and volatility around the political election period comparing to the usual trading days which are less impacted by the electoral stimulus (Herbst and Slinkman, 1984; Panzalis et. al., 2000). For example, the stock returns during presidential election period are significantly higher than the usual stock market returns over the whole presidential term (Herbst and Slinkman, 1984; Li and Born, 2006). Panzalis et. al. (2000) also finds that there was a positive stock market reaction in the two-week period prior to elections dates among 33 investigated countries. The positive abnormal returns had positive relationship with the uncertainty of election results.
This result is similar to Yantek and Cowart (1986) research which finds that market prices tend to increase few weeks before the election.

In contrast, Floros (2008) find that the Greece stock returns increase and fluctuations decrease two month prior to the election, the stock returns decrease and fluctuations increase one month before the election and the stock returns increase during the three-month post-election period. This result may be consistent with the results of Crowley and Loviscek (2002) and Beaulieu et. al. (2005), which states that more uncertainties regarding the next election step in one month before the election and the market, holds observer perspective for the three-month post-election period. Besides, Chuang and Wang (2008) also find that abnormal returns are significantly negative before the election. Thus, there are differences in the behavior of returns and volatilities among countries around the political election period.

The major cause of these variances is the different degree of predictability of the election outcomes among countries (Ali et. al., 2010; Altin, 2012). This higher volatilities one month before the election may be explained by the ever-changing trend of election polls (Brander, 1991). Besides, Chan and Wei (1996), Bittlingmayer (1998), Kim and Mei (2001) also find that the nature of political news does impact the volatility of stock prices around the political election. Failure to constitute parliamentary majority and short trading history of market also contribute to increase the magnitude of market reaction (Bialkowski et. al., 2008). Hence, it is critical to establish an effective mechanism (compulsory voting laws) or efficient election polls to stabilize the stock market.

Usually, political uncertainty causes a swing in the stock price on the next available trading day since the investors need to react to the unanticipated election outcome (Ploeg, 1989). This is because investors will adjust their previous expectation to match with current environment although the reacting behavior might be varied between different investors (He et. al., 2009). Hence, the stock market could rise on the next day of election to adjust for the uncertainties before the announcement of winner if the political change is expected to be beneficial to the public (Ferri, 2008). However, usually, a political change will bring negative impact to the stock market due to the distress of political change (Chuang and Wang, 2009). For example, political changes negatively relate to the American, Japanese, British, and French stock returns (Wang et. al., 2008).

There are some statistically significant quirks in the political election. Niederhoffer et. al. (1970) and Riley and Luksetich (1980) find that there was pro-Republican (right-wing) bias on Wall street, in which the market tended to risk following the Republicans winning in presidential elections. U.S. presidential election does impact its neighbor countries, like Canada and Mexico. The presidential cycle effect in U.S. is also transmitting to other countries and subtly influencing foreign countries’ stock markets (Dobson and Dufrene, 1993; Foerster and Schmitz, 1997). Small-cap firms are more sensitive to electoral effect because
they do not possess enough resources to diversify political risks unlike medium-cap or large-cap firms (Fuss and Bechtel, 2008). Investment bank recommendations to buy or sell equities are also significantly related to the election (Parra and Santiso, 2008). Hence, the electoral effect provides investors an insight to evaluate the suitability of their current portfolio exposure.

2.4 Mediocre aspect of the political cycle effect generalizability

Although substantiations of the political cycle effect are prevailing among researchers, there are researches that call the generalizability of political cycle effect into question. The failure to reject the null hypothesis that there is no relationship between political or presidential factors and stock market returns and volatility is empirically founded in many researches. Jones and Banning (2000) call the presidential cycle effect in question as their research finds no significant relationship between the year of presidential term and stock market return. Accordingly, the stock market return is not higher under second-half regime period than the first-half regime period. This evidence is further founded in the researches of Jones and Banning (2002) and Hudson et. al. as well (2010). Moreover, Abidin et. al. (2010) finds no evidence of an election effect in the New Zealand stock market. This result is similar to the research of Kithinji and Ngugi (2008) with the background of Kenya stock market exchange.

Powell et. al. (2006) finds that the government partisanship and different presidential regimes do not bring difference to the U.S. stock market returns over the period of 1857-2004. Specifically, the large-cap stock returns are not influenced by the government partisanship (Johnson et. al., 1999). Germany stock market does exhibit this kind of insignificance of the partisan effect in stock market returns and volatilities (Dopke and Pierdzioch, 2006). Beyer et. al. (2004) also finds that incumbent party, political gridlock and changes in political landscape and is not significant variables to affect the U.S. stock market return. Instead, monetary policy of the central bank is a statistically significant independent variable to the stock market return and the monetary causes a spurious relationship between government partisanship and stock market return. Therefore, the mixed significance and insignificance posts a question to the generalizability of political cycle effect in the Malaysia stock market since the empirical results are incongruent.

2.5 The political cycle effect and Malaysia stock market

There are two researches indirectly examining the political cycle effect under the background of Malaysia stock market. The first research was carried out Pantzalis et. al. (2000) and the second research was carried out by Ali et. al. (2010). In Pantzalis et. al. (2000) research, they examined the Morgan Stanley Capital International value weighted equity indices (Malaysia stock market return is one of the elements inside the composite) over the period of 1974-1995 and found that there was a positive abnormal returns during the two-
week period before the election. The positive abnormal returns are correlated with the
country’s degree of freedom, election timing and the winning of re-election of incumbent
party.

Ali et. al. (2010) research, examined the stock overreaction behavior of Malaysia stock
market by comparing the stock returns of winner stocks and loser stocks. Instead of
overreaction during election period, they find that stock market had been expressing under
reaction sentiment in all observed general elections as winner stocks had significantly
surpassed loser stocks in the subsequent observed period. The major reason of under reaction
is attributed by the high predictability of election result because the incumbent party (Barisan
Nasional) has been always winning the election since the independence of Malaysia. Thus, a
weak relationship between election and stock market return was found in their research.

The results from aforementioned two researches are inconsistent. Two reasons explain the
difference in their research outcomes. First, the Malaysia stock market is relatively small in
the value weighted equity indices. The other larger stock markets dilute the significance of
Malaysia stock market. Second, the research time spans are different between their
researchers. The inconsistency in research outcomes under both international context and
Malaysian context raises the necessity to examine whether the political cycle effect is
generalizable in the Malaysia stock market. If the political cycle effect does persist in the
Malaysia stock market, this result may call the informational efficiency of Malaysia stock
market into question.

3. Data Collection and Methodology

To carefully and sophisticatedly provide the benefits to the users, Koulakiotis et. al. (2008)
research methodology is adopted in this paper. This is because the evolution in research
methodology in the political cycle effect exhibits that a combination of GARCH model and
event study is superior to the other combination of research methods. By using this
methodology, a meaningful revisit of the political cycle effect under the new research context
can be made efficiently. The generalizability of the political cycle effect in Malaysia can be
tested effectively as well.

3.1 Data collection

In this section, descriptions of variables are provided. To exploit the unique
characteristics of different variables, the data are categorized into financial variables, political
variables and conditioning variables. The whole sample period is 1982:02 to 2012:04 which
contain 7438 daily observations and seven (7) elections. The statistical analysis is carried out
on the basis of full sample to explain the political impacts to stock market returns and
associated volatilities from different Prime Minister regimes, different year of Prime Minister
term and pre- and post-announcement of election result.
Since Malaysia general elections take place on weekends (Saturday or Sunday), the following day of the elections was considered as the day which the election effect interposes the efficiency of Malaysia stock market. During the 30-year period under examination, 7 general elections took place in Malaysia, which were on 22 April 1982, 03 August 1986, 21 October 1990, 25 April 1995, 29 November 1999, 21 March 2004 and 08 March 2008. Dr Mahathir had been ruling the government for 5378 trading days and he had been in the office over 5 Prime Minister Terms (from 22 April 1982 to 31 March 2004). Abdullah had been in the office for one term (984 days, 21 March 2004 to 8 March 2008) and Najid has been in the office for two terms (8 March 2008 until now).

3.1.1 Financial variables

This paper adopts the log daily returns of the Kuala Lumpur Composite Index (KLCI) for the period of 30 years over 1982:02 to 2012:04 as the dependent variable to be regressed against the political variables and control variables. The historical data of KLCI was retrieved from the Financial Times database. Daily closing prices of KLCI over 30-year period are converted into daily logarithmic return as follows:

\[ R_t = 100 \times \log \left( \frac{P_t}{P_{t-1}} \right) \]

Where:

- \( R_t \) is the daily nominal percentage return of KLCI on day \( t \);
- \( P_t \) and \( P_{t-1} \) are the closing index levels on day \( t \) and day \( t-1 \) respectively.

Daily volatility of market return is another financial variable which is essential to this paper. Daily volatility of the KLCI daily return for the 30-year period is derived from the GARCH and E-GARCH model, in which these models were adopted in Lin and Wang (2005), Worthington (2006), Koulakiotis (2008) researches. Using GARCH term and ARCH term to measure the daily volatility of stock return is arguably effective and accurate because it considers the past shocks in market return that might impact the volatility of market return (Engle, 1982; Bollerslev, 1986; Engle and Ng, 1993; Hansen and Lunde, 2001; Brandt and Jones, 2006). A further discussion of GARCH is made in the subsection 3.2.5.

The equation to derive the daily variance is:

\[ h^2_t = 0.5932 + (0.1567 \times (\varepsilon_{t-1}^2)) + (0.2948 \times (\varepsilon_{t-2}^2)) + (0.1577 \times (\varepsilon_{t-3}^2)) - (1.0684 \times h^1_t) + (0.5084 \times h^2_t) + (0.8059 \times h^3_t) - (0.5245 \times \tau^2) + (0.2673 \times \tau^5) \]

The equation is obtained from the section 4.3. Only significant variables are included in the equation. Squared root of \( h^2_t \) is the standard deviation of KLCI daily return. This standard deviation is defined as volatility in all tests of equality which are shown in section 4.1.

3.1.2 Political variables

This paper defines the dummy variables of Prime Minister Effect as:

- \( M_t = 1 \) if Mahathir is in office at time \( t \), \( M_t = 0 \) otherwise.
Nt = 1 if Abdullah is in office at time t, Nt = 0 otherwise.
Qt = 1 if Najib is in office at time t, Qt = 0 otherwise.

The political variables that adopted in this paper are motivated by previous empirical studies of political macroeconomics and election cycle. Hibbs (1977; 1986), Alesina (1987) and Santa-Clara and Valkanov (2004) find different political platforms and policy orientation of varied parties post not indifferent impacts to the market. Booth and Booth (2003), Worthington (2006) and Abidin et. al. (2010) further considers different presidents might raise dissimilar influence towards the stock market. For instance, different presidents might reflect their own unique mindset into the government policies in taxation, fiscal policy, social benefits and etc.

This paper defines the dummy variables of election impact as:
Bt = 1 if the day is within the 20-day period before the first-post election day, Bt = 0 otherwise.
At = 1 if the day is within the 20-day period after the first-post election day, At = 0 otherwise.

These two dummy variables are the parameters to measure the effect of election to the market from the aspect of pre-election and post-election (Worthington, 2006; Abidin et. al., 2010). A continuous variable (Tt) of measuring whether the return and volatility on KLCI varies across the term in office is applied in this paper by taking a value of 1 on the first post-election day (Tt=1), 2 on the second day (Tt = 2) and so on (Hudson et. al., 1998 and Worthington, 2004). This variable is reset when another election is taking place. This variable is characterized as a simple linear trend and it measures whether the term in office impacts the stock market return.

3.1.3 Conditioning variables
This paper adopts average daily GDP growth of Malaysia (GDPt) and the daily log return of New York Stock Exchange Index (NYSE, USt) for 30 year-period over 1982:02 to 2012:04 as the control variables. The historical data of NYSE was retrieved from the Yahoo Finance database. The daily log return of NYSE is calculated on the same basis as the preceding equation for KLCI daily log return, which is USt = 100*LN(USt/USt-1). The average daily GDP growth over 1982:02 to 2000:12 are derived from the de-annualization of yearly GDP growth and the average daily GDP growth over 2001:1 to 2012:4 are de-quarterized from the quarterly GDP growth. The average daily GDP growth can be measured more accurately by using quarterly GDP growth instead of yearly GDP growth. Both yearly and quarterly GDP growths are retrieved from the Trading Economics database.

The main reason of using NYSE daily return and Malaysia GDP growth is because they are arguably highly related to the KLCI daily return. Kearney (2000), Johnson and Soenen
(2003) and Chukwuogor (2008) find there is high correlation between U.S. stock market and the remaining world due to U.S. strong economic power and currency dominance. Further, the use of GDP as the control variable is reportedly useful in the research of political cycle from Abidin et. al. (2010). Thus, the use of these two control variables is relevant to be the predictors of KLCI return over the entire sample period.

3.2 Development of hypotheses

3.2.1 Tests of equality

Independent sample t-test is adopted to test the mean difference between first half regime periods and second half regime periods over the past 7 general elections (Booth and Booth, 2003; Swensen and Patel, 2004; Fay and Proschan, 2010; Anderson et. al., 2011). Mann-Whitney U test is also adopted as a supplement test to test the shape and spread (median) difference between two periods if the data does not follow normal distribution (Mann and Whitney, 1947). These two tests are applied to all patterns to examine the existence and persistence of these anomalies in the Malaysia stock market. Levene’ test (Levene, 1960; as cited in Iachine et. al., 2004) is adapted to measure equality of variances and further provide a mean to reliably observe the significance level of mean difference between two independent samples.

3.2.1.1 Presidential election cycle effect

The test of equality in mean and median are used to determine the difference in daily returns between year 1 to year 2 (first half period) and year 3 to year 4 (second half period). Huang (1985) adopt this method and find that the mean return of second half period in office is statistically significantly higher than the first half period in office, in which the result is consistent with Allivine and O’Neil (1980) and Gartner and Wellershof (1995). Swensen and Patel (2004) further test the median return and document the findings as Haung (1985). Using similar method, Foerster and Schimitz (1997) and Booth and Booth (2003) prove that the mean volatility of second half period is lower than the first half period. This test provides a basic insight to observe the presidential election cycle effect in the Malaysia stock market. The null hypothesis of this test is shown as follow:

1) Ho: Mean returns do not differ between the first half regime period and the second half regime period.
2) Ho: Mean daily volatilities do not differ between the first half regime period and the second half regime period.

3.2.1.2 Prime Minister effect

The mean difference in market return and volatility between the regimes of different Prime Ministers is tested in this paper. This test is used to investigate the impact of different Prime Ministers to the market. This test is adapted from the methods of Cahan et. al. (2005), Worthington (2006), Ali et. al. (2010) which was initially used to measure whether different
parties are brings different levels of influence towards the market. By comparing the mean return and volatility under different Prime Ministers, this method provides an indicator to measure the difference in political influence between different Prime Ministers. Hence, a difference might indicate the impact of a Prime Minister is different from another Prime Minister. The null hypothesis of this test is shown as follow:

3) $H_0$: Mean daily returns do not differ across different Prime Ministers.
4) $H_0$: Mean daily volatilities do not differ across different Prime Ministers.

3.2.1.3 Electoral effect

Event study methodology is applied in this paper to investigate the electoral effect or the behavior of KLCI daily return and volatility around the general election. Dodd and Warner (1983) and Brown and Warner (1985) contemplate that using daily return is significant to observe the difference between around an event and its normal time. Namely, the effect of an event can be measured and scrutinized by the researcher. This method has been proven to be effective to observe the trend and market reaction to general election by comparing the mean return and volatility from event period to the estimation period (Herbst and Slinkman, 1984; Koulakiotis et. al., 2008).

The observations of mean return and mean volatility for the KLCI consider the average historical return and volatility over a 250-day period around the event. By following the method of Kiolakoiti et. al. (2008) and Wang et. al. (2008), this paper defines the day zero ($t=0$) as the first trading day after the announcement of the election. This is because Malaysia general elections take place on weekend and first trading day to incorporate the information into KLCI is the first Monday following the day of election. The event period is a 41-day window around the first post-election day, which is 20 days ($t=-20$ to $t=-1$) prior to the event and 20 days ($t=1$ to $t=20$) after the event.

Mean-adjusted model is adopted to measure the difference (abnormal return and abnormal volatility of KLCI daily return) between the days around election and their estimation period as follow:

$$\text{AR}_t = R_t - R_n$$
$$\text{AH}_t = H_t - H_n$$

Where,

$\text{AR}_t =$ Abnormal return around the election
$\text{AH}_t =$ Abnormal volatility around the election
$R_t =$ Return around the event window
$R_n =$ Return during the estimation period
$H_t =$ Volatility around the event window
$H_n =$ Volatility during the estimation period

Mean difference and median difference tests are applied to test the difference in return and volatility between event window and estimation period. These tests provide a mean to measure the electoral effect, in which this method was adopted by Worthington (2006) and Altin (2012). According to Chang and Lai (1997), Bialkowski et. al. (2008) and Adibin et. al. (2010), an election does post abnormality to market sentiment in terms of influence to the
market return as well as volatility. Thus, the findings of this test can be used to measure whether an election causes abnormality in both market return and volatility. The null hypothesis of this test is shown as follow:

5) \( H_0 \): Mean returns do not differ between event window and estimation period.
6) \( H_0 \): Mean volatilities do not differ between event window and estimation period.

### 3.2.2 Regression model specification for KLCI daily returns

#### 3.2.2.1 Tests of unit root, normality of distribution and independence of distribution

To perform the time-series regression, a test on the variables’ stationary nature is required. Two methods, which are Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP), are adopted to test the presence of unit root within the time-series variable. As per the name, these unit roots are proposed by Dickey and Fuller (1979) and Phillips and Perron (1988) respectively. The null hypotheses for these two methods are: there is unit root within the stock indices (KLCI and NYSE) or GDP. Rejection of the null hypothesis indicates that there is immobility in the variable.

To test the normality of distribution, both Jarque-Bera test and Anderson-Darling test are adopted in this paper (Anderson and Darling, 1952; Jarque and Bera, 1980; Jarque and Bera, 1987). These two tests are used to measure whether a variable does follow normal distribution or not. Rejection of Jarque-Bera test’s null hypothesis indicates that the kurtosis does not match to a normal distribution. Rejection of Anderson-Darling test’s null hypothesis indicates that there is data departure from the normal distribution.

Ljung-Box Q test and Ljung-Box \( Q^2 \) test for first 12 lags test are applied to justify all correlations up to certain lags of 0 for daily change and squared daily change in KLCI, NYSE and Malaysia GDP (Ljung and Box, 1978). Rejection of the null hypothesis indicates that the data are not distributed independently. Rejection of the null hypothesis might imply the use of ARCH-type model for the variance (Koulakiotis et. al., 2008). These tests are important since they are adopted to justify the usefulness of a regression model.

#### 3.2.2.2 Ordinary least square model

Ordinary least square model is adopted to describe the relationship between one dependent variable and multiple independent variables with the measure of statistical significance (Anderson et. al., 2011). The regression method in this paper is adapted from the studies of regression method by Santa-Clara and Valkanov (2003), Bohl and Gottschalk (2005), Worthington (2006) and Abidin et. al. (2010). Their studies measure the relationship between electoral factors (and political factors) and daily market return. In other words, it is used to test the existence of political cycle effect in the Malaysia stock market. There are three null hypotheses to test relationship between electoral factors and market return. 7438 daily returns are regressed against the political cycle variables:
\[ R_t = \alpha + \beta_1 M_t + \beta_2 N_t + \beta_3 Q_t + \beta_4 B_t + \beta_5 A_t + \beta_6 T_t + \beta_7 \text{GDP}_t + \beta_8 \text{US}_t + \epsilon_t \]

Where,

- \( R_t \) = Daily return of KLCI at time \( t \).
- \( \alpha \) = Intercept
- \( M_t \) = 1 if Mahathir is in office at time \( t \), \( M_t \) = 0 otherwise.
- \( N_t \) = 1 if Abdullah is in office at time \( t \), \( N_t \) = 0 otherwise.
- \( Q_t \) = 1 if Abdullah is in office at time \( t \), \( Q_t \) = 0 otherwise.
- \( B_t \) = 1 if the day is within the 20-day period before the election day, \( B_t \) = 0 otherwise.
- \( A_t \) = 1 if the day is within the 20-day period after the Election Day, \( A_t \) = 0 otherwise.
- \( T_t \) = GDP\(_t\) = Daily GDP growth in Malaysia at time \( t \).
- \( \text{US}_t \) = Daily return of NYSE at time \( t \).
- \( \epsilon_t \) = Error term at time \( t \). 
- \( \beta_i \) = Coefficient of independent variables to be estimated.

Certain diagnostics are carried out to ensure the regression is not spurious. First, Breush-Godfrey test with 12 lags is used to test the whether the error terms from different time period are serially correlated (Godfrey, 1978; Breusch, 1979). Second, White heteroskedasticity test is applied in the regression to check whether the error term is constant or homoskedastic (White, 1980). When both serial correlation and heteroskedasticity appear in the regression, a Newey-West standard error adjustment is applied to correct these issues (Newey and West, 1987). Last, a variance inflation factor is used to check whether there is multicollinearity between independent variables in the preceding regression (Marquardt, 1970).

Null hypothesis 7 test whether electoral and political factors affect the daily return or of KLCI:

7) \( H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0 \)

When some \( \beta \neq 0 \), the null hypothesis 7 will be rejected. It indicates that market return exhibits the pattern of election cycle and the electoral and political factors do impact the daily return of KLCI. If the null hypothesis 7 is rejected, the hypothesis 8 and the hypothesis 9 can be test then.

The null hypothesis 8 is to test whether different Prime Minister regimes post different level of impact to the variance of market return:

8) \( H_0: \beta_1 = \beta_2 = \beta_3 \)

The null hypothesis 9 is to test whether the election posts different impacts to the pre-election and post-election variance of market return:

9) \( H_0: \beta_4 = \beta_5 \)

Rejection of the null hypothesis 8 indicates that different Prime Minister Regimes post dissimilar impacts to the market. Namely, the Prime Minister effect is lying within the
Malaysia stock market. Rejection of null hypothesis 9 demonstrates that an election makes KLCI daily return different from the normal time and there is an electoral effect in Malaysia stock market. Rejection of either one preceding null hypothesis might imply the Malaysia stock market does not follow the random walk in KLCI movement as proposed in the Efficient Market Hypothesis. However, if null hypothesis 7 is not rejected, no test on null hypothesis 8 and 9 should be carried out. This is because all political dummy variables are not significantly different from 0. This implies no political cycle effect exists in the Malaysia stock market.

The ordinary least square model is acted as a filter to select the explanatory variables to be used in the mean equation of GARCH model (Chia et. al., 2006). Only significant independent variables are included in the mean equation of GARCH model. All dummy variables are employed as variances regresses to test the political cycle effect in the daily volatility.

### 3.2.3 GARCH model specification

![Figure 1: Residual of KLCI daily return](image)

Figure 1 above indicates that low residual is following a series of low residual (day 0 to day 700 or day 4800 to day 6200) and high residual is following by a series of high residual (day 700 to day 1600 or day 3600 to day 4800). Namely, market participants may have heterogeneous views towards information and this situation further causes lags in the information absorption or volatility clustering (Worthington, 2006). This implies that the residual of KLCI daily return might be affected by the past behavior of residual. This proved to be true in the Malaysia stock market (Balkiz, 2003).

Due to the preceding phenomena in stock return residual, GARCH \((p,q)\) model is adopted in this paper to take into account the time-varying variance of time-series data (Bollerslev, 1986; Lin and Wang, 2005). E-GARCH \((p,q)\) model is also adopted in this paper to allow for the asymmetric volatility effect in measuring the time-varying variance (Nelson, 1991). GARCH and E-GARCH are believed to be effective models to derive conditional variance (or volatility) by quantifying both long and short-term memory in returns and allowing risks to
vary over time (Bollerslev, 1986; Engle and Ng, 1993; Leblang and Mukherjee, 2003; Beaulieu, 2005; Worthington, 2006; Wong and McAleer, 2009).

Ljung-Box $Q^2$ test and Lagrange Multiplier test (Engle, 1982) for first 6 and 12 lags are applied to justify the use of ARCH-type models for the variance by accounting for the level of serial correlation in the daily return series. Further, sign bias test, negative size bias test, positive sign bias test and joint test proposed by Engle and Ng (1993) are applied in the diagnostics to investigate whether shocks on the KLCI return have an asymmetric effect on the volatility and whether E-GARCH is applicable to model the volatility. Sign bias test is used to address the impact of positive and negative innovation on volatility not predicted by the model. Negative size bias test is used to capture the impact of large and small negative innovations on volatility. Positive size bias test is used to examine possible biases associated with large and small positive innovations. Joint test simultaneously considers preceding three tests to test the linear ARCH or GARCH against the asymmetry (Engle and Ng, 1993; Hagerud, 1997; Henry and Suardi, 2005; Brandt and Jones, 2006; Koulakiotis et. al., 2008).

The GARCH ($p,q$) model and E-GARCH ($p,q$) model in this paper are adapted from the researches of Leblang and Mukherjee (2005), Li and Born (2006), Worthington (2006), Beaulieu et. al. (2006), Siokis and Kapopoulos (2007) Koulakiotis et. al. (2008), in which these researches are measuring the relationship between electoral or political factors and stock market volatility. GARCH ($p,q$) is used to capture the symmetric response to news or shocks whereas E-GARCH ($p,q$) is used to capture the volatility effect.

The GARCH ($p,q$) model is described as follow:

$$R_t = \alpha_0 + \alpha_l \sum_{i=1}^{l} z_l + \gamma_0 h_t + \epsilon_t$$  \hspace{1cm} (1)

$$h_t = \tau_0 + \beta_i \sum_{i=1}^{p} \epsilon^2 t - i + \gamma_j \sum_{j=1}^{q} h_t - j + \tau_k \sum_{k=1}^{n} x_k$$  \hspace{1cm} (2)

$$\epsilon_t \Omega_{t-1} \sim N(0, h_t)$$  \hspace{1cm} (3)

Where the variables in the mean equation (1) are as follows:

$R_t$ = Market return at time $t$.

$\alpha_0$ = Intercept

$z_l$ = The set of $l$ control variables to $R_t$ (where $l = GDP_t$ and $USt$).

$X_k$ = the set of $k$ political factors expected to influence $R_t$ (where $x = Mt, Nt, Qt, Bt, At$ and $Tt$).

$h_t$ = Daily volatility of the daily return derived from GARCH at time $t$.

$\epsilon_t$ = Error term.

$\tau_k$ = Coefficient of political dummy variables to the volatility.

$\beta_i$ = Coefficient of the previous day’s noise.

$\gamma_j$ = Coefficient of the previous day’s volatility.

The E-GARCH ($p,q$) model is described as follow (using mean equation 1 as well):
\[ hte = \tau_0 + \beta_i \left\{ \sum_{t=1}^{P} [ut - i - E(t - i) + \theta ut - i] + \gamma_j \ln \left( \sum_{j=1}^{Q} [ht - j] + \tau_k \sum_{k=1}^{n} x_k \right) \right\} + \epsilon_t \Omega_t^{-1} \sim N(0, h_{ts}) \]  

where 

- \( hte \) is the daily volatility of the daily return derived from E-GARCH at time \( t \). 
- \( \theta \) is the coefficient to capture the impact of noise. 

Lag interval is determined by the Schwart information criteria (SIC) as it is more consistent than the Akaike information criteria since it penalizes most heavily the degree of freedom (Schwarz, 1978; Lutkepohl, 1991; as cited in Chia, 2006). The highest order considered in this paper is 5 for \( p \) and \( q \). Various combinations of \( p \) and \( q \) are tested within the range from 1 to 5 in both cases to select the best fit GARCH \((p,q)\) model. The combination of orders that produces the minimum SIC with p-value lower than 0.05 will be chosen. When the Jarque-Bera test indicates that there is significant kurtosis in the data, Bollerslev and Wooldridge (1992) semi-robust standard errors are applied to provide unbiased standard errors that are robust to deviation in normality of the residuals.

Diagnostic tests of both models consist of Ljung-Box \( Q^2 \) test and ARCH-Lagrange Multiplier. These two tests examine whether ARCH effect remains in the variance derived by both GARCH models. If the leverage effect (\( \theta \)) is not significant in the E-GARCH model, the result from GARCH model will be adopted to draw the conclusion.

Null hypothesis 10 test whether electoral and political factors affect the daily return of KLCI:

10) \( H_0: \tau_1 = \tau_2 = \tau_3 = \tau_4 = \tau_5 = 0 \)

When some \( \tau \neq 0 \), the null hypothesis 10 is rejected. It indicates that market volatility exhibits the pattern of election cycle and the electoral and political factors do impact the daily return of KLCI. If the null hypothesis 10 is rejected, the hypothesis 11 and the hypothesis 12 are tested.

The null hypothesis 11 tests whether different Prime Minister Regimes post different level of impact to the variance of market volatility:

11) \( H_0: \tau_1 = \tau_2 = \tau_3 \)

The null hypothesis 12 tests whether the election posts different impacts to the pre-election and post-election variance of market volatility:

12) \( H_0: \tau_4 = \tau_5 \)

Null hypothesis 10, 11 and 12 are adopted from hypothesis 7, 8 and 9. Hence, the explanation for rejection of null hypothesis is same, except null hypothesis 7, 8 and 9 are used to draw the impacts of political dummy variables towards the return whereas null hypothesis 10, 11 and 12 are for volatility aspect. Results of null hypotheses tests are shown in the chapter 4. Possible reasons to result in the rejection or non-rejection of null hypothesis are discussed in the chapter 4 as well.
4. Data Analysis and Discussion of Results

4.1 Tests of equality

4.1.1 Test's result of presidential election cycle effect

Table 1: Mean returns of each Prime Minister term year

<table>
<thead>
<tr>
<th>Year</th>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
<th>Fourth year</th>
<th>Fifth year</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982-2012</td>
<td>12.22</td>
<td>2.72</td>
<td>4.06</td>
<td>4.52</td>
<td>0.85</td>
<td>4.99</td>
</tr>
<tr>
<td></td>
<td>7.83</td>
<td>4.94</td>
<td>14.11</td>
<td>5.93</td>
<td>5.28</td>
<td>6.88</td>
</tr>
<tr>
<td></td>
<td>31.67</td>
<td>23.14</td>
<td>33.64</td>
<td>25.84</td>
<td>14.70</td>
<td>25.59</td>
</tr>
</tbody>
</table>

As earlier mentioned, the presidential election cycle effect exhibits the pattern of the returns in last few years are higher than the returns of first few years. Further, the standard deviations are lower in last few years. However, Table 1, that the mean annual returns in last three years (4.06%, 4.52% and 0.85%) are not significantly higher than the mean annual returns in the first two years (12.22% and 2.72%) over past 7 general elections (1982-2012). The mean annual returns in last three years are also lower than the mean annual return (4.99%) of whole period. This situation indicates that the mean annual returns are below average or below the mean annual returns in first two years. The medians and standard deviations of returns are inconsistent with the pattern of average returns. No pattern or presidential election cycle effect can be observed from the Table 1. This situation is different the results of Foerster and Schimitz (1997) and Booth and Booth (2003), where they prove that the mean annual returns in last few years are consistently higher than the mean annual returns in the first two years across different Presidential terms.

Table 2: Findings of presidential election cycle effect

<table>
<thead>
<tr>
<th>Term year</th>
<th>Daily return</th>
<th>Daily volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.0218</td>
<td>2.5183</td>
</tr>
<tr>
<td>Median</td>
<td>0.0384</td>
<td>1.6867</td>
</tr>
<tr>
<td>First half period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.0291</td>
<td>2.3124</td>
</tr>
<tr>
<td>Median</td>
<td>0.0372</td>
<td>1.6368</td>
</tr>
<tr>
<td>Second half period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.0154</td>
<td>2.6992</td>
</tr>
<tr>
<td>Median</td>
<td>0.0425</td>
<td>1.7548</td>
</tr>
</tbody>
</table>

Test of equality

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-test (p-value)</td>
<td>0.3920</td>
<td>0.000***</td>
</tr>
<tr>
<td>Mann-Whitney U test</td>
<td>-0.5730</td>
<td>-0.040***</td>
</tr>
</tbody>
</table>

1) ***,** and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.
2) Above findings are abstracted from the mean and median difference tests of daily return and volatility between first half regime period and second-half regime period.
3) Whole period is year 1 to year 5 of a Prime Minister term. First half period is year 1 and year 2. Second half period is year 3, year 4 and year 5. Sample period of this test is 1982:02 to 2012:04.
4) Levene’s test is applied to measure whether the equal variance is assumed.
5) Null hypothesis 1 - Mean daily returns do not differ between the first half regime period and the second half regime period.

6) Null hypothesis 2 - Mean daily volatilities do not differ between the first half regime period and the second half regime period.

The presidential election cycle effect is further documented in the table 2 to statistically test the presence of mean and median difference between the first half period and second half period. Namely, the mean daily returns and volatility and median daily return and volatility in the first half period (first two years) are compared against the second half period (last three years) in the t-test and Mann-Whitney U test respectively. By observing the mean in the first and second half period, it clearly shows that the mean daily return in the second half period is lower than the first half period whereas the mean daily volatility in the second half period is higher than the first half period.

Both t-test and Mann-Whitney U test do not find any statistically significant difference in daily returns between the first half period and the second half period. Namely, the difference in daily returns between two periods over the past 7 general elections is not significant even at the 0.1 significance level. Hence, the null hypothesis 1 regarding the difference in daily returns between the two periods is not rejected. In contrast, both t-test and Mann-Whitney U test provide strong evidences to reject the null hypothesis 2. The mean difference and median difference in daily volatilities between the two periods are significant at the 0.01 significance level. This result shows that the mean daily volatilities of second half periods have been statistically higher than first half periods over the past 7 general elections. Namely, the Malaysia stock market is more volatile during the second half regime period of a Prime Minister term.

For a presidential election cycle effect to be proven in a stock market, daily returns (daily volatilities) in the second half regime period must be higher (lower) than the first half regime period. However, the results of table 2 clearly show that the difference in daily returns between two periods is not significant. Further, the daily volatilities in the second regime half period are significantly higher than the first half regime period. Hence, the findings in table 2 are different from studies by Huang (1985), Stovall (1992), Gartner and Wellershoff (1995), Foerster and Schimitz (1997), Banning and Jones (2002), Booth and Booth (2003), Swenden and Patel (2004) and Kraussl et. al. (2008). Therefore, based on the findings, the Malaysia stock market does not exhibit the behavior of presidential election cycle. However, the significant mean difference in daily volatilities between first half period and second half period should be noticed because it does show that the Prime Minister term does impact the level of volatility.

Although Alt and Lassen (2006) find that the presidential election cycle usually takes place in low fiscal balance transparency countries, this effect is not observable in the Malaysia stock market. This result may indicate that a Prime Minister may not manipulate the
fiscal or monetary policy to increase the possibility of winning in the coming general elections. Incapability of exercising effective policies or implemented policies do not fully absorb by the public could also contribute to this result. For example, the effectiveness of social-benefiting policy might be impaired by the corruption. High confidence of winning in the next general election might also slacken the incumbent party to manipulate the fiscal or monetary policy. Less possibly, the incumbent party is not interested to seek re-election in the next general election.

4.1.2 Test’s result of Prime Minister Effect

<table>
<thead>
<tr>
<th>Regime</th>
<th>In-government</th>
<th>Out-of government</th>
<th>Tests of equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>t-stat</td>
</tr>
<tr>
<td>Days</td>
<td>Return</td>
<td>Volatility</td>
<td>Days</td>
</tr>
<tr>
<td>Mahathir</td>
<td>5378</td>
<td>0.0194</td>
<td>2.8480</td>
</tr>
<tr>
<td>Abdullah</td>
<td>984</td>
<td>0.0366</td>
<td>0.5621</td>
</tr>
<tr>
<td>Najib</td>
<td>1019</td>
<td>0.0202</td>
<td>2.6672</td>
</tr>
</tbody>
</table>

1) ***, ** and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.
2) Above findings are abstracted from the mean difference test of return and volatility between in-government regime and out-of government regime under different Prime Ministers.
3) Regime refers to the name of Prime Minister. Days refer to the number of trading days. Return and volatility under the “Mean” particular are presented on a mean daily basis. Return and volatility under the “t-stat” particular are the t-stat of return and volatility retrieved from the t-test. Sample period of this test is 1982:02 to 2012:04.
4) Levene’s test is applied to measure whether the equal variance is assumed.
5) Null hypothesis 3 - Mean daily returns do not differ across different Prime Ministers.
6) Null hypothesis 4 - Mean daily volatilities do not differ across different Prime Ministers.

The Table 3 shows both descriptive statistics of mean daily return and means daily volatilities under different Prime Minister Regimes. Mahathir holds the longest period in the office by being a Prime Minister over 5378 trading days. Abdullah’s regime holds the highest daily return (0.0366%) and the lowest daily volatility (0.5621%). The stock market performance under the Abdullah’s regime outperforms the other regimes. Stock market performances under Mahathir’s regime and Najib’s regime are similar. Both of their regimes underperform against the other regimes. This result subtly implies that Abdullah’s political policy is more beneficial than the other Prime Minister to the stock market, in terms of better return and stability. Global economic booming during the Prime Minister term of Abdullah could be another reason to explain his superior performance.

However, empirically, the mean daily returns do not differ across different Prime Ministers by referring to the t-stats of mean daily return in the Table 3 The findings show there is no significant mean difference in daily returns between a regime and other regimes. This result is different from the above conclusion based on the descriptive statistics. In contrast, based on the findings, it shows that there is significant mean difference in daily volatilities between a regime and other regimes. Hence, the null hypothesis 3 is not rejected.
since the mean daily returns do not differ across different Prime Ministers. This result is consistent with the findings of Worthington (2006).

In contrast, under regimes of Mahathir and Abdullah, the mean difference in daily volatilities between their in-government time and out-of-government time is significant at the 0.01 significance level. This indicates that different Prime Ministers bring dissimilar impacts to the stock market fluctuation. For example, Abdullah brings significantly less turbulence to the stock market than the other Prime Ministers. This result could be related to the characteristics of a Prime Minister as more aggressive Prime Minister might bring higher volatilities to the stock market, vice versa. Different policy orientation between Prime Ministers unlike economic conditions could be factors contributing to this significance as well.

Table 4: Findings of Prime Minister effect around general election

<table>
<thead>
<tr>
<th>Regime</th>
<th>Before one week</th>
<th>After one week</th>
<th>Tests of equality of means (t-stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return Volatility</td>
<td>Return Volatility</td>
<td>Return Volatility</td>
</tr>
<tr>
<td>Whole period</td>
<td>0.1475 1.1976</td>
<td>-0.2410 1.6191</td>
<td>0.9270 -2.605***</td>
</tr>
<tr>
<td>Mahathir</td>
<td>0.3017 1.1917</td>
<td>0.0301 1.3417</td>
<td>0.7890 -1.941*</td>
</tr>
<tr>
<td>Abdullah</td>
<td>0.4449 1.0063</td>
<td>-0.2074 0.9583</td>
<td>1.4730 -0.022</td>
</tr>
<tr>
<td>Najib</td>
<td>-0.9201 1.4181</td>
<td>-1.6310 3.6667</td>
<td>0.2950 -3.828***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regime</th>
<th>Before one month</th>
<th>After one month</th>
<th>Tests of equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return Volatility</td>
<td>Return Volatility</td>
<td>Return Volatility</td>
</tr>
<tr>
<td>Whole period</td>
<td>-0.0151 1.3157</td>
<td>0.0893 1.4263</td>
<td>-0.6350 -2.767***</td>
</tr>
<tr>
<td>Mahathir</td>
<td>0.0151 1.3909</td>
<td>0.2332 1.3424</td>
<td>1.0680 -0.005</td>
</tr>
<tr>
<td>Abdullah</td>
<td>0.2598 1.1199</td>
<td>-0.2415 0.8747</td>
<td>2.059** 1.580</td>
</tr>
<tr>
<td>Najib</td>
<td>-0.4413 1.1357</td>
<td>-0.2990 2.3979</td>
<td>-0.2250 -4.624***</td>
</tr>
</tbody>
</table>

1) ***, ** and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.
2) Above findings are abstracted from the mean difference test of return and volatility between pre-election period and post-election period under different Prime Ministers.
3) Regime refers to the name of Prime Minister. Whole period refers to the whole sample period from 1982:02 to 2012:04.
4) Levene’s test is applied to measure whether the equal variance is assumed.

The findings of Prime Minister Effect are further expanded in the Table 4 by testing the mean difference in return and volatility between pre-election period and post-election period. By observing the t-stat in daily returns between pre-election period and post-election period, only one month before and one month after Abdullah’s election has significant mean difference at the significance level of 0.05. Apart from that, no significance is found in the whole period, Mahathir’s regime and Abdullah’s regime. This result is consistent with the findings of Table 3 as the Prime Minister effect is not found on the ground of daily returns. The mean difference in return is not significant may be contributed by the poor policy of effectively allocating country resources. Since all Prime Ministers are coming from the same...
party, the market might not perceive more benefits or deteriorations even the Prime Minister is changed. Hence, the mean difference in daily return is insignificant.

Further, the findings for mean difference in daily volatilities between pre-election period and post-election period are slightly different the result of Table 3 Refer to the Table 4, in one-month period, the mean difference in daily volatility is significant at the 0.01 significance level in both whole period comparison and Najib’s regime. In one-week period, the mean difference in daily volatility is significant at the 0.1 significance level in the Mahathir’s regime and at the 0.01 significance level in both whole period comparison and Najib’s regime. The volatility of post-election period is significantly higher than the pre-election period under the elections of Najib’s party, as well the average of all elections (whole period). Aforementioned, there is a persistently significant incongruence between the vote percentage and seat percentage across all past general elections. This might indicate that investors carry out a series of post-election portfolio adjustment to rectify their pre-election expectation, as suggest by He et al. (2009).

The post-election daily volatility is significantly higher than the pre-election condition under the Najib’s regime is expected. This is because the public posts distrust to the Abdullah’s administration and a very early election was held in year 4 (Usually in year 5) of Abdullah’s Prime Minister Term to replace Abdullah. The Barisan Nasional experienced the unprecedented greatest losses in Parliament seats during the 2008 election. A mismatch between investors’ pre-election expectation and actual result causes investors adjusting their portfolio drastically. Hence, the post-election daily volatility is significantly higher than the pre-election condition under the Najib’s regime.

Conclusively, the null hypothesis 3 is not rejected and the Prime Minister effect is insignificant in the mean daily return. There is no conclusion for the null hypothesis 4 since there are a number of significant mean differences in both Table 3 and Table 4. However, it only implies a mediocre presence of the Prime Minister effect in the KLCI daily volatility.

4.1.3 Test’s result of electoral effect

<table>
<thead>
<tr>
<th>Window</th>
<th>Mean difference (t-test)</th>
<th>Z-stat (Mann-Whitney U test)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return</td>
<td>Volatility</td>
</tr>
<tr>
<td>Panel A: Symmetric event windows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-1,1)</td>
<td>-0.1506</td>
<td>0.3145</td>
</tr>
<tr>
<td>(-2,2)</td>
<td>0.2091</td>
<td>0.5142</td>
</tr>
<tr>
<td>(-5,5)</td>
<td>-0.0778</td>
<td>0.3332</td>
</tr>
<tr>
<td>(-10,10)</td>
<td>0.0117</td>
<td>0.1901</td>
</tr>
<tr>
<td>(-20,20)</td>
<td>-0.0029</td>
<td>0.1038</td>
</tr>
<tr>
<td>Panel B: Asymmetric event windows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-20,0)</td>
<td>-0.0434</td>
<td>-0.2333*</td>
</tr>
</tbody>
</table>
Table 5 reports the mean and median difference (abnormal return or abnormal volatility) for the event period against the estimation period. Abnormal returns are not significantly observable from the t-test result. In the Mann-Whitney U test, it also provides no much difference from the findings of t-test. Only the median differences from windows of (-2, 2) and (-2, 0) are significant at the significance levels of 0.1 and 0.05 respectively. Results from both tests conclude that there is no abnormal return in both pre-election period and post-election period. This result is different from the studies by Herbst and Slinkman (1984), Yantek and Cowart (1986), Pantzali et. al. (2000) and Li and Born (2006), in which they report abnormal return (either negative or positive) is significantly found around the election day as consequences of uncertainty of election result and post-adjustment of portfolio.

Mean abnormal volatilities reported in the symmetric event windows are not significant in the Malaysia stock market. Further, Z-stats of daily volatilities only show a little difference in median daily volatilities between estimation period and event windows. However, by observing the asymmetric event windows of mean difference, (-20,0), (-10,0), (-5,0), (0,5), (0,10) and (0,20) show statistically significant mean difference in daily volatilities between estimation period and event windows. Since the first mean difference after the election is (0,5), it indicates that the market takes around 2-5 days to reflect the new information from the election. However, if the Levene’s test was not applied, all asymmetric event windows to measure the mean difference would be significant. Thus, the trend of mean difference in daily volatilities between estimation period and event windows might have latent implication that is not captured by the test.

Refer to the symmetric event windows of mean abnormal volatility in the Table 5, it shows that the abnormal volatilities are gradually increasing when the event window is shortened. Namely, the days that are closer to the election date are more volatile than the days

<table>
<thead>
<tr>
<th>Event Window</th>
<th>Mean Abnormal Return</th>
<th>Median Abnormal Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-10,0)</td>
<td>0.0608</td>
<td>-0.4858***</td>
</tr>
<tr>
<td>(-5,0)</td>
<td>0.1193</td>
<td>-0.7020*</td>
</tr>
<tr>
<td>(-2,0)</td>
<td>0.5685</td>
<td>-0.4833</td>
</tr>
<tr>
<td>(-1,0)</td>
<td>0.1677</td>
<td>-0.7426</td>
</tr>
<tr>
<td>(0,0)</td>
<td>-0.9640</td>
<td>-0.3289</td>
</tr>
<tr>
<td>(0,1)</td>
<td>0.3446</td>
<td>2.0149</td>
</tr>
<tr>
<td>(0,2)</td>
<td>0.4363</td>
<td>1.9332</td>
</tr>
<tr>
<td>(0,5)</td>
<td>-0.0977</td>
<td>1.5008**</td>
</tr>
<tr>
<td>(0,10)</td>
<td>0.0601</td>
<td>0.9178**</td>
</tr>
<tr>
<td>(0,20)</td>
<td>0.0857</td>
<td>0.4626**</td>
</tr>
</tbody>
</table>

1) ***,**, and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.
2) Above findings are abstracted from mean and median difference test of market behavior between estimation periods and event windows over 7 general elections.
3) Levene’s test is applied to measure whether the equal variance is assumed.
4) Null hypothesis 5 – Mean returns do not differ between event window and estimation period.
5) Null hypothesis 6 – Mean volatilities do not differ between event window and estimation period.
that are farther to the election date. By further observing the asymmetric event windows of mean abnormal volatility, it suggests that there is observer or waiting behavior before the election as pre-election mean abnormal volatilities are negative. After the election result is publicly known, the post-election portfolio adjustment trigger an extremely high volatility on \((0, 1)\) and the volatility gradually decreases when the day is farther to the election date. This is because the information has been gradually incorporating in the stock market sentiment. The post-election volatilities are usual as the new government might bring new political landscape to the market or the election result is unexpected by major investors (Ploeg, 1989; He et. al., 2009).

Conclusively, the null hypothesis 5 is not rejected. Namely, the electoral effect is not observable in the behavior of stock market return. However, the null hypothesis 6 is rejected since the moving tendency of KLCI daily volatility is observable and half amount of total event windows do show significance in mean between estimation period and event windows. Hence, the electoral effect does present in the variance of daily volatility of Malaysia stock market.

Based on preceding three tests of equality, it shows that there is mediocre relationship between the political cycle effect and KLCI daily volatility because it is observable in the stock market volatility in the tests of presidential cycle, Prime Minister Effect and electoral effect. Nevertheless, the behavior of KLCI daily return does not exhibit the political cycle effect. Risk and return tradeoff is violated due to the incongruence in political cycle effect between return and volatility. Although the findings for the behavior of return and volatility are inconsistent, investors still need to pay attention to the change in the political factors since the political cycle effects are empirically proved by the other researchers. Especially, the non-value-added additional volatility presents in the stock market in this section.

Two further analyses are carried to confirm the findings from the equality tests. First, an ordinary least square regression analysis is adopted in the section 4.2 to confirm the findings of the behavior of stock market return. Second, GARCH models are adopted in the section 4.3 to confirm the findings of the behavior of stock market return. These tests also provide the magnitude of each dummy variable to the estimation of return and volatility. Hence, the factors and individual impacts of causing the political cycle can be observed sophisticatedly.

### 4.2 Regression model specification for KLCI daily return

#### 4.2.1 Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>KLCI daily return</th>
<th>NYSE daily return</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0202</td>
<td>0.0246</td>
<td>0.0229</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.5007</td>
<td>1.1145</td>
<td>0.0516</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.2196</td>
<td>-1.3109</td>
<td>-1.2940</td>
</tr>
</tbody>
</table>

**Table 6: Descriptive statistics of time-series variables**
Kurtosis 45.8050 31.2122 4.4219
Jarque-Bera 567910.3*** 248801.2*** 2702.4***
Anderson-Darling (A2) 269.2393*** 165.5763*** 307.0237***
Augmented Dickey-Fuller (4) -37.2289*** -88.3079*** -5.3294***
Philips-Perron -84.9454*** -88.3506*** -5.4347***
Ljung-box (12) 78.988*** 35.755*** 80814***
Ljung-box $Q^2(12)$ 1994.8*** 1970.5*** 0

1) ***, ** and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.

In Table 6, the descriptive statistics of time-series variables are reported. These variables are KLCI daily return, NYSE daily return and daily change in Malaysia GDP. The mean daily return of KLCI is 0.0202% and the daily standard deviation is 1.5007%. The mean daily return of KLCI is 0.0246% and the daily standard deviation is 1.1145%. This shows that the U.S. stock market risk-adjusted return has been outperforming the Malaysia stock market over the period of 1982-2012. The mean daily change in Malaysia GDP is 0.0229% and the standard deviation is 0.0516%.

Refer to the Table 6, based on Jarque-Bera test and Anderson-Darling test, the results of both tests show that KLCI daily return, NYSE daily return and daily change in GDP do not follow a normal distribution at the 0.01 significance level. This can be checked by the high kurtosis of each variable as well. This result does not prevent the researcher to carry out a regression analysis since it is a common glitch inherent in the time-series data. Based on the results from both Augmented Dickey-Fuller test and Philips-Perron tests, they reject the null hypothesis that there is a unit root in KLCI daily return, NYSE daily return and daily change in GDP at the significance level of 0.01. Namely, all variables are stationary and time-series regression can be carried accordingly.

The Ljung-box $Q^2$ statistics rejects the null hypothesis that the data up to 12 lags is distributed independently at the 0.01 significance level for both KLCI daily return and NYSE daily return. The daily change in Malaysia GDP does not present the ARCH symptom due to it is de-annualized from yearly and quarterly data. This justifies the use of ARCH-type models for the variance estimation.

4.2.2 Ordinary least square model

Table 7: Findings of regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\alpha$</td>
<td>-0.2638</td>
</tr>
<tr>
<td>$\beta_1$</td>
<td>0.2668</td>
</tr>
<tr>
<td>$\beta_2$</td>
<td>0.2851</td>
</tr>
<tr>
<td>$\beta_3$</td>
<td>0.2815</td>
</tr>
<tr>
<td>$\beta_4$</td>
<td>-0.0631</td>
</tr>
<tr>
<td>$\beta_5$</td>
<td>-0.0359</td>
</tr>
</tbody>
</table>
$\beta_6$ 0.0000
$\beta_7$ 1.1532***
$\beta_8$ 0.0850***

Breusch-Godfrey 5.857***
White test 18.0763***
Variance inflation factor slightly higher than 1 and under 10
R-square 0.0047
F-stat 5.3574***

1) ***, ** and * indicate statistical significance at the 1%, 5% and 10% significance levels respectively.
2) $\alpha$ denotes the intercept. $\beta_1$ denotes the coefficient of dummy variable of Mahathir’s regime. $\beta_2$ denotes the coefficient of dummy variable of Abdullah’s regime. $\beta_3$ denotes the coefficient of dummy variable of Najib’s regime. $\beta_4$ denotes the coefficient of dummy variable of pre-election period. $\beta_5$ denotes the coefficient of dummy variable of post-election period. $\beta_6$ denotes the coefficient of dummy variable of days in office. $\beta_7$ denotes the coefficient of the daily change in Malaysia GDP. $\beta_8$ denotes the coefficient of NYSE daily return.
3) All variables are regressed against the KLCI daily return to check any variable brings significant impact to the KLCI daily return.

Refer to the Table 7, the results from Breush-Godfrey test and White-test show that there is serial correlation and heteroskedasticity in the regression. This is because the result from Breush-Godfrey test rejects the null hypothesis that no autocorrelation in the error term and the result from White-test rejects the hypothesis that the residual variances are homoscedastic. Thus, a Newey-West standard error adjustment is applied in the regression to deal with the problems of serial correlation and heteroskedasticity. Variance inflation factor test statistics (Output are not shown in this paper) show that there is no multicollinearity in the regression. Therefore, the regression is not spurious.

The findings from the regression show that coefficient of all dummy variables employed to test the political cycle effect against the KLCI daily return are not statistically significant or indifferent from 0. Only the daily change in Malaysia GDP and the NYSE daily return are significant at the 0.01 significance level in the proposed regression. This indicates that the change in Malaysia GDP and U.S. stock market return post greater impacts to the Malaysia stock market than political and electoral factors. However, the extremely low R-square (0.47%) suggests that almost all proposed variables have no magnitude or explanatory power to the variance of KLCI daily return.

Since all dummy variables are indifferent from 0, the null hypothesis 7 is not rejected and the Malaysia stock market does not exhibit the political cycle pattern. Both null hypothesis 8 and null hypothesis 9 are rejected accordingly. Thus, the Malaysia stock market does not present both Prime Minister Effect and electoral effect in the movement of its daily return. This result is similar to the findings of Worthington (2006) and Abidin et. al. (2010). Further, this result is consistent with the findings from the section 4.1. Therefore, this paper concludes that the KLCI daily return does not exhibit the pattern of political cycle.
Since all dummy variables are insignificant, only the daily change in Malaysia GDP and the NYSE daily return are used as explanatory variables of the mean equation of GARCH model. However, all dummy variables are still employed as variance regressors to test the impact of each dummy variable to the fluctuation of Malaysia stock market.

### 4.3 GARCH model specification

Table 8: Findings of indicators to carry out a GARCH model

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign bias</td>
<td>0.04463</td>
</tr>
<tr>
<td>Negative size bias test</td>
<td>-4.3058***</td>
</tr>
<tr>
<td>Positive size bias test</td>
<td>3.57***</td>
</tr>
<tr>
<td>Joint test</td>
<td>468.0521***</td>
</tr>
<tr>
<td>ARCH-LM (6)</td>
<td>426.8022***</td>
</tr>
<tr>
<td>ARCH-LM (12)</td>
<td>214.6454***</td>
</tr>
<tr>
<td>Ljung-box $Q^2$ (6)</td>
<td>2704.3***</td>
</tr>
<tr>
<td>Ljung-box $Q^2$ (12)</td>
<td>2805.5***</td>
</tr>
<tr>
<td>White test</td>
<td>43.0618***</td>
</tr>
</tbody>
</table>

1) *** indicate statistical significance at the 1% significance level.
2) These tests examine whether the shocks on KLCI daily return have an asymmetric effect on volatility.

Table 8 signify a need to carry out a GARCH model on modeling the daily variance. First, negative size bias test, positive size bias test and joint test are significant at the 0.01 significance level. This indicates asymmetries are presented in the conditional variance. Second, both Ljung-box $Q^2$ statistics and ARCH Lagrange Multiplier are significant at the 0.01 significance level. They signify that there is remaining ARCH effect or past innovation in the KLCI volatility and an ARCH type model should be adopted to sophisticatedly explain the variance. Last, the residual of KLCI daily return model is detected as conditionally heteroskedastic by referring to the White heteroskedasticity test statistics.

These findings suggest that the volatility specification should include components of conditional heteroskedasticity and asymmetry to adequately model the KLCI volatility as the shock of KLCI daily returns have an asymmetric effect on volatility. Hence, both GARCH ($p,q$) and E-GARCH ($p,q$) are adopted in this paper to derive the conditional volatility. Both models are estimated with Bollerslev and Wooldridge semi-robust standard errors as the Jarque-Bera test indicates that kurtosis presents in variables.

Table 8.1: Findings of GARCH ($p,q$) order

<table>
<thead>
<tr>
<th>GARCH (q)</th>
<th>ARCH (p)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.1039</td>
<td>3.1030</td>
<td>3.1032</td>
<td>3.1103</td>
<td>3.1046</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.1036</td>
<td>3.1042</td>
<td>3.1046</td>
<td>3.1048</td>
<td>3.1047</td>
<td></td>
</tr>
</tbody>
</table>
1) The bracketed number is the lowest SIC by considering 5 as the highest order.
2) It suggests that a GARCH (3, 3) model should be adopted to model the variance.

<table>
<thead>
<tr>
<th>Order</th>
<th>ARCH (p)</th>
<th>ARCH (p)</th>
<th>ARCH (p)</th>
<th>ARCH (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.1223</td>
<td>3.1219</td>
<td>3.1184</td>
<td>3.1148</td>
</tr>
<tr>
<td>2</td>
<td>3.1232</td>
<td>3.1601</td>
<td>3.1237</td>
<td>3.1160</td>
</tr>
<tr>
<td>3</td>
<td>3.1257</td>
<td>3.1051</td>
<td>3.0902</td>
<td><strong>3.0928</strong></td>
</tr>
<tr>
<td>4</td>
<td>3.1211</td>
<td>3.1344</td>
<td>3.1230</td>
<td>3.1049</td>
</tr>
<tr>
<td>5</td>
<td>3.1218</td>
<td>3.1299</td>
<td>3.1009</td>
<td>3.1078</td>
</tr>
</tbody>
</table>

1) The bracketed number is the lowest SIC by considering 5 as the highest order.
2) It suggests that an EGARCH (4, 3) model should be adopted to model the variance. (3, 3) is not selected because its p-value is higher than 0.05.

Table 8.1 and Table 8.2 show the matrix of different combinations of p and q with their associated SIC. The combination of orders that produces the minimum SIC with p-value lower than 0.05 is selected as it is the best fit among all combinations. Hence, GARCH (3, 3) and E-GARCH (4, 3) are selected to model the volatility.

Table 9 shows the results of mean and variance equation of GARCH models. The GARCH (3, 3) model shows that the NYSE daily return and the daily change in Malaysia GDP remain significant under the GARCH estimation whereas only the NYSE daily return remains significant under the E-GARCH model. By observing the variance regressors, the election of Abdullah as the Prime Minister (dummy $\tau_2$) and the post-election 20-day period (dummy $\tau_5$) have significant impacts on the volatility of Malaysia stock market. Other political dummy variables are not significant to the market volatility. It implies the transition of Prime Minister post from Mahathir to Abdullah and the re-election of previous incumbent party significantly vary the market volatility. Further, the post-election 20-day period is significant to impact the stock market volatility. Thus, the null hypothesis 10 is rejected since $\tau_2$ and $\tau_5$ are not equal to 0. The rejection of null hypothesis 10 further result in rejections of both null hypothesis 11 and 12 since $\tau_2$ is not equal to $\tau_1$ and $\tau_3$ and further $\tau_4$ is not equal to $\tau_5$. Therefore, the Prime Minister Effect and electoral are significant to cause the variance in the Malaysia stock market volatility.

<p>| Table 9: Empirical results of GARCH (3, 3) and E-GARCH(4,3) |
|---------------|---------------|---------------|</p>
<table>
<thead>
<tr>
<th>Mean equation</th>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARCH (3, 3)</td>
<td>$a_0$</td>
<td>0.031103***</td>
</tr>
<tr>
<td></td>
<td>$a_1$</td>
<td>0.067784***</td>
</tr>
<tr>
<td></td>
<td>$a_2$</td>
<td>0.547325**</td>
</tr>
<tr>
<td>Mean equation</td>
<td>Variable</td>
<td>Coefficient</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>E-GARCH (4,3)</td>
<td>$a_0$</td>
<td>0.0085</td>
</tr>
<tr>
<td></td>
<td>$a_1$</td>
<td>0.0749**</td>
</tr>
<tr>
<td></td>
<td>$a_2$</td>
<td>0.4172</td>
</tr>
</tbody>
</table>
Variance equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \tau_0 )</td>
<td>0.5932***</td>
<td>( \tau_0 )</td>
<td>-0.0583***</td>
</tr>
<tr>
<td>( \beta_1 )</td>
<td>0.1567***</td>
<td>( \beta_1 )</td>
<td>0.3666***</td>
</tr>
<tr>
<td>( \beta_2 )</td>
<td>0.2948***</td>
<td>( \beta_2 )</td>
<td>0.4680***</td>
</tr>
<tr>
<td>( \beta_3 )</td>
<td>0.1577***</td>
<td>( \beta_3 )</td>
<td>0.2092***</td>
</tr>
<tr>
<td>( \gamma_1 )</td>
<td>-1.0684***</td>
<td>( \beta_4 )</td>
<td>-0.0959*</td>
</tr>
<tr>
<td>( \gamma_2 )</td>
<td>0.5084***</td>
<td>( \gamma_1 )</td>
<td>-0.5588***</td>
</tr>
<tr>
<td>( \gamma_3 )</td>
<td>0.8059***</td>
<td>( \gamma_2 )</td>
<td>0.4511***</td>
</tr>
<tr>
<td>( \gamma_3 )</td>
<td>0.9540***</td>
<td>( \gamma_3 )</td>
<td>0.9540***</td>
</tr>
<tr>
<td>( \theta )</td>
<td>0.6389</td>
<td>( \theta )</td>
<td>0.6389</td>
</tr>
<tr>
<td>( \tau_1 )</td>
<td>-0.2961</td>
<td>( \tau_1 )</td>
<td>-0.0718</td>
</tr>
<tr>
<td>( \tau_2 )</td>
<td>-0.5245**</td>
<td>( \tau_2 )</td>
<td>-0.2654</td>
</tr>
<tr>
<td>( \tau_3 )</td>
<td>0.1014</td>
<td>( \tau_3 )</td>
<td>0.1652</td>
</tr>
<tr>
<td>( \tau_4 )</td>
<td>-0.0857</td>
<td>( \tau_4 )</td>
<td>-0.0174</td>
</tr>
<tr>
<td>( \tau_5 )</td>
<td>0.2673**</td>
<td>( \tau_5 )</td>
<td>-0.1077</td>
</tr>
<tr>
<td>( \tau_6 )</td>
<td>0.00003</td>
<td>( \tau_6 )</td>
<td>0.00003</td>
</tr>
</tbody>
</table>

Ljung-Box \( Q^2 \) (p-value)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6 lags</td>
<td>0.3280</td>
<td>6 lags</td>
</tr>
<tr>
<td>12 lags</td>
<td>0.7170</td>
<td>12 lags</td>
</tr>
</tbody>
</table>

ARCH-LM (p-value)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6 lags</td>
<td>0.3364</td>
<td>6 lags</td>
</tr>
<tr>
<td>12 lags</td>
<td>0.7258</td>
<td>12 lags</td>
</tr>
</tbody>
</table>

Log-likelihood

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-11373.6</td>
<td>-11421.91</td>
</tr>
</tbody>
</table>

In contrast, this relationship does not hold in the E-GARCH estimation as all political dummy variables are not significant to the market volatility. This indicates that the impact of news is different when the asymmetric nature of news steps in. However, the \( \theta \) or leverage effect which used to capture the asymmetric response is not statistically different from 0. This indicates that the presence of asymmetric impact of news is not significant over the past 7 general elections. Namely, the responses towards the news of similar nature are symmetrical. The values of log-likelihood function (-11373.6 and -11421.91 for GARCH and E-GARCH respectively) do not show great difference in the amount of volatility and noise investigated by both models. Hence, the insignificant coefficient of \( \theta \) might imply that a GARCH model could be superior to the E-GARCH model in modeling the volatility. Thus, the result of GARCH is adopted to draw the conclusion.

Both Ljung-box \( Q^2 \) statistics and ARCH-LM statistics show that there is no remaining ARCH effect in both GARCH models. Hence, both GARCH models are effective to handle the past innovation or ARCH effect in modeling the volatility. Conclusively, the results obtained from GARCH models are similar to the findings reported in the section 4.1 as the Malaysia stock market exhibits the political cycle in the variance of volatility level.

Although the political cycle effect is not statistically significant in the Malaysia stock market return behavior, it does not mean the stock market is informational efficient. This is because all coefficients of both ARCH terms and GARCH terms from both models are
statistically significant. This implies that the Malaysia stock market may not be informational efficient since the past residuals do have temporal impact to the current volatility. However, this test does not reject the generalizability of EMH in Malaysia since this test is only a preview of Malaysia stock market efficiency level.

### 4.4 Possible reasons of absence of political cycle

Table 10: Indicators of a country’s corruption level as reported by Transparency International (2012)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mark</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption perception index (2011)</td>
<td>4.3/10</td>
<td>High level of corruption</td>
</tr>
<tr>
<td>Financial secrecy index (2011)</td>
<td>77/100</td>
<td>High financial secrecy</td>
</tr>
<tr>
<td>Judicial independence (2011-2012)</td>
<td>4.7/7</td>
<td>Mediocre judicial independence</td>
</tr>
<tr>
<td>Voice and accountability (2010)</td>
<td>-0.53/2.5</td>
<td>Poor freedom in media and selecting government</td>
</tr>
<tr>
<td>Open budget index (2010)</td>
<td>39/100</td>
<td>Minimal information in the fiscal budget</td>
</tr>
<tr>
<td>Control of corruption</td>
<td>0.12/2.5</td>
<td>Poor control of governing corruption</td>
</tr>
<tr>
<td>Press freedom index (2010)</td>
<td>56/100</td>
<td>High violation of press freedom</td>
</tr>
</tbody>
</table>

Table 10 displays the indices to measure a country’s political landscape reported by the organization of Transparency International (2012). As mentioned, ineffective policy, corruption, high fiscal transparency, high predictability of election result and high confidence to be re-elected might be reasons of the absence of political cycle in the behavior of Malaysia stock market return. By matching the information in Table 10 into the criteria of potential reasons of absence of political cycle in the Malaysia stock market, this paper suggests that potential reasons of absence of political cycle in a KLCI daily return could be coming from ineffective policy, high level of corruption, high predictability of election result and high confidence to be re-elected. This is because a high level of corruption and poor control of governing corruption impairs the effectiveness and efficiency of a policy. Mediocre judicial independence and poor freedom in selecting government increase the predictability of election result and confidence of incumbent party to be re-elected. Long history of winning might explain the predictability and confidence as well. A further test is required to prove the validity and reliability of these potential reasons.

### 5. Conclusion

The core objective of this study is to test the generalizability of political cycle in the context of Malaysia stock market. Presidential election cycle effect, Prime Minister Effect and electoral effect are investigated by the means of return and volatility of 7438 daily data over the past 7 general election over the period of February 1982 to April 2012. Tests of equality, ordinary least square regression and GARCH models are adopted to examine the roots and distinct repercussion of each effect in order to precisely address the presence of political cycle in the Malaysia stock market.
Based on the finding, there is no evidence to prove the pattern of political existing in the movement pattern of stock market return. Tests of equality and ordinary least square regression produce homogenous outputs to reject the presence of political cycle in the return behavior of Kuala Lumpur Composite Index. This finding is similar to study of Ali et. al. (2010), which was also carried out under the background of Malaysia. This finding suggests that the government might not be able to convey their objective through the means of policy implementation. Further, an election does not bring positive surprise to stock market return. This finding is contrary to major previous studies that examined the relationship between electoral factors and stock market return.

However, the political cycle and the variance of volatility are found to be significantly related. This suggests that investors do adjust their portfolio to reflect their views towards the political factors. For example, the post-election 20-day period is more volatile than the pre-election 20-days period due to investors adjust their pre-election expectation to actual election result. This finding is consistent with major previous researches that investigated the relationship between electoral factors and stock market volatility.

Hence, unique characteristics of a country do oppugn the generalizability of political cycle in the return behavior of a stock market but not the variance of volatility. The implication of this study is important to investors who are interested in the Malaysia stock market. This study serves as guide to investors whether to enter or to exit the Malaysia stock market. This is because the increase in volatility come from electoral causes does not compensate by the commensurate increment in the return as the return has been stagnant over times. For example, investors should avoid the post-election 20-day period due to the presence of non-value-added volatility.

The gradual decreasing tendency of volatility in the post-election 20-day period calls the informational efficiency of Malaysia stock market into question. This is because the market takes considerable time to decode and absorb the election result. Further, this can be proved by the presence of short-term memory of past residual in the current stock market return. Hence, the Malaysia stock might not be strongly informational efficient.

6. Limitations and Recommendations for Future Studies

There are several deficiencies that may detrimentally impact the result of this empirical study. First, this study only compiles the KLCI daily returns of past 7 general elections due to the data before 1982 is not accessible without incurring considerable costs. Thus, the result of this paper does not account for the first 5 general elections which could be influential to the research finding. Further, the use of quarterly and annual data to derive the daily GDP is an average form of daily change but not the actual change. This issue could impair the effectiveness of GDP as a conditioning variable to the KLCI daily return.
Second, different levels of market efficiency between Malaysia and other research backgrounds may unfavorably influence the research outcome. This is because major research regarding the political cycle were carried out under the context of developed country with long history of stock market. Third, a sub-period analysis instead of a whole period analysis should be applied to take care of the changes in economic and financial background. For example, 1997 ASEAN financial crisis or pegged-currency exchange rate could change the return behavior of KLCI. The results obtained from both time-series regression and mean difference test may be impaired due to the ignorance of these impacts.

For further studies, the sample period should be expanded to include the data before 1982 to examine all past general election. Further, a sub-period method should be adopted to scrutinize the presence of political cycle in the stock market behavior. More conditioning variables should be also included to better explain the variance in stock market, such as the government bill rates.

In a nutshell, although the result is significant, this study may be subject to research errors due to the unavailability of some required data. The application of the finding of this paper to the real world should be taken with full care in order to avoid unfavorable outcomes.

References


