



Munich Personal RePEc Archive

Did the Foreign Exchange Market Cheer or Jeer in Response to Political Events? An Event Study of Malaysia – Some Stylised Facts

Hui, Hon Chung

17 December 2019

Online at <https://mpra.ub.uni-muenchen.de/98149/>

MPRA Paper No. 98149, posted 16 Jan 2020 08:52 UTC

Did the Foreign Exchange Market Cheer or Jeer in Response to Political Events? An Event Study of Malaysia – Some Stylised Facts

Hui Hon Chung
University of London Programmes, HELP University
Level 3, Block E, Kompleks Pejabat Damansara,
Jalan Dungun, Damansara Heights,
50490, Kuala Lumpur
Email: hc.hui@help.edu.my/huihonchung@gmail.com
ORCID: 0000-0003-0738-6535

Abstract:

This paper explores the effects of political events on foreign exchange returns in Malaysia. We identify five recent events that induce political uncertainty on investors, namely the 13th General Election (GE13), the imprisonment of a key opposition politician, the scandal from the 1MDB exposé, the appointment of a new Central Bank Governor and the 14th General Election (GE14). Using an event study, our findings show that the imprisonment of the opposition party leader triggered a favourable response from the foreign exchange market. However, market reactions to the 1MDB scandal were followed largely unfavourable. The GE13 triggered unfavourable market response, while the reverse is true for market reactions to GE14. Market response to the appointment of the new Central Bank Governor was rather favourable. The Event Study is the first of its kind that examines the foreign exchange market implications of key political events in Malaysia. There are practical considerations emanating from these findings.

Keywords: 1MDB, general election, market model, exchange rate, confidence, Malaysia

JEL Classification: F31, D72, D73, O38

Introduction

The effects of political events on financial markets have been well documented in the literature. One strand of this literature focuses on how political risks/events influence stock market returns and volatility (see for instance Bialkowski, Gottschalk and Wisniewski 2008, Durnev 2010, Lean 2010, Kollias, Papadamou and Stagiannis 2011, Chesney, Reshetar and Karaman 2011, Nazir et al. 2014, Yusoff et al. 2015, Liew and Rowland 2016, Wong and Hooy 2016, Bowes 2018, Chia 2018, Hou and Li 2019). Meanwhile, a second strand in the literature examines the effects of political events on the foreign exchange markets (Lobo and Tufte 1998, Mpofu and Peters 2017). While the literature can be seen as related to studies on foreign exchange market efficiency (Ahmad, Rhee and Wong 2012, Khuntia, Pattanayak and Hiremath 2018) and rational expectations (Echavarria and Villamizar-Villegas 2016), it nonetheless serves a broader and more general purpose of understanding how investors react to changes in political environments.

In this paper, we examine how key political events affect the foreign exchange market in Malaysia. We are interested to explore the implications of five rather recent events that induce political uncertainty on investors. These events cover the 13th General Election in 2013, the imprisonment of Anwar Ibrahim (the erstwhile leader of the opposition coalition) in 2014, the 1MDB exposé in 2015, the appointment of Muhammad Ibrahim as the 8th Governor of Bank Negara Malaysia (Central Bank of Malaysia) and the 14th General Election in 2018. There are compelling reasons for motivating this research, besides the fact that no other author has addressed this topic at the time of writing. The country was affected by the Asian Financial Crisis that triggered volatile exchange rate fluctuations. The Crisis was touted by many observers to be a result of fundamental macroeconomic weaknesses partly arising from political-economic factors such as corruption and crony capitalism (IMF 1997). Little has

changed since the Crisis, so the politics-asset market nexus remains highly relevant (Sen and Tyce 2017). Moreover, from a political-economic point of view, these events are epoch-making and watershed moments in history. Since gaining independence from the British Empire in 1957, the country was ruled by the Barisan Nasional (BN) coalition with no disruption in continuity for over 60 years. The absence of change in political leadership suggested that Malaysia was a pseudo-democracy (Chin, 2015). The signs of change sweeping the country was the ‘political tsunami’ of the 12th General Election in 2008, where the opposition coalition dealt the incumbent BN one of the worst election outcomes in history¹. The opposition coalition bettered their performance in the 2013 General Election. More obstacles followed thereafter, when the erstwhile opposition leader, Anwar Ibrahim, was sentenced to a five-year prison term².

Not long after the 2013 elections concluded, investigative journalists produced reports on financial mismanagement concerning 1MDB, a sovereign wealth fund founded in 2009 (Gunasegaram 2018). Claims arose about 1MDB being a Ponzi scheme and also a conduit for the vast network of global money laundering trail, with allegations surfacing in July 2015 regarding the fund’s cash flow being channelled into the personal bank account of the 6th Prime Minister (Brown, 2018). The local anti-corruption agency had managed to open up investigations, but political interference compromised the integrity of the investigations³. Meanwhile, there was a change of leadership in the Central Bank of Malaysia, with the appointment of the 8th Governor, Muhammad Ibrahim. While all these events were occurring, the Ringgit/US Dollar exchange rates displayed a large degree of volatility, with some

¹ We would have included the 12th General Elections as well, but there is insufficient data for daily exchange rates to accomplish this feat.

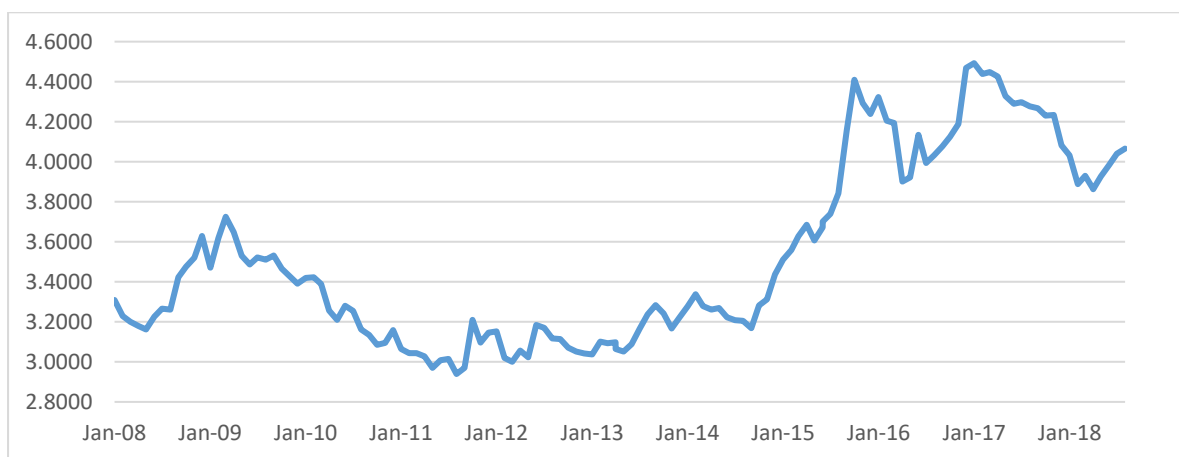
² This was reported by The Star in <https://www.thestar.com.my/news/nation/2014/03/07/anwar-sodomy-decision/>

³ As reported in TheEdge Markets: <https://www.theedgemarkets.com/article/macc-should-use-its-powers-thwart-interference-1mdb-probe-says-azmin>

commentators linking exchange volatilities to political factors (The Economist, 2016). No research papers have confirmed nor rejected these claims about the nature of the exchange rate movements. Not long after this, BN was defeated in the 14th General Election in May 2018, losing its stranglehold on political control for the first time in 61 years. Curiously there seems to be a rally in the currency markets as Ringgit strengthened, perhaps reflecting signs of confidence among investors (see Figure 1).

While there seems to be a link between key political events and news on the one hand, and exchange rate fluctuations on the other hand, such links are as yet unconfirmed, due to the absence of research on this topic. To the extent that fluctuations in currency values are an indication of investor beliefs, these fluctuations also present a challenge to investors and speculators who constantly work out hedging strategies. Our study remedies this gap in the literature.

Figure 1: Spot Ringgit/US Dollar Exchange Rate



Source: Bank Negara Malaysia

We deploy event studies as a tool to explore the impact of political events on foreign exchange markets. We use the spot Ringgit/USD as a proxy for the foreign exchange market, and later

substituting it with the Ringgit/GBP and Ringgit/Euro exchange rates for robustness checks. In this framework, we first estimate a market model of the exchange rate returns, drawing from and improving upon the model adopted by Frankel (1981) and Adam, Kozinsky and Zielinski (2013). The data for this estimation covers daily observations of the spot Ringgit/US Dollar exchange rate time series from 13 February 2012 to 2 April 2013 – this is basically our 250-day estimation window. The events being analysed encompass the 13th General Election in 2013, the 1MDB exposé in 2015, and the 14th General Election in 2018. For each event, we set 20 pre-event days, one event day and 60 post-event days giving a total of 81 days in one event window. Next, the Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) are calculated for each of the event. Parametric statistical tests are then applied on the ARs and CARs to determine their statistical significance.

An overview of our findings is as follows. First, CARs from the scandal arising from the 1MDB exposé are significantly positive. This indicates that the Ringgit had depreciated more than expectations, signifying an unfavourable market response. Second, the response to the results of the general elections are not uniform. Particularly, subsequent CARs in reaction to the GE13 were mostly positive, again implying a larger than expected depreciation of the Ringgit and an unfavourable market reaction. In contrast, the CARs for the GE14 were mostly negative, implying a favourable market response since the Ringgit depreciated less than expected. Meanwhile, CARs in reaction to Anwar Ibrahim's imprisonment had been negative, generally an unfavourable market reaction. Finally, the subsequent CARs in response to the appointment of a new Central Bank Governor was negative towards the end of the event window, implying a favourable market reaction. We also notice that all the exchange rate returns considered in this paper reacted quite consistently to all the political events scrutinised

The paper is organised in the following order. The next section presents a brief view of the extant literature on political events and reactions from the asset markets, and also the event study methodology. Next, we discuss the data and methodology for our study. After that, we report the main results and findings, before suggesting practical and policy implications. The paper concludes thereafter.

Literature survey – A brief overview

(i) Political events and financial markets – what are the theories, scope of study and key findings?

This paper makes a contribution to the wider literature concerning political events and their implications on mean returns and volatilities in financial markets. Some of the previous studies that fall under this area include Lobo and Tufte (1998), Bialkowski, Gottschalk and Wisniewski (2008), Durnev (2010), Lean (2010), Kollias, Papadamou and Stagiannis (2011), Chesney, Reshetar and Karaman (2011), Nazir et al (2014), Yusoff et al (2015), Bin (2015), Liew and Rowland (2016), Wong and Hooy (2016), Mpofu and Peters (2017), Bowes (2018), Chia (2018) and Hou and Li (2019). The financial markets that are frequently covered encompass the stock and foreign exchange markets, with the exception of Chesney et al (2011) who considered commodity and bond markets as well. The literature is also a mix of country case studies and cross-country analyses. The definitions of political events are wide ranging, but most studies cited above would cover general elections, political news and events concerning power struggles in the government. However, existing studies do not focus much on transmission mechanisms – how news of some events get propagated. There is also a heavy concentration of studies on the stock market, while other assets are not so well covered.

Some interesting cases of other political events are anti-corruption campaigns (Hou and Li, 2019), terrorist attacks (Chesney et al. 2011, Kollias et al 2011) and the style of governance in

terms of the more autocratic vs. more democratic type of rule (Nazir et al. 2014). Such events, when they pose uncertainty to investors, could lead to significant negative outcomes, both in terms of lower mean returns and larger volatilities. This is largely a reflection of the desires of risk averse investors who reject situations where risk escalate. This is the first theoretical explanation for observed asset market reactions.

As a proxy for investor sentiments, market reactions could signal the degree of approval in regard to a particular political event (Nofsiner, 2004) – this is the second theoretical explanation. Following this point, negative reactions could imply disapproval. A contrasting theoretical argument, and also the third theoretical explanation is that investors may display too much optimism initially but eventually make corrections in their expectations when the newly elected regime performs below expectations (Booth and Booth, 2003).

Among the studies that cover the effects of general elections and political news, political uncertainty was found to have significant negative effects, not just on asset returns (Lean 2010, Liew and Rowland 2016) but also volatility (Lobo and Tufte 1998, Bialkowski, Gottschalk and Wisniewski 2008, Bowes 2018). There are exceptions, such as the study by Wong and Hooy (2016) who in contrast found that banking stocks had larger cumulative abnormal returns in the election period, a finding similar to Chia (2018) who observed that different sectors of industry respond differently to general elections. Moreover, the study also suggested that some stocks perform better than others. A similar observation can be found in Yusoff et al (2015), who reported that stock returns in politically-connected firms tend to underreact in response to negative news. It would appear that the degree of uncertainty induced by political events matter. The perception that things are under control is important, as demonstrated in Nazir et al (2014), where a more autocratic style of leadership leads to less uncertainty. Anti-corruption

drives on the other hand may not necessarily lead to positive responses by the market, as Hou and Li (2019) discovered. Particularly, in the context of China, the decline in the stock market in response to the political purges of the Communist Party is interpreted by the authors as the ‘price’ that one pays for corruption. Studies that consider the effects of terrorist attacks (Chesney et al. 2011 for instance) report negative initial responses from the stock market, but the recovery thereafter is considerably less uniform between different markets.

(ii) Methodologies adopted by previous researchers

Within the corpus of the literature mentioned above, there are currently three widely used methodologies favoured by researchers in this field. The first concerns the specification and estimation of time series models with rate of return on a financial asset as the dependent variable, and proxies of political risks as a regressor. Studies by Lean (2010), Bin (2015), Liew and Rowlands (2016) and Bowes (2018) are some noteworthy examples. Meanwhile, the second methodology relates to event studies (Bialkowski et al, 2008; Nazir et al, 2015; Yusoff et al, 2015; Mpofu and Peters, 2017, Hou and Li, 2019). Other researchers, such as Chesney et al (2011), Kollias et al (2011) and Chia (2018) combine both the methodologies in a single study. In empirical finance, the deployment of event studies has been immensely popular as a research tool to quantify the magnitude and type of response that financial securities have in relation to shocks (Kliger and Gurevich, 2014).

Studies coming under the first methodology are characterised by the specification and estimation of some econometric framework over a specific period of time, which includes the political events whose effects are being examined. To capture the effects of such events on returns and volatility of returns, dummy variables are regularly deployed usually in either a linear regression or a GARCH (Generalised Autoregressive Conditional Heteroskedasticity) family type of model. Needless to say, the level of sophistication in modelling varies from one

author to the other. Meanwhile, papers adopting the second methodology tend to apply the econometric models of the first methodology to estimate benchmarks for normal asset returns or volatility over a sample period prior to the event whose effects are being investigated. Parameter estimates of the empirical models are then used ‘extrapolate’ normal asset returns or volatility to a future period in which political events are contained; actual asset returns or volatility are compared with the extrapolated values to arrive at abnormal returns/volatility. Summing up the abnormal returns/volatility produces cumulative abnormal returns/volatility. The main difference between the first and second methodologies is the estimation window; the first methodology has estimation windows covering the events of interest whereas the in second methodology, the event window is separate from the estimation window.

(iii) Implications for the present research

This paper provides an analysis of how foreign exchange markets respond to shocks arising from political events. In terms of scope, it addresses an area in the literature that is not as well covered as studies on stock markets. Methodologically, it applies the event study toolkit frequently used in the literature (more details in next section) and hence offers little innovation in this regard. Nonetheless, we compile and analyse a set of data that has not been analysed in previous studies. We highlight this as the main value and contribution to the literature. The data and methodology for this paper is explained in the next section.

Data and Methodology

(i) Data

The present study attempts to assess the impact of selected political events on the foreign exchange market, which we proxy with the spot Ringgit/US Dollar (RM/USD). For robustness checks, we also assessed the reaction of the spot Ringgit/Euro (RM/EUR) and Ringgit/Pounds Sterling (RM/GBP) exchange rates to the same set of political events. Before this goal can be

attained, a market model of exchange rate behaviour must first be estimated, as per the event study literature in the previous section. Since we are investigating the reaction of three exchange rates i.e. the RM/USD, RM/EUR and RM/GBP, there will be three market models. The independent variables of each model are interest rate differentials (between domestic and foreign interest rates) and the spot exchange rates of US Dollar/Euro (USD/EUR), Yen/US Dollar (Y/USD) and Chinese Yuan/US Dollar (RMB/USD). More descriptions of the market model are found in the next section. In addition to this, we also compiled daily interest rate data for Malaysia (proxied by overnight interbank rates) and foreign interest rates (proxied by US 3-month Treasury bill rates, UK 3-month interbank rates/LIBOR and 3-month EURIBOR rates). Daily data are appropriate because it leads to a higher degree of accuracy (Brown and Warner 1985). Our rationale for this set-up will be justified in the next section on methodology. Notably, the RM/USD, RM/GBP and RM/Euro exchange rate data and Malaysia interest rate data are obtained from the Monthly Statistical Bulletin of Bank Negara Malaysia (Central Bank of Malaysia). Data for US and UK interest rates come from the Federal Reserve Economic Data (FRED), whereas data for EURIBOR are obtained from the European Money Market Institute. The USD/EUR data come from the European Central Bank (ECB). Data for the SGD/USD and Y/USD exchange rates are from Monetary Authority of Singapore (MAS) and Bank of Japan (BOJ) respectively. The market model is estimated using daily data covering 13 February 2012 to 2 April 2013.

Meanwhile, the dates of political events covered in this paper have to be spelled out clearly. As suggested, we consider five political events that are monumental, namely the two general elections (the 13th and 14th general elections, respectively), the leakage of the 1MDB scandal by the media, the appointment of Muhammad Ibrahim as the 8th Central Bank Governor and the imprisonment of erstwhile opposition leader Anwar Ibrahim. The polling day of the 13th

general election was 5 May 2013, whereas the polling day of the 14th general election commenced on 9 May 2018. There is no controversy regarding the dating of these events. In contrast, there will certainly be more disputes about how to date the progression of the 1MDB scandal given that negative news reporting had begun since March 2013 (Gunasegaram 2018). We venture to suggest 2 July 2015 to be the date of interest in this regard. There may have been numerous news leaks in the 2013-17 period in the run-up to the 14th general election, but 2 July is indeed the most crucial date because this was when two news portals namely Sarawak Report and the Wall Street Journal connected the financial returns of 1MDB to the personal bank account of Najib Razak, who was the Prime Minister of Malaysia and head of the BN coalition that runs the country (Gunasegaram, 2018). Needless to say, this was the mother of all leaks in the context of the 1MDB scandal as it triggered major investigations that allegedly led to the downfall of Najib Razak and the BN coalition. The announcement of the appointment of Muhammad Ibrahim as the new Central Bank Governor took place on 27 April 2016, while the news of Anwar Ibrahim's imprisonment was released on 7 March 2014.

(ii) Methodology

In an event study, there are two important procedures, the first being the identification of the event window and its size. MacKinlay (1997) recommends the use of a 41-day event window, which covers 20 pre-event days, the event day and 20 post event days. However, as the foreign exchange market may be inefficient, it would be prudent to use 60 post-event days instead (Wong and Hooy 2016).

The second procedure is to set the estimation window, over which a market model will be estimated to calculate abnormal and cumulative abnormal returns of returns on an exchange rate arising from a particular event. MacKinlay (1997) and Wong and Hooy (2016) both adopted a 250-day estimation window, placing the estimation window just before the event

window. In contrast, Mpofu and Peters (2017) used a 100-day estimation window, while Adam, Kozinsky and Zielinski (2013) deployed an arbitrary window size for estimation spanning four months. We adopt a 250-day estimation window in this study in line with the literature, with the estimation window stretching from 13 February 2012 to 2 April 2013.

As highlighted in the literature review section, the main shortcoming of event studies on exchange rate returns is the lack of consensus on what constitutes a typical market model. This problem is less pronounced in event studies on stock market returns, where modern finance theory presents a wide array of asset pricing models. In this regard, data limitations and the nature of the present study as a time series analysis necessitate the adaptation of the news model used by Frenkel (1981) (as cited by Mpofu and Peters 2017) and Adam, Kozinsky and Zielinski (2013). In Frenkel (1981), the spot exchange rate was regressed on lagged forward rate and expected interest rate differential. Adapting this news model, Mpofu and Peters (2017) substituted the lagged spot exchange rate for the lagged forward rate. The market model of Adam, Kozinsky and Zielinski (2013) regressed the EUR/PLN exchange rate on EUR/USD (proxy for global factor), EUR/CZK and EUR/HUF (proxies of regional factors). We initially experimented with each of these model types individually and found that the fit of the model was quite poor. Hence, we decided to combine both the elements of Frankel (1981) and Adam, Kozinsky and Zielinski (2013) in Equation (1), which is expressed as:

$$R_t = f[(((i - i^*) - E(i - i^*)), r(USD/EUR), r(RMB/USD), r(Y/USD))] \quad (1)$$

where R_t represents exchange rate returns at time 't' modelled as a function of the variables in the parenthesis. In this paper, the baseline market model uses the RM/USD spot exchange rate returns on returns on USD/EUR ($r(USD/EUR)$) and returns on Y/USD ($r(Y/USD)$) (both are

global factor proxies)⁴, returns on RMB/USD ($r(\text{RMB/USD})$) (a regional proxy) and expected interest rate differential $((i-i^*) - E(i-i^*))$ ⁵. To better fit the high-frequency data, the ARDL model structure is adopted here. The other two market models with returns on RM/EUR and returns on RM/GBP, respectively, follow a similar model set-up as the baseline market model.

In the event study methodology, the residuals from the market model regressions, i.e. ξ_t is also defined as abnormal returns (ARs). When the ARs are aggregated across time, we obtain the cumulative abnormal returns (CARs). Typically, the statistical significance of ARs and CARs need to be tested via t-tests. The null hypotheses are specified as follows:

$$H_0 : AR_t = 0 \quad (2)$$

$$H_0 : CAR_t = 0 \quad (3)$$

Meanwhile, the t-statistics are calculated as the ratio of abnormal or cumulative abnormal returns over the standard deviation:

$$t(AR) = \frac{AR_t}{\sigma(AR)} \quad (4)$$

$$t(CAR) = \frac{AR_t}{\sqrt{T_1} \sigma(AR)} \quad (5)$$

In the t-statistic for abnormal returns (Equation (4)), the denominator is the standard deviation of the regression residuals of the market model. In Equation (5), T_1 represents the size of the event window.

⁴ BIS (2016, 2019) identify the EUR/USD and Y/USD to be the first and second most widely used exchange rate parities, respectively. The Chinese Yuan (RMB) is used here as a regional proxy because the chosen estimation period coincides with the time when total trade with China (imports plus exports) with Malaysia is the largest among Malaysia's trade partners.

⁵ Expected interest rate differential between Malaysian interest rate and a foreign interest rate is obtained by taking the residuals of a regression of Interest rate differential on a constant, two lagged values of interest rate differentials and one lagged spot exchange rate.

Results and Findings

We regressed the market model specified in the previous section using an ARDL framework. All the variables are expressed in logarithmic first difference, as this is the convention for expressing total asset returns. Prior to running the regression, preliminary unit root tests were applied to each series to confirm that they are indeed stationary. Given the large number of estimates and to conserve space, the unit root tests, summary statistics and estimated models for the three exchange rates are not reported but are available upon request. We only briefly mention here that the estimated models are well-specified⁶, passing the standard diagnostics tests such as the Lagrange Multiplier and Ljung-Box test of the existence of serial correlation in residuals (at various lags), the Breusch-Pagan-Godfrey and the CUSUM and CUSUMSQ tests for structural stability, while also demonstrating that there is no strong evidence of heteroskedasticity and ARCH effects.

Using the estimated parameters of the model, we proceed to calculate the Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) for the three events mentioned in the earlier part of the paper. In the interest of preserving space, we show only the charts depicting the CARs (Figures 2-16). In an 81-day event window, Figure 2 shows that the CARs were initially negative in response to the outcome of the 13th General Election. This implies that the Ringgit had been depreciating at a rate that was less than that predicted by the market model – a favourable response by the market. Almost two weeks after GE13 however, the CARs became positive, signifying that Ringgit had depreciated more quickly than expected. The observed reactions here call to mind the third theoretical explanation for exchange rate behaviour in relation to political events mentioned in the literature review. Particularly, the newly elected government was able to emerge to move the country forward, indicating approval by the public,

⁶ The RM/USD, RM/GBP and RM/EUR market models have R^2 of 0.31, 0.05 and 0.43, respectively

but the lack of subsequent political reforms dampened the enthusiasm for the new government⁷. Similar outcomes can be observed in Figures 3 and 4, implying that market for foreign currencies were reacting in a rather uniform manner.

Paradoxically, the imprisonment of popular politician Anwar Ibrahim induced negative CARs throughout the event window in the returns of the RM/USD, RM/GBP and RM/EUR exchange rates (Figures 5-7). Negative CARs (as explained previously) means that Ringgit was depreciating much less than one would expect and it does imply a rather positive development. This flies in the face of common sense explanations, as the persecution of a key opposition politician would have been detrimental to political reforms. It is not immediately clear why the markets reacted the way they did.

All CARs from the exchange rate returns were clearly positive in response to the leakage of news regarding monies from the 1MDB sovereign wealth fund being found in the private account of the 6th Prime Minister of Malaysia (Figures 8-10). Market reactions were far more adverse than the predictions of the market model. Drawing upon the first theoretical argument, it would seem that the news leakage induced ever greater political uncertainty.

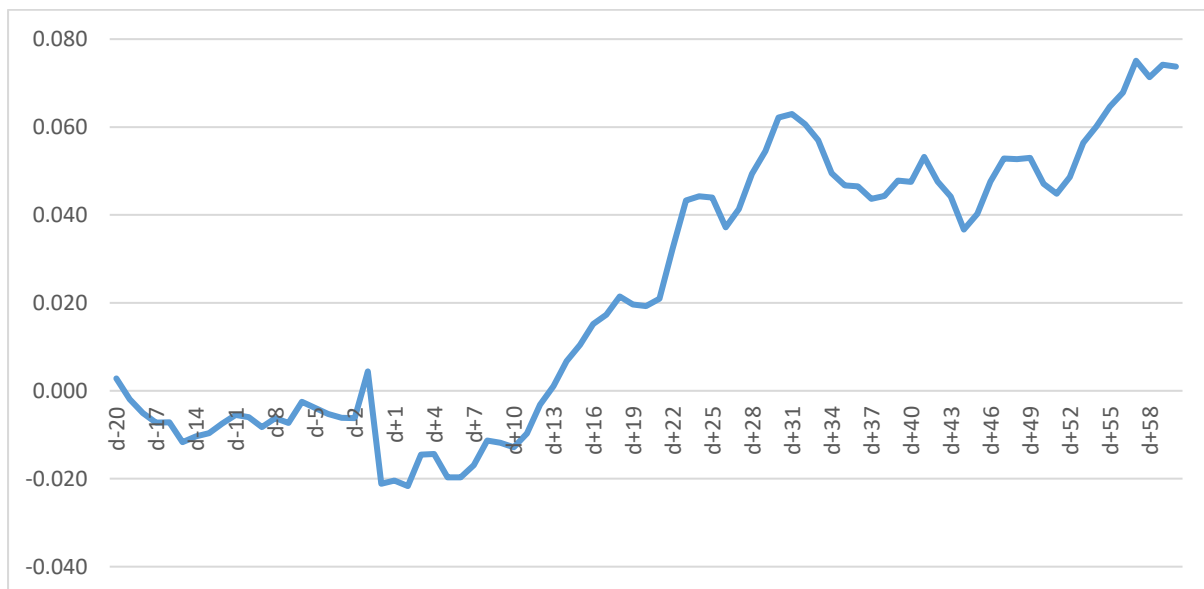
A very different picture emerges in Figures 11-13. The market for all three exchange rates seemed to have reacted quite negatively to news of a change in leadership in the Central Bank at the initial period of the post-event days. However, sentiments were reversed later in the post-event period. This observation is in line with the third theoretical explanation of exchange rate behaviour, namely that investors were cautious initially but corrected for their initial pessimism

⁷ Given the definitions of the dependent variable (price of foreign currency in terms of RM), an increase in the dependent variable implies a sharper rate of RM depreciation – investors dumping RM in favour of a foreign currency.

at a later stage. This would make a lot of sense given that the appointment of Muhammad Ibrahim as the 8th Central Bank Governor was seen to herald a continuity of the central banking style consolidated by his predecessor, Dr. Zeti Akhtar Aziz. We note the similarities in the response of all exchange rates, in that initial response was positive, but was then followed by a negative reaction.

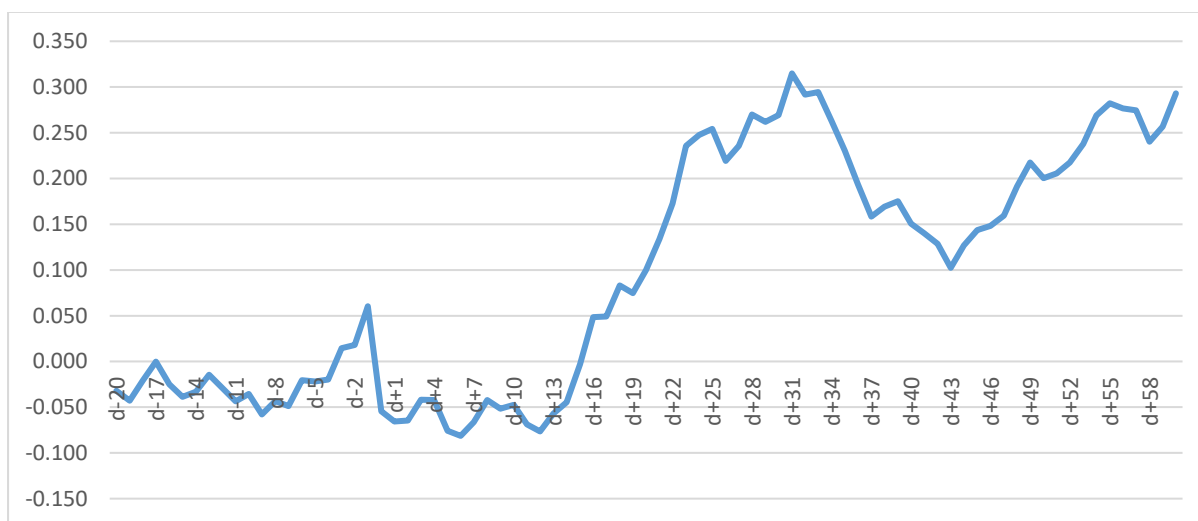
Figures 14-16 projected a rather favourable image for the newly elected government in the aftermath of the 14th General Election. Apparently, this also fits closely with the second theoretical explanation for exchange rate responses, namely that the market is in approval of the newly formed government. Given that this was the first change in political regime in approximately 60 years, there was a chance for much-needed reforms to be pushed through.

Figure 2: CARs for RM/USD exchange rate returns in response to outcome of the 13th General Election



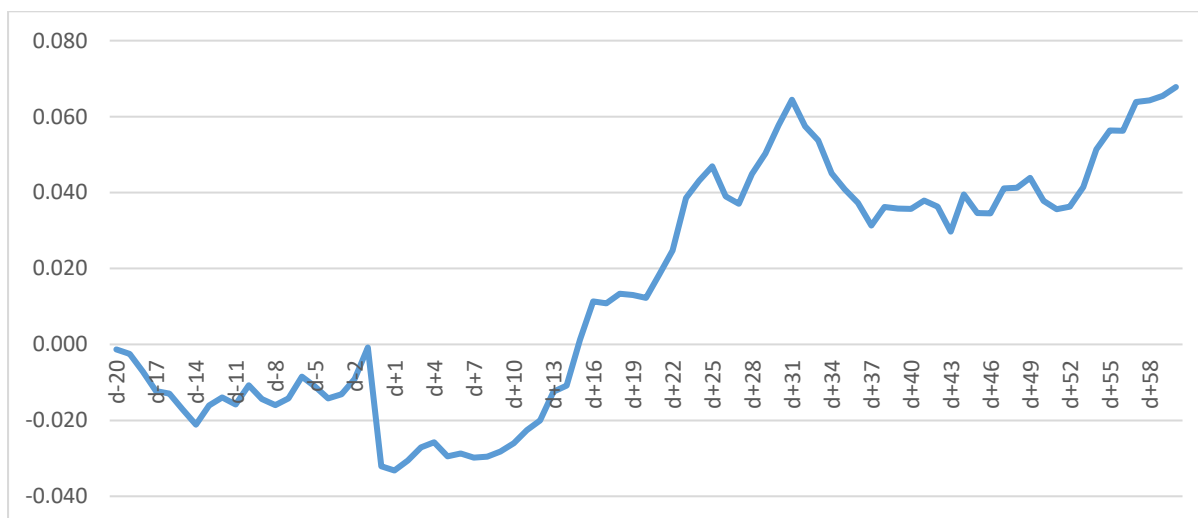
Source: Author's calculations

Figure 3: CARs for RM/GBP exchange rate returns in response to outcome of the 13th General Election



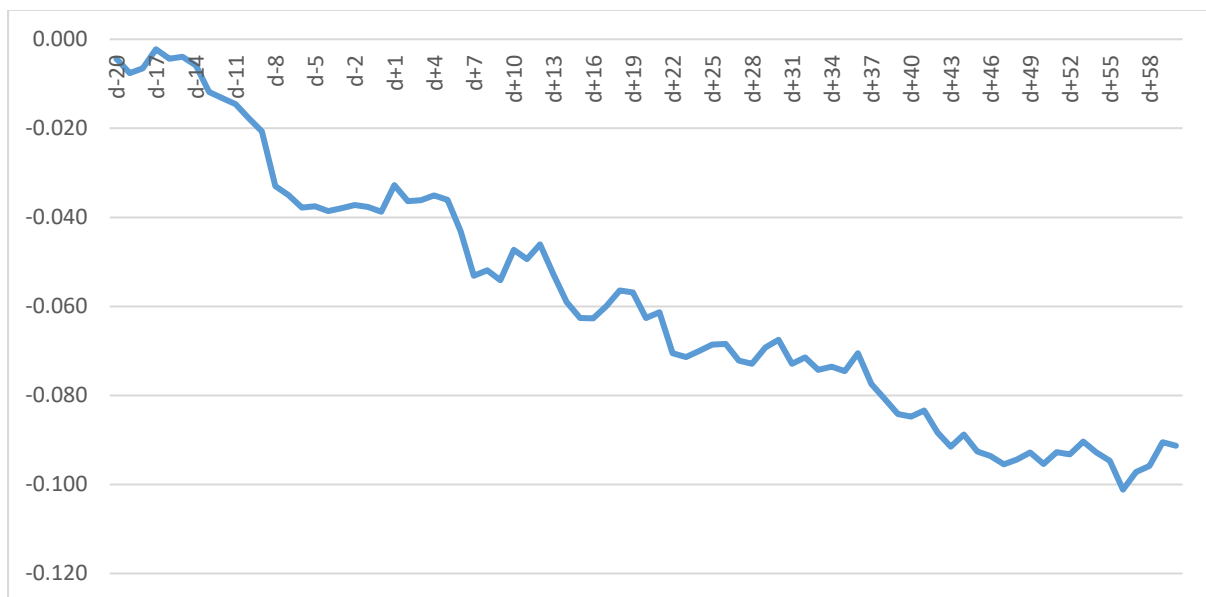
Source: Author's calculations

Figure 4: CARs for RM/EUR exchange rate returns in response to outcome of the 13th General Election



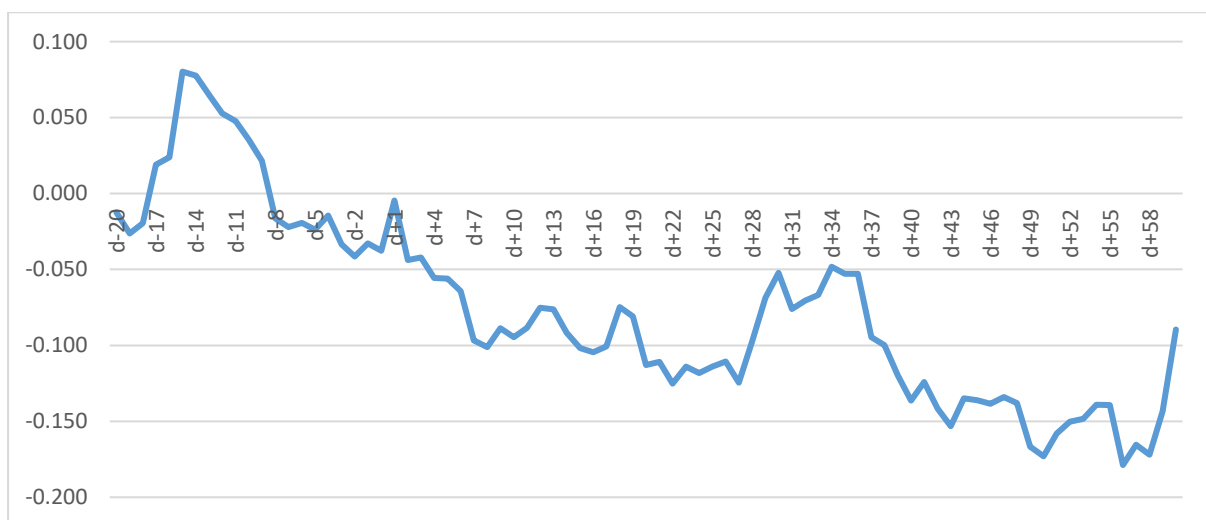
Source: Author's calculations

Figure 5: CARs for RM/USD exchange rate returns in response to news of the imprisonment of Anwar Ibrahim



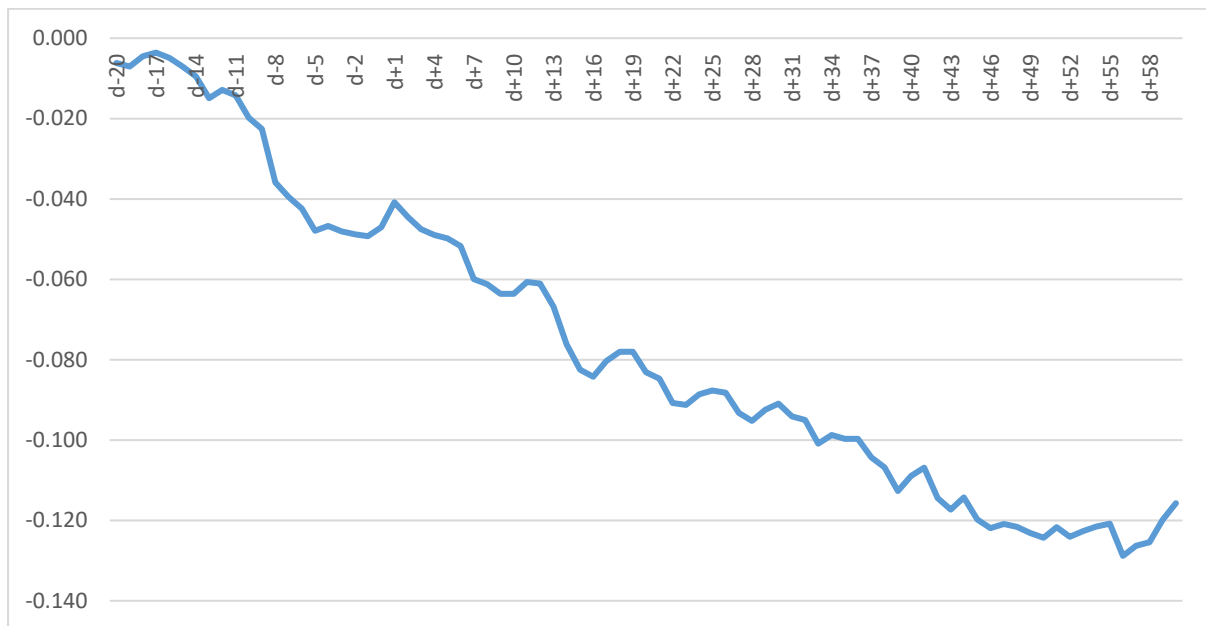
Source: Author's calculations

Figure 6: CARs for RM/GBP exchange rate returns in response to news of the imprisonment of Anwar Ibrahim



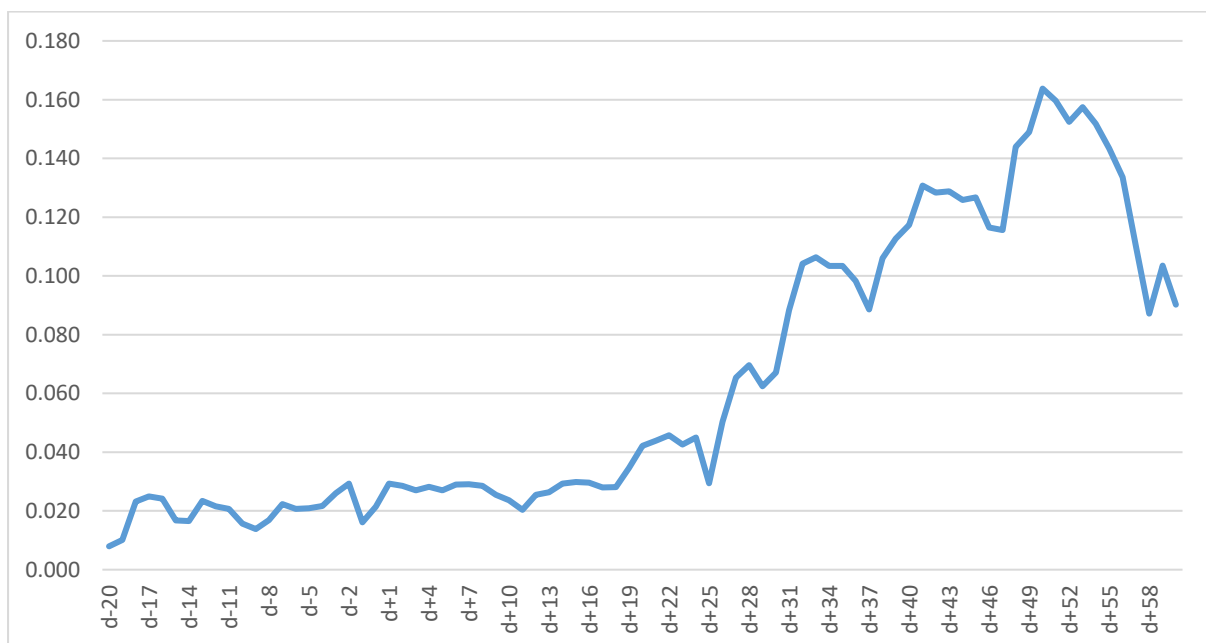
Source: Author's calculations

Figure 7: CARs for RM/EUR exchange rate returns in response to news of the imprisonment of Anwar Ibrahim



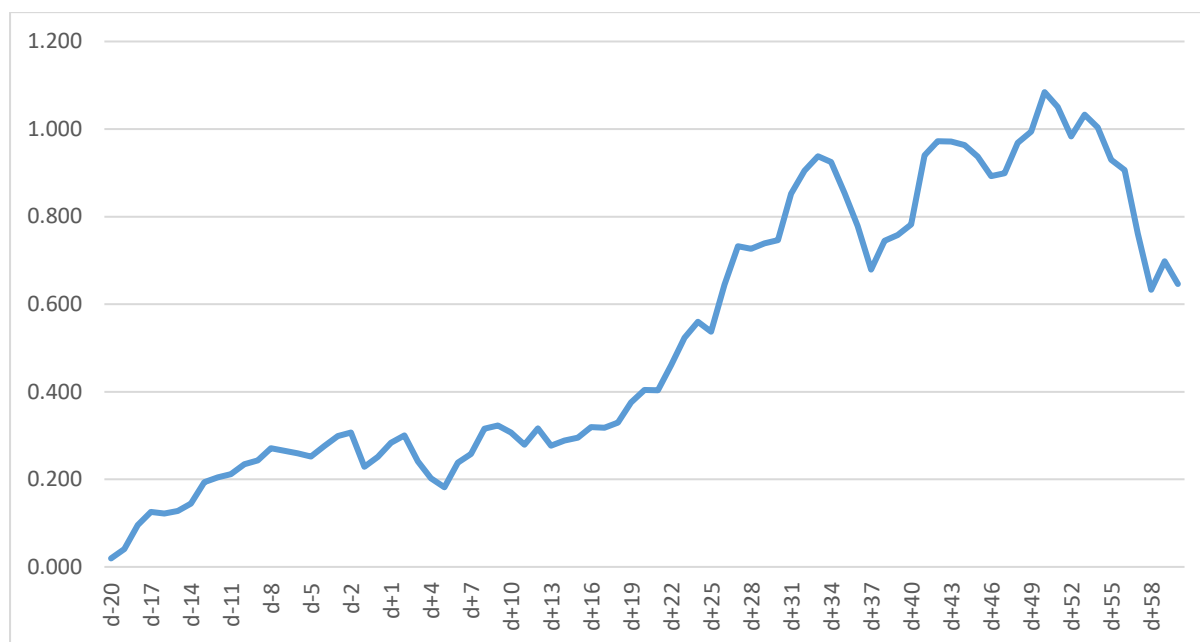
Source: Author's calculations

Figure 8: CARs for RM/USD exchange rate returns in response to the 1MDB exposé



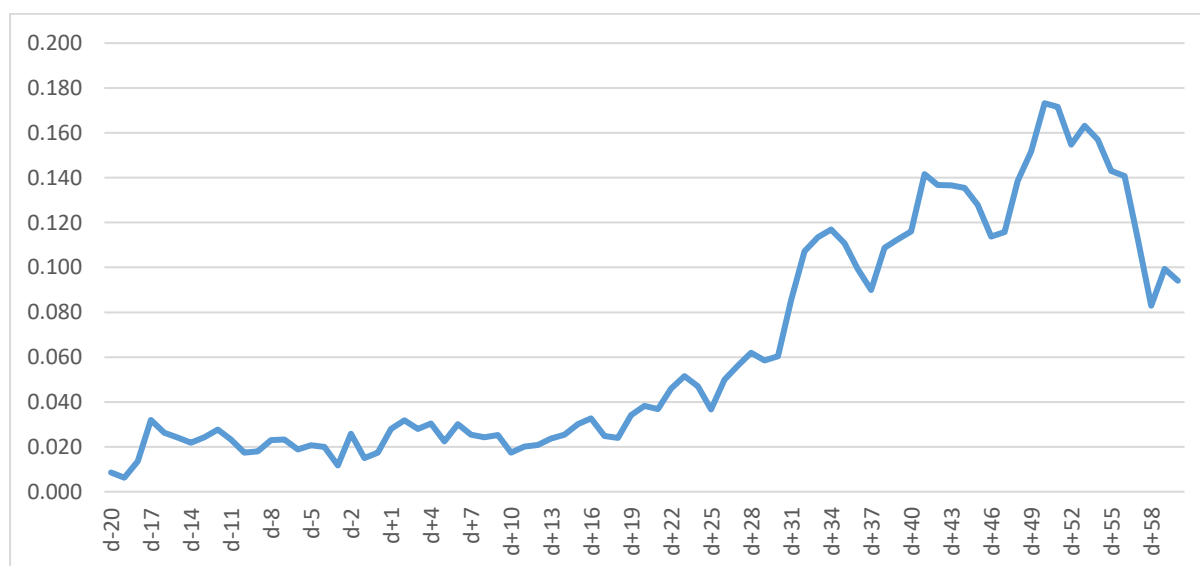
Source: Author's calculations

Figure 9: CARs for RM/GBP exchange rate returns in response to the 1MDB exposé



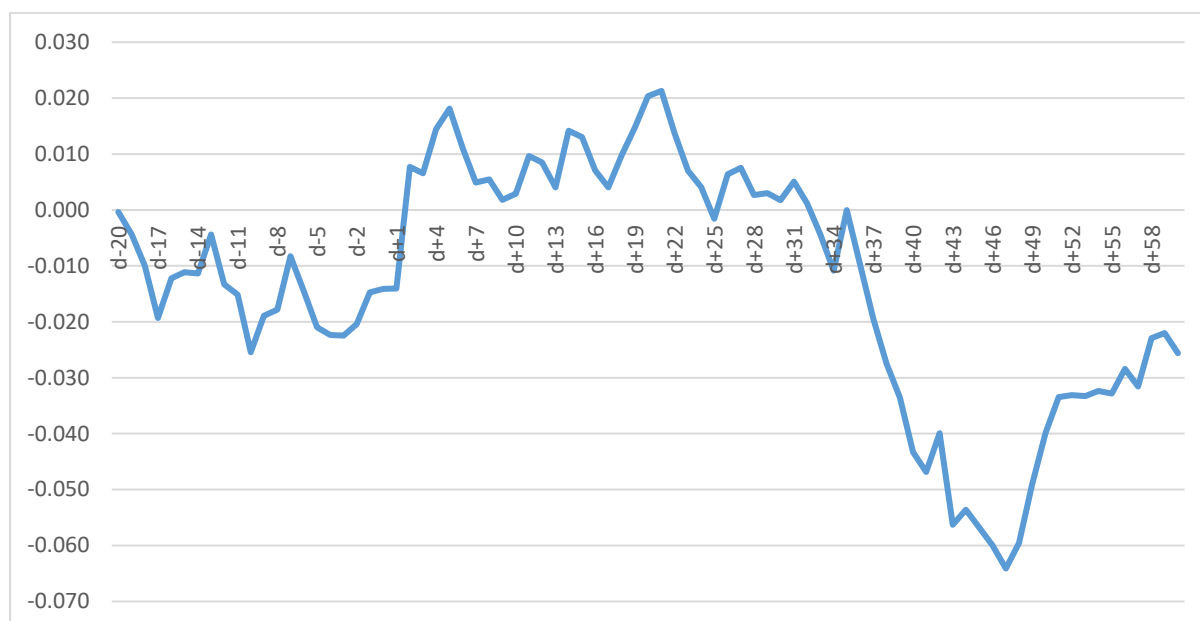
Source: Author's calculations

Figure 10: CARs for RM/EUR exchange rate returns in response to the 1MDB exposé



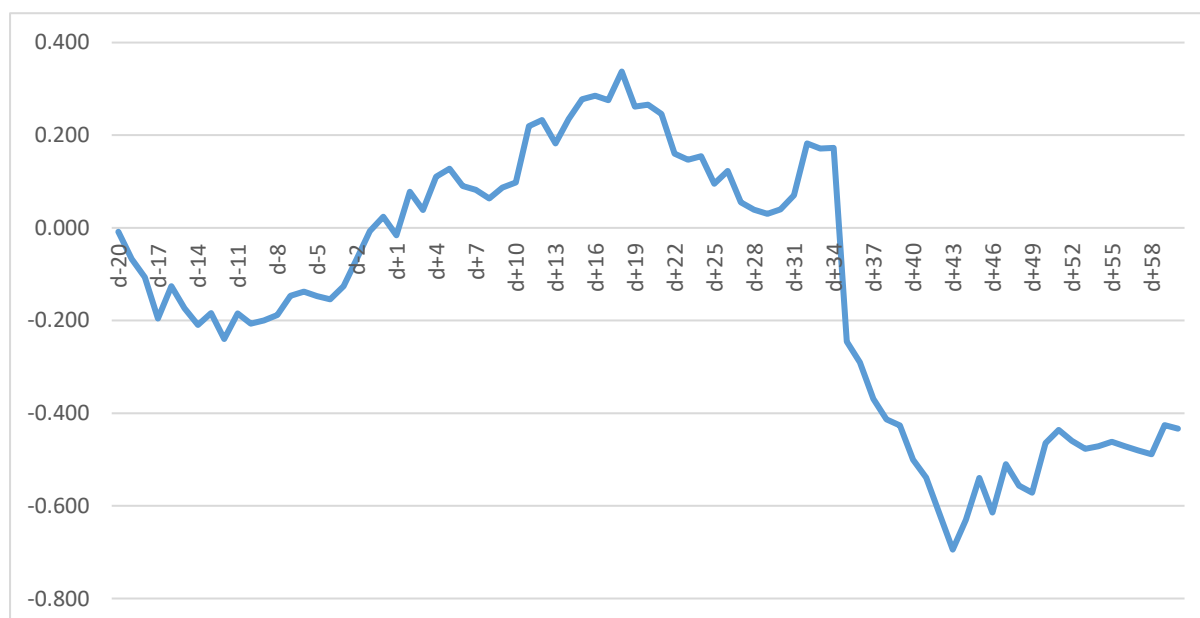
Source: Author's calculations

Figure 11: CARs for RM/USD exchange rate returns in response to the appointment of a new Central Bank Governor



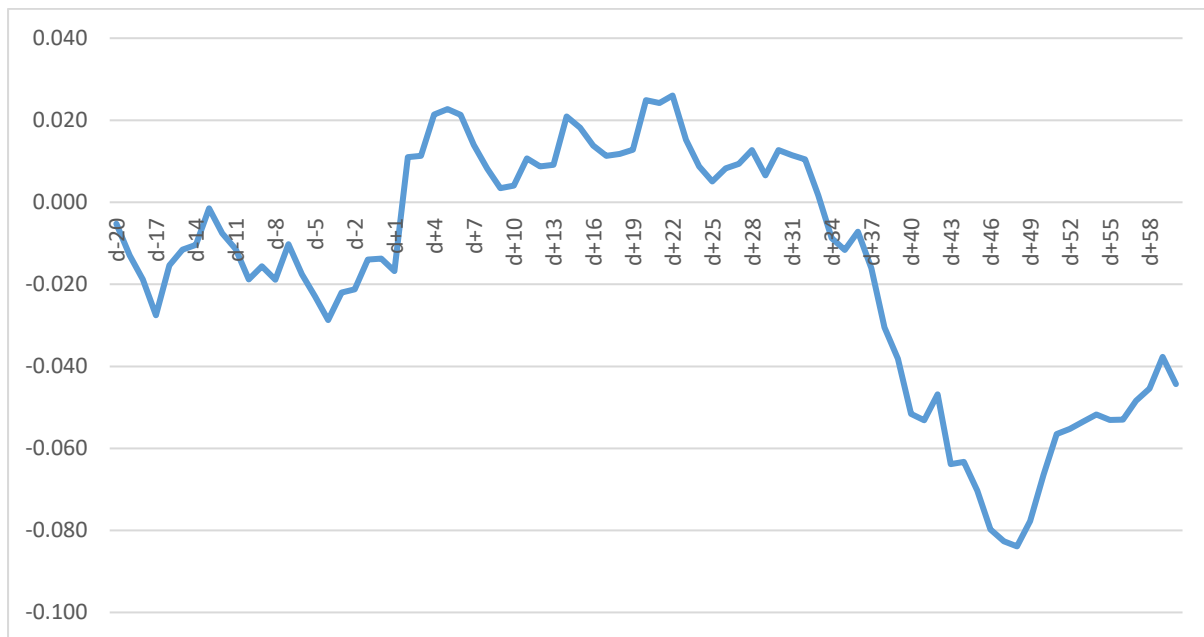
Source: Author's calculations

Figure 12: CARs for RM/GBP exchange rate returns in response to the appointment of a new Central Bank Governor



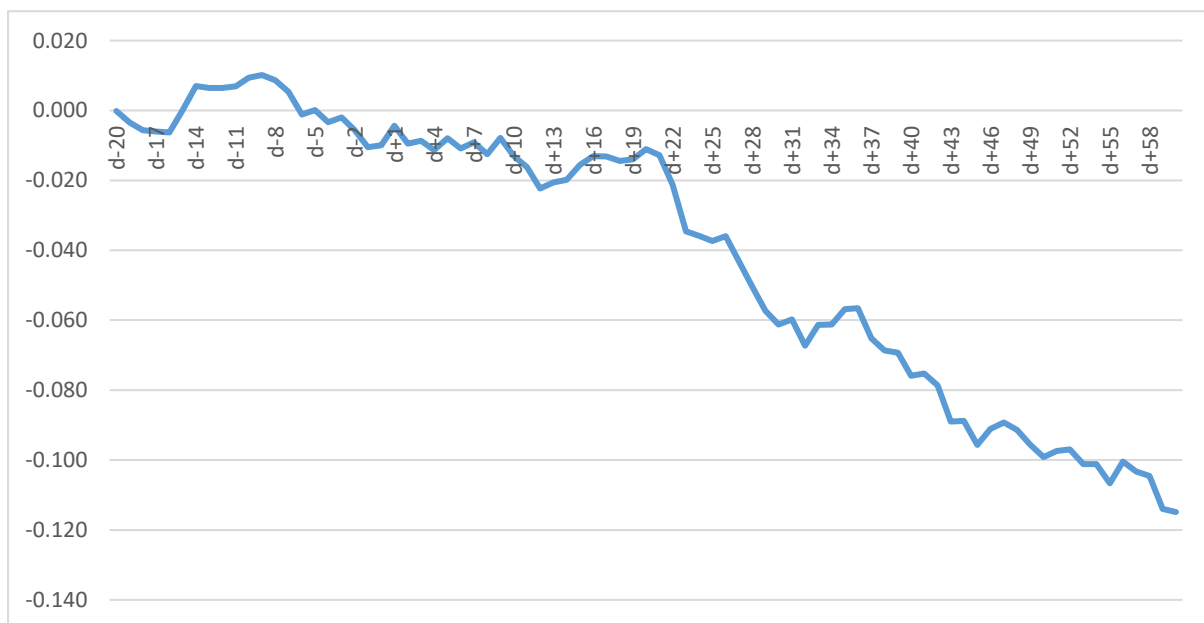
Source: Author's calculations

Figure 13: CARs for RM/EUR exchange rate returns in response to the appointment of a new Central Bank Governor



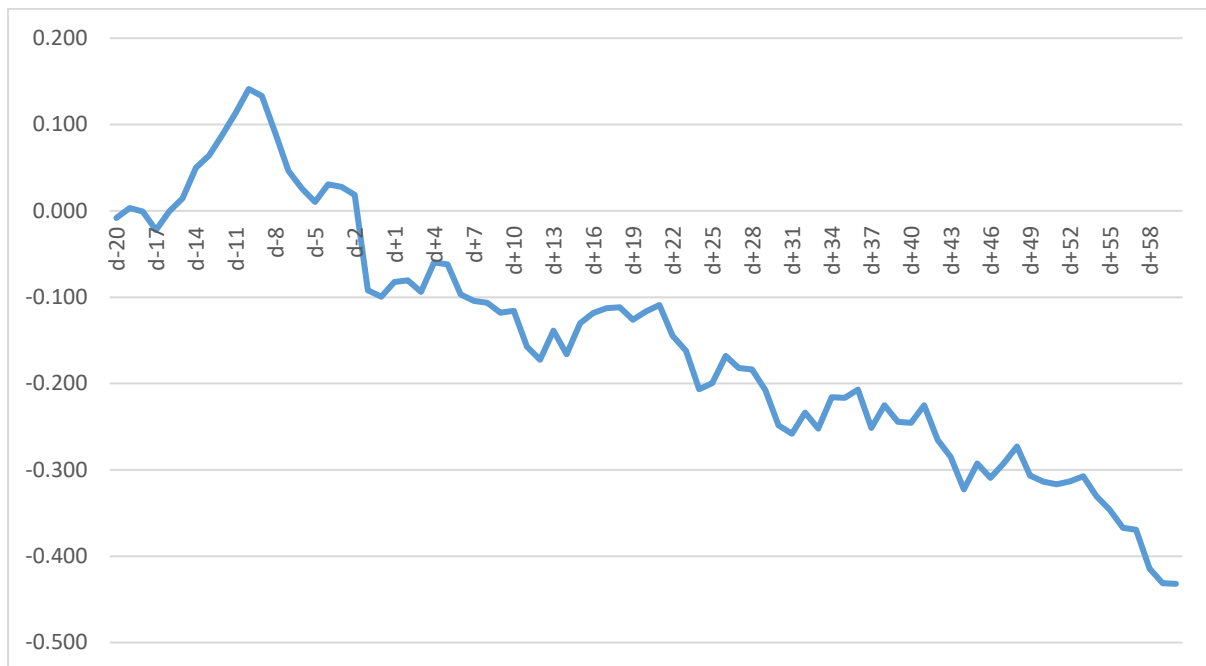
Source: Author's calculations

Figure 14: CARs for RM/USD exchange rate returns in response to outcome of the 14th General Election



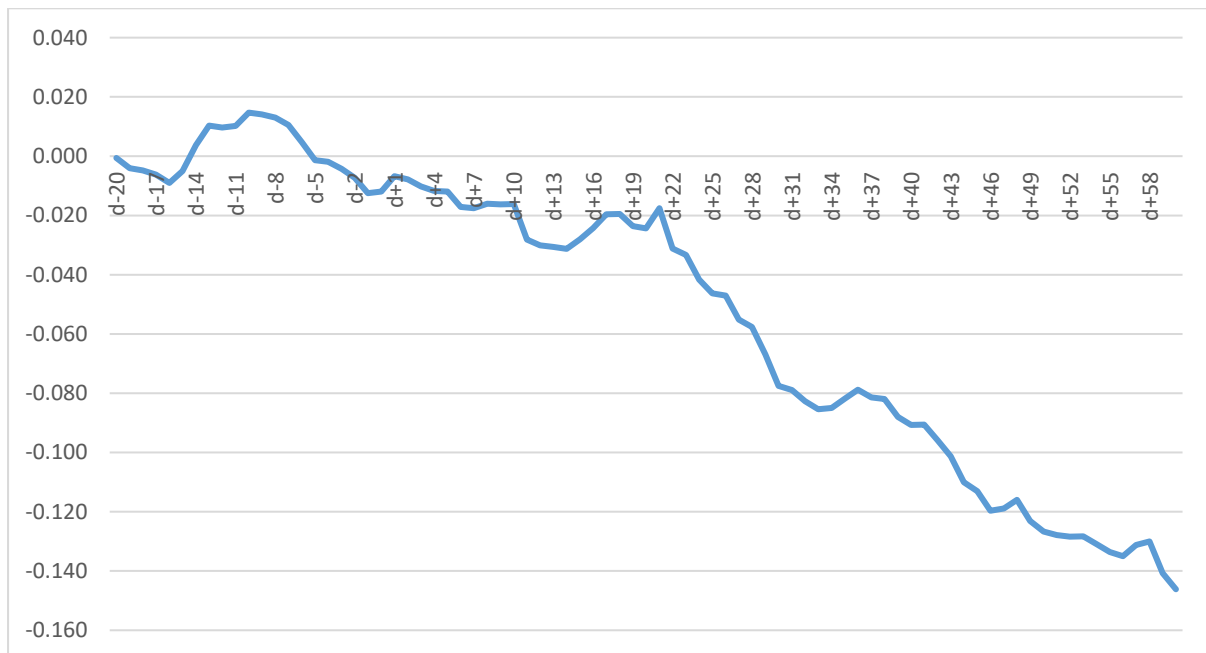
Source: Author's calculations

Figure 15: CARs for RM/GBP exchange rate returns in response to outcome of the 14th General Election



Source: Author's calculations

Figure 16: CARs for RM/EUR exchange rate returns in response to outcome of the 14th General Election



Source: Author's calculations

The other highlight of this paper is the testing of statistical significance of the ARs and CARs, the results of which are reported in Tables 1-5. We are unable to utilise the standard critical t-values due to the presence of non-normality in the regression residuals. To overcome this problem, we calculate bootstrap critical values in a manner similar to Bialkowski et al (2008). With these new critical values, we are able to proceed with the tests of statistical significance. It can be seen that a number of ARs and CARs are statistically significant at the 5% level, particularly on the post-event days. A number of the statistically significant t-values appear towards the end of the event window for all the five events considered in this paper.

Table 1: t-values of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) in response to the 13th General Election outcome (GE13)

Event days	RM/USD		RM/GBP		RM/EUR	
	CAR	AR	CAR	AR	CAR	AR
d-20	0.919	0.102	-1.695	-0.188	-0.371	-0.041
d-19	-1.534	-0.068	-0.576	-0.252	-0.345	-0.079
d-18	-1.018	-0.181	1.178	-0.121	-1.307	-0.225
d-17	-0.721	-0.262	1.081	-0.001	-1.449	-0.386
d-16	0.046	-0.256	-1.319	-0.148	-0.181	-0.406
d-15	-1.474	-0.420	-0.706	-0.226	-1.169	-0.536
d-14	0.427	-0.373	0.283	-0.195	-1.128	-0.661
d-13	0.222	-0.348	0.993	-0.085	1.418	-0.503
d-12	0.728	-0.267	-0.762	-0.169	0.604	-0.436
d-11	0.622	-0.198	-0.782	-0.256	-0.521	-0.494
d-10	-0.158	-0.216	0.431	-0.208	1.405	-0.338
d-9	-0.744	-0.298	-1.187	-0.340	-1.012	-0.450
d-8	0.676	-0.223	0.785	-0.253	-0.441	-0.499
d-7	-0.358	-0.263	-0.301	-0.286	0.479	-0.446
d-6	1.551	-0.090	1.492	-0.121	1.627	-0.266
d-5	-0.434	-0.139	-0.072	-0.129	-0.738	-0.348
d-4	-0.450	-0.189	0.104	-0.117	-0.871	-0.444
d-3	-0.286	-0.221	1.822	0.085	0.302	-0.411
d-2	-0.023	-0.223	0.175	0.105	1.140	-0.284
d-1	3.447**	0.160	2.243**	0.354	2.321	-0.026
d-0	-8.292**	-0.762**	-6.056**	-0.319	-8.801**	-1.004**
d+1	0.246	-0.734**	-0.599	-0.385	-0.320	-1.040**
d+2	-0.409	-0.780**	0.051	-0.380	0.746	-0.957**
d+3	2.328	-0.521	1.202	-0.246	0.979	-0.848

d+4	0.040	-0.517	-0.007	-0.247	0.368	-0.807
d+5	-1.723	-0.708	-1.770	-0.444**	-1.049	-0.924
d+6	-0.001	-0.708	-0.301	-0.477**	0.208	-0.900
d+7	0.900	-0.608	0.791	-0.389	-0.309	-0.935**
d+8	1.799	-0.408	1.274	-0.248	0.071	-0.927
d+9	-0.146	-0.424	-0.499	-0.303	0.400	-0.882
d+10	-0.330	-0.461	0.223	-0.278	0.601	-0.816
d+11	1.008	-0.349	-1.125	-0.403**	0.974	-0.708
d+12	2.131	-0.112	-0.415	-0.449**	0.729	-0.627
d+13	1.359	0.039	1.038	-0.334	2.138	-0.389
d+14	1.839	0.243	0.654	-0.261	0.435	-0.341
d+15	1.190	0.375	2.186	-0.019	3.421**	0.039
d+16	1.556	0.548	2.722**	0.284	2.834**	0.354
d+17	0.666	0.622	0.031	0.287	-0.146	0.338
d+18	1.345	0.771	1.805	0.488	0.713	0.417
d+19	-0.582	0.707	-0.455	0.437	-0.095	0.407
d+20	-0.127	0.693	1.331	0.585	-0.198	0.385
d+21	0.560	0.755	1.802	0.785	1.744	0.579
d+22	3.679**	1.164	2.040	1.012	1.772	0.775
d+23	3.557**	1.559	3.325**	1.382	3.891**	1.208
d+24	0.306	1.593	0.631	1.452	1.287	1.351
d+25	-0.095	1.582	0.346	1.490	1.070	1.470
d+26	-2.209	1.337	-1.837	1.286	-2.229**	1.222
d+27	1.352	1.487	0.863	1.382	-0.549	1.161
d+28	2.593**	1.775	1.809	1.583	2.198	1.405
d+29	1.668	1.961	-0.417	1.537	1.528	1.575
d+30	2.486	2.237	0.391	1.580	2.093	1.808
d+31	0.255	2.265	2.400	1.847**	1.899	2.018**
d+32	-0.748	2.182	-1.218	1.711**	-1.979	1.799
d+33	-1.175	2.051	0.146	1.728**	-1.044	1.683
d+34	-2.423**	1.782	-1.690	1.540	-2.448**	1.411
d+35	-0.916	1.680	-1.699	1.351	-1.187	1.279
d+36	-0.057	1.674	-1.931	1.136	-1.004	1.167
d+37	-0.919	1.572	-1.870	0.929	-1.682	0.980
d+38	0.200	1.594	0.564	0.991	1.381	1.134
d+39	1.135	1.720	0.328	1.028	-0.109	1.122
d+40	-0.091	1.710	-1.298	0.884	-0.047	1.116
d+41	1.842	1.915	-0.561	0.821	0.624	1.186
d+42	-1.813	1.713	-0.600	0.755	-0.437	1.137
d+43	-1.111	1.590	-1.387	0.601	-1.859	0.931
d+44	-2.436	1.319	1.299	0.745	2.762	1.238
d+45	1.153	1.447	0.872	0.842	-1.384	1.084
d+46	2.384	1.712	0.253	0.870	-0.034	1.080
d+47	1.692	1.900	0.580	0.934	1.853	1.286

d+48	-0.041	1.896	1.683	1.121	0.048	1.291
d+49	0.107	1.908	1.383	1.275	0.744	1.374
d+50	-1.914	1.695	-0.901	1.175	-1.702	1.185
d+51	-0.728	1.614	0.283	1.206	-0.636	1.114
d+52	1.214	1.749	0.617	1.275	0.203	1.137
d+53	2.529	2.030	1.080	1.395	1.457	1.299
d+54	1.207	2.164	1.636	1.577	2.785**	1.608
d+55	1.453	2.325	0.709	1.655	1.407	1.764
d+56	1.051	2.442	-0.295	1.623	-0.021	1.762
d+57	2.334	2.702**	-0.114	1.610	2.139	2.000
d+58	-1.214	2.567**	-1.810	1.409	0.114	2.012**
d+59	0.925	2.670**	0.862	1.505	0.333	2.049**
d+60	-0.142	2.654**	1.923	1.718**	0.663	2.123**

Note: To conserve space, the actual AR and CAR values are not reported, but are available upon request. ** indicates 5% level of significance based on bootstrapped critical values.

Table 2: t-values of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) in response to the imprisonment of Anwar Ibrahim

Event days	RM/USD		RM/GBP		RM/EUR	
	CAR	AR	CAR	AR	CAR	AR
d-20	-1.415	-0.157**	-0.650	-0.072	-1.736	-0.193
d-19	-1.048	-0.274	-0.742	-0.155	-0.250	-0.221
d-18	0.353	-0.234	0.358	-0.115	0.722	-0.140**
d-17	1.385	-0.081	2.040	0.112	0.255	-0.112**
d-16	-0.688	-0.157**	0.255	0.140	-0.368	-0.153**
d-15	0.128	-0.143**	2.975**	0.471**	-0.613	-0.221
d-14	-0.620	-0.212	-0.135	0.456**	-0.692	-0.298
d-13	-1.938	-0.427	-0.670	0.381**	-1.536	-0.469
d-12	-0.433	-0.475	-0.644	0.310	0.590	-0.403
d-11	-0.450	-0.525	-0.266	0.280	-0.377	-0.445
d-10	-1.025	-0.639	-0.654	0.207	-1.575	-0.620
d-9	-0.951	-0.745	-0.731	0.126	-0.781	-0.707
d-8	-3.975**	-1.186	-2.004**	-0.097	-3.760**	-1.125
d-7	-0.649	-1.258	-0.295	-0.129	-1.006	-1.236
d-6	-0.911	-1.360	0.138	-0.114	-0.822	-1.328
d-5	0.093	-1.349	-0.231	-0.140	-1.563	-1.501
d-4	-0.351	-1.388	0.487	-0.086	0.342	-1.463
d-3	0.210	-1.365	-0.999	-0.197	-0.377	-1.505
d-2	0.226	-1.340	-0.422	-0.243	-0.195	-1.527
d-1	-0.139	-1.355	0.456	-0.193	-0.141	-1.543
d-0	-0.339	-1.393	-0.254	-0.221	0.635	-1.472
d+1	1.928**	-1.179	1.746**	-0.027	1.744**	-1.278
d+2	-1.167	-1.309	-2.064**	-0.256	-1.041	-1.394

d+3	0.073	-1.300	0.083	-0.247	-0.853	-1.489
d+4	0.351	-1.261	-0.717	-0.327	-0.399	-1.533
d+5	-0.337	-1.299	-0.015	-0.328	-0.236	-1.559
d+6	-2.275**	-1.552	-0.437	-0.377	-0.559	-1.621
d+7	-3.239**	-1.912	-1.712	-0.567	-2.311**	-1.878
d+8	0.394	-1.868	-0.230	-0.593	-0.346	-1.917
d+9	-0.729	-1.949	0.653	-0.520	-0.677	-1.992
d+10	2.230	-1.701	-0.313	-0.555	-0.011	-1.993
d+11	-0.694	-1.778	0.328	-0.518	0.831	-1.901
d+12	1.092	-1.657	0.696	-0.441	-0.110	-1.913
d+13	-2.189	-1.900	-0.055	-0.447	-1.615	-2.092
d+14	-2.022	-2.125	-0.811	-0.537	-2.651**	-2.387
d+15	-1.157	-2.253	-0.536	-0.597	-1.773	-2.584
d+16	-0.010	-2.254	-0.146	-0.613	-0.493	-2.639
d+17	0.876	-2.157	0.207	-0.590	1.099	-2.517
d+18	1.149	-2.029	1.361	-0.439	0.670	-2.442
d+19	-0.153	-2.046	-0.323	-0.475	0.000	-2.442
d+20	-1.870	-2.254	-1.685	-0.662	-1.456	-2.604
d+21	0.422	-2.207	0.106	-0.650	-0.431	-2.652
d+22	-2.976	-2.538	-0.757	-0.735	-1.721	-2.843
d+23	-0.268	-2.568	0.597	-0.668	-0.141	-2.859
d+24	0.439	-2.519	-0.222	-0.693	0.757	-2.775
d+25	0.456	-2.468	0.222	-0.668	0.257	-2.746
d+26	0.042	-2.464	0.177	-0.649	-0.139	-2.762
d+27	-1.202	-2.597	-0.732	-0.730	-1.422	-2.920
d+28	-0.222	-2.622	1.405	-0.574	-0.561	-2.982
d+29	1.166	-2.492	1.536	-0.403	0.776	-2.896
d+30	0.572	-2.429	0.866	-0.307	0.433	-2.848
d+31	-1.745	-2.623	-1.251	-0.446	-0.892	-2.947
d+32	0.473	-2.570	0.286	-0.414	-0.246	-2.974
d+33	-0.924	-2.673	0.202	-0.392	-1.666	-3.159
d+34	0.243	-2.646	0.977	-0.283	0.594	-3.093
d+35	-0.325	-2.682	-0.248	-0.311	-0.250	-3.121
d+36	1.287	-2.539	0.008	-0.310	-0.013	-3.122
d+37	-2.230	-2.786	-2.207**	-0.555	-1.306	-3.267
d+38	-1.063	-2.905	-0.276	-0.586	-0.689	-3.344
d+39	-1.122	-3.029	-1.056	-0.703	-1.655	-3.528
d+40	-0.188	-3.050	-0.870	-0.800	1.048	-3.411
d+41	0.447	-3.000	0.647	-0.728	0.587	-3.346
d+42	-1.611	-3.179	-0.928	-0.831	-2.139	-3.584
d+43	-1.024	-3.293	-0.609	-0.899	-0.804	-3.673
d+44	0.894	-3.194	0.971	-0.791	0.860	-3.577
d+45	-1.249	-3.333	-0.072	-0.799	-1.564	-3.751
d+46	-0.321	-3.368	-0.115	-0.811	-0.608	-3.819

d+47	-0.615	-3.437	0.230	-0.786	0.302	-3.785
d+48	0.350	-3.398	-0.209	-0.809	-0.204	-3.808
d+49	0.533	-3.338	-1.515	-0.977	-0.419	-3.854
d+50	-0.847	-3.433	-0.338	-1.015**	-0.340	-3.892**
d+51	0.871	-3.336	0.789	-0.927	0.737	-3.810
d+52	-0.173	-3.355	0.414	-0.881	-0.666	-3.884
d+53	0.935	-3.251	0.097	-0.870	0.390	-3.841
d+54	-0.808	-3.341	0.496	-0.815	0.321	-3.805
d+55	-0.586	-3.406	-0.016	-0.817	0.204	-3.783
d+56	-2.108	-3.640**	-2.083**	-1.049**	-2.266	-4.034**
d+57	1.286	-3.497**	0.704	-0.970	0.714	-3.955**
d+58	0.433	-3.449**	-0.343	-1.008**	0.241	-3.928**
d+59	1.727**	-3.257	1.506	-0.841	1.583**	-3.752
d+60	-0.259	-3.286	2.837**	-0.526	1.153**	-3.624

Note: To conserve space, the actual AR and CAR values are not reported, but are available upon request. ** indicates 5% level of significance based on bootstrapped critical values.

Table 3: t-values of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) in response to the 1MDB exposé

Event days	RM/USD		RM/GBP		RM/EUR	
	CAR	AR	CAR	AR	CAR	AR
d-20	2.571	0.286**	1.025	0.114**	2.398	0.266
d-19	0.705	0.364**	1.109	0.237**	-0.637	0.196**
d-18	4.233	0.834	2.896	0.559**	2.049	0.423
d-17	0.556	0.896	1.606	0.737	5.210	1.002
d-16	-0.248	0.868	-0.189	0.716**	-1.624	0.822
d-15	-2.404	0.601	0.287	0.748	-0.614	0.754
d-14	-0.053	0.595	0.884	0.846	-0.637	0.683
d-13	2.218	0.842	2.587	1.134	0.698	0.760
d-12	-0.594	0.776	0.608	1.201	0.977	0.869
d-11	-0.294	0.743	0.355	1.241	-1.269	0.728
d-10	-1.620	0.563**	1.225	1.377	-1.657	0.544
d-9	-0.600	0.497**	0.437	1.425	0.181	0.564
d-8	0.977	0.605	1.497	1.592	1.400	0.719
d-7	1.776	0.802	-0.339	1.554	0.086	0.729
d-6	-0.511	0.746	-0.298	1.521	-1.255	0.589
d-5	0.070	0.753	-0.370	1.480	0.510	0.646
d-4	0.248	0.781	1.266	1.621	-0.197	0.624
d-3	1.390	0.936	1.206	1.755	-2.322	0.366**
d-2	1.056	1.053	0.393	1.798	3.968	0.807
d-1	-4.243	0.581	-4.105**	1.342	-3.021	0.471
d-0	1.700	0.770	1.202	1.476	0.675	0.546
d+1	2.559	1.055	1.669	1.661	2.967	0.876

d+2	-0.269	1.025	0.894	1.761	1.091	0.997
d+3	-0.461	0.974	-3.115	1.414	-1.101	0.875
d+4	0.367	1.014	-2.069	1.185	0.696	0.952
d+5	-0.389	0.971	-1.079	1.065	-2.236	0.704
d+6	0.653	1.044	2.979	1.396	2.152	0.943
d+7	0.015	1.045	1.042	1.512	-1.306	0.798
d+8	-0.172	1.026	3.053	1.851	-0.339	0.760
d+9	-0.988	0.916	0.394	1.895	0.261	0.789
d+10	-0.587	0.851	-0.864	1.799	-2.182	0.547
d+11	-1.062	0.733	-1.465	1.636	0.771	0.632
d+12	1.657	0.917	1.985	1.856	0.177	0.652
d+13	0.272	0.948	-2.099	1.623	0.831	0.744
d+14	0.959	1.054	0.621	1.692	0.458	0.795
d+15	0.186	1.075	0.340	1.730	1.322	0.942
d+16	-0.066	1.068	1.286	1.873	0.727	1.023
d+17	-0.533	1.008	-0.075	1.864	-2.184	0.780
d+18	0.036	1.012	0.627	1.934	-0.257	0.752
d+19	2.089	1.244	2.404	2.201	2.846	1.068
d+20	2.439	1.515	1.509	2.369	1.173	1.198
d+21	0.584	1.580	-0.022	2.366	-0.389	1.155
d+22	0.575	1.644	3.009	2.701	2.547	1.438
d+23	-0.996	1.534	3.334	3.071	1.579	1.613
d+24	0.770	1.619	1.894**	3.282	-1.270	1.472
d+25	-5.036**	1.060	-1.181	3.150	-2.915	1.148
d+26	6.751**	1.810	5.691**	3.783	3.753	1.565
d+27	4.889	2.353	4.617	4.296	1.773	1.762
d+28	1.351	2.503	-0.293	4.263	1.579	1.938
d+29	-2.306	2.247	0.636	4.334	-0.946	1.833
d+30	1.496	2.413	0.370	4.375	0.520	1.891
d+31	6.906**	3.180	5.604**	4.998	7.046**	2.674
d+32	5.126	3.750	2.805	5.309	6.151**	3.357
d+33	0.674	3.825	1.715	5.500	1.756	3.552
d+34	-0.930	3.721	-0.705	5.422	0.996	3.663
d+35	-0.025	3.719	-3.735	5.007	-1.737	3.470
d+36	-1.640	3.536	-3.970**	4.566	-3.240	3.110
d+37	-3.145	3.187	-5.254**	3.982	-2.661	2.814
d+38	5.662	3.816	3.475	4.368	5.310	3.404
d+39	2.134	4.053	0.703	4.446	1.078	3.524
d+40	1.510	4.221	1.275	4.588	0.973	3.632
d+41	4.368	4.706	8.318**	5.512	7.226**	4.435
d+42	-0.800	4.617	1.710	5.702	-1.377	4.282
d+43	0.144	4.633	-0.047	5.697	-0.032	4.278
d+44	-0.957	4.527	-0.427	5.649	-0.312	4.243
d+45	0.291	4.559	-1.383	5.495	-2.138	4.006

d+46	-3.322	4.190	-2.328	5.237	-3.988	3.563
d+47	-0.259	4.161	0.330	5.273	0.568	3.626
d+48	9.159**	5.179	3.677	5.682	6.447**	4.342
d+49	1.615	5.359	1.346	5.832**	3.690	4.752
d+50	4.805	5.892**	4.752	6.360**	6.044**	5.424**
d+51	-1.325	5.745**	-1.787	6.161**	-0.457	5.373**
d+52	-2.330	5.486**	-3.569	5.765	-4.752	4.845**
d+53	1.620	5.667**	2.660	6.060**	2.397	5.111**
d+54	-1.863	5.460	-1.569	5.886**	-1.746	4.917**
d+55	-2.712	5.158	-3.879	5.455	-3.947	4.479
d+56	-3.168	4.806	-1.262	5.315	-0.632	4.408
d+57	-7.526**	3.970	-7.614**	4.469	-7.909**	3.530
d+58	-7.488**	3.138	-6.822**	3.711	-8.411**	2.595
d+59	5.274	3.724	3.462	4.095	4.658	3.113
d+60	-4.307**	3.245	-2.768	3.788	-1.505	2.945

Note: To conserve space, the actual AR and CAR values are not reported, but are available upon request. ** indicates 5% level of significance based on bootstrapped critical values.

Table 4: t-values of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) in response to the appointment of Muhammad Ibrahim as the 8th Central Bank Governor

Event days	RM/USD		RM/GBP		RM/EUR	
	CAR	AR	CAR	AR	CAR	AR
d-20	-0.110	-0.012	-0.449	-0.050	-1.463	-0.163
d-19	-1.311	-0.158	-3.078	-0.392	-2.181	-0.405
d-18	-1.817	-0.360	-2.096	-0.625	-1.659	-0.589
d-17	-3.014	-0.695	-4.711**	-1.148	-2.460	-0.863
d-16	2.301	-0.439	3.675	-0.740	3.430**	-0.481
d-15	0.356	-0.399	-2.493	-1.017	1.083	-0.361
d-14	-0.081	-0.408	-1.907	-1.229	0.326	-0.325
d-13	2.257	-0.158	1.365	-1.077	2.495	-0.048
d-12	-2.894	-0.479	-2.959	-1.406	-1.697	-0.236
d-11	-0.583	-0.544	2.901	-1.083	-1.081	-0.356
d-10	-3.343**	-0.915	-1.173	-1.214	-2.097	-0.589
d-9	2.108	-0.681	0.359	-1.174	0.910	-0.488
d-8	0.366	-0.640	0.639	-1.103	-0.933	-0.592
d-7	3.084	-0.298	2.182	-0.860	2.450	-0.319
d-6	-2.042	-0.525	0.474	-0.808	-2.084	-0.551
d-5	-2.061	-0.754	-0.488	-0.862	-1.517	-0.720
d-4	-0.450	-0.804	-0.378	-0.904	-1.616	-0.899
d-3	-0.032	-0.807	1.507	-0.737	1.879	-0.690
d-2	0.653	-0.735	3.069	-0.396	0.231	-0.665
d-1	1.835	-0.531	3.206	-0.039	2.041	-0.438
d-0	0.202	-0.508	1.638	0.143	0.060	-0.431

d+1	0.030	-0.505	-2.121	-0.093	-0.841	-0.525
d+2	7.040	0.277	4.946	0.456	7.815**	0.344
d+3	-0.366	0.237	-2.066	0.227	0.097	0.354
d+4	2.556	0.521	3.787	0.648	2.842	0.670**
d+5	1.192	0.653**	0.929	0.751	0.369	0.711**
d+6	-2.291	0.399	-1.988	0.530	-0.390	0.668
d+7	-1.998	0.177	-0.430	0.482	-2.063	0.439
d+8	0.186	0.197	-0.980	0.373	-1.644	0.256
d+9	-1.188	0.065	1.240	0.511	-1.345	0.106
d+10	0.345	0.104	0.568	0.574	0.183	0.127
d+11	2.193	0.347	6.421**	1.288	1.881	0.336
d+12	-0.374	0.306	0.687	1.364	-0.551	0.274
d+13	-1.436	0.146	-2.656	1.069	0.098	0.285
d+14	3.270**	0.510	2.786	1.378	3.333**	0.656
d+15	-0.359	0.470	2.236	1.627**	-0.769	0.570
d+16	-1.938	0.254	0.408	1.672**	-1.231	0.433
d+17	-0.989	0.145	-0.522	1.614	-0.708	0.355
d+18	1.878	0.353	3.284	1.979**	0.124	0.369
d+19	1.593	0.530	-3.982	1.537	0.294	0.401
d+20	1.816	0.732**	0.211	1.560	3.407**	0.780**
d+21	0.307	0.766**	-1.053	1.443	-0.208	0.757**
d+22	-2.444	0.495	-4.532**	0.940	0.527	0.815**
d+23	-2.179	0.252	-0.693	0.863	-3.043**	0.477
d+24	-0.936	0.148	0.413	0.909	-1.838	0.273
d+25	-1.849	-0.057	-3.156	0.558	-1.015	0.160
d+26	2.581	0.230	1.464	0.721	0.884	0.258
d+27	0.375	0.271	-3.572	0.324	0.315	0.293
d+28	-1.579	0.096	-0.855	0.229	0.941	0.398
d+29	0.113	0.109	-0.469	0.177	-1.735	0.205
d+30	-0.410	0.063	0.534	0.236	1.746	0.399
d+31	1.071	0.182	1.588	0.412	-0.352	0.360
d+32	-1.263	0.042	5.921**	1.070	-0.303	0.326
d+33	-1.774	-0.155	-0.581	1.006	-2.453	0.054
d+34	-2.118	-0.391	0.057	1.012	-2.948	-0.274
d+35	3.512**	-0.001	-22.049**	-1.438	-0.806	-0.363
d+36	-3.115	-0.347	-2.403	-1.705	1.236	-0.226
d+37	-3.192	-0.701	-4.148	-2.166	-2.486	-0.502
d+38	-2.570	-0.987	-2.328	-2.424	-4.075**	-0.955
d+39	-1.994	-1.208	-0.709	-2.503	-2.158	-1.195
d+40	-3.134**	-1.557	-3.893	-2.936	-3.795**	-1.616
d+41	-1.154	-1.685	-2.017	-3.160	-0.443	-1.666
d+42	2.238	-1.436	-4.178	-3.624**	1.784	-1.467
d+43	-5.297**	-2.025**	-4.042**	-4.073**	-4.780**	-1.998
d+44	0.859	-1.929	3.377	-3.698**	0.154	-1.981

d+45	-1.038	-2.045**	4.784	-3.166	-1.987	-2.202
d+46	-1.005	-2.156**	-3.926	-3.603**	-2.665	-2.498**
d+47	-1.353	-2.307**	5.499**	-2.992	-0.809	-2.588**
d+48	1.476	-2.143**	-2.454	-3.264**	-0.352	-2.627**
d+49	3.393**	-1.766	-0.779	-3.351**	1.740	-2.434**
d+50	2.985	-1.434	5.628**	-2.726	3.188	-2.080
d+51	2.077	-1.203	1.492	-2.560	2.783	-1.771
d+52	0.108	-1.191	-1.224	-2.696	0.358	-1.731
d+53	-0.055	-1.197	-0.898	-2.796	0.505	-1.675
d+54	0.305	-1.164	0.276	-2.765	0.484	-1.621
d+55	-0.158	-1.181	0.516	-2.708	-0.370	-1.662
d+56	1.424	-1.023	-0.531	-2.767	0.029	-1.659
d+57	-1.022	-1.136	-0.468	-2.819	1.284	-1.516
d+58	2.798	-0.825	-0.439	-2.867	0.833	-1.424
d+59	0.297	-0.792	3.348	-2.495	2.179	-1.181
d+60	-1.166	-0.922	-0.403	-2.540	-1.851	-1.387

Note: To conserve space, the actual AR and CAR values are not reported, but are available upon request. ** indicates 5% level of significance based on bootstrapped critical values.

Table 5: t-values of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) in response to the 14th General Election outcome (GE14)

	RM/USD		RM/GBP		RM/EUR	
Event days	CAR	AR	CAR	AR	CAR	AR
d-20	-0.055	-0.006	-0.427	-0.047	-0.172	-0.019
d-19	-1.049	-0.123	0.608	0.020	-0.958	-0.126
d-18	-0.714	-0.202	-0.223	-0.005	-0.216	-0.150
d-17	-0.126	-0.216	-1.124	-0.130	-0.417	-0.196
d-16	-0.104	-0.228	1.137	-0.003	-0.778	-0.282
d-15	2.048**	0.000	0.794	0.085	1.130	-0.157
d-14	2.261**	0.251**	1.879	0.294	2.465**	0.117
d-13	-0.175	0.232	0.738	0.376	1.864**	0.324
d-12	-0.007	0.231	1.250	0.515**	-0.191	0.303
d-11	0.154	0.248	1.353	0.665**	0.155	0.320
d-10	0.795	0.336**	1.468	0.828**	1.261	0.460**
d-9	0.254	0.365**	-0.431	0.780**	-0.162	0.442**
d-8	-0.471	0.312**	-2.273	0.528	-0.310	0.408**
d-7	-1.086	0.192	-2.303	0.272	-0.699	0.330
d-6	-2.106	-0.042	-1.085	0.151	-1.651	0.147
d-5	0.407	0.003	-0.814	0.061	-1.694	-0.042
d-4	-1.104	-0.120	1.081	0.181	-0.147	-0.058
d-3	0.431	-0.072	-0.154	0.164	-0.673	-0.133
d-2	-1.178	-0.203	-0.488	0.109	-0.862	-0.229
d-1	-1.572	-0.377	-5.849**	-0.540	-1.474	-0.392

d-0	0.168	-0.359	-0.387	-0.583	0.178	-0.373
d+1	1.827	-0.156	0.902	-0.483	1.444**	-0.212
d+2	-1.678	-0.342	0.097	-0.472	-0.295	-0.245
d+3	0.275	-0.311	-0.696	-0.550	-0.672	-0.320
d+4	-0.856	-0.407	1.792	-0.351	-0.420	-0.366
d+5	1.076	-0.287	-0.122	-0.364	-0.067	-0.374
d+6	-0.929	-0.390	-1.825	-0.567	-1.462	-0.536
d+7	0.554	-0.329	-0.407	-0.612	-0.137	-0.551
d+8	-1.098	-0.451	-0.112	-0.625	0.438	-0.503
d+9	1.501	-0.284	-0.609	-0.692	-0.071	-0.511
d+10	-1.681	-0.471	0.116	-0.679	0.054	-0.505
d+11	-0.993	-0.581	-2.193	-0.923	-3.385**	-0.881
d+12	-1.992	-0.802	-0.801	-1.012	-0.551	-0.942
d+13	0.566	-0.739	1.782	-0.814	-0.166	-0.960
d+14	0.242	-0.712	-1.448	-0.975	-0.183	-0.981
d+15	1.375	-0.560**	1.910	-0.763	0.933	-0.877
d+16	0.816	-0.469	0.621	-0.694	1.065	-0.759
d+17	-0.044	-0.474	0.286	-0.662	1.285	-0.616
d+18	-0.409	-0.519	0.063	-0.655	0.060	-0.609
d+19	0.144	-0.503	-0.764	-0.740	-1.175	-0.740
d+20	0.963	-0.396	0.521	-0.682	-0.218	-0.764
d+21	-0.583	-0.461	0.374	-0.640	1.925**	-0.550
d+22	-2.730	-0.764	-1.870	-0.848	-3.830**	-0.976
d+23	-4.321**	-1.244	-0.910	-0.949	-0.629	-1.045
d+24	-0.413	-1.290	-2.363**	-1.212**	-2.332	-1.305
d+25	-0.484	-1.344	0.374	-1.170	-1.308	-1.450
d+26	0.455	-1.293	1.666	-0.985	-0.207	-1.473
d+27	-2.306	-1.550	-0.750	-1.069	-2.280	-1.726
d+28	-2.339	-1.809	-0.069	-1.076	-0.724	-1.807
d+29	-2.266	-2.061	-1.267	-1.217	-2.619	-2.098
d+30	-1.294	-2.205	-2.156	-1.457	-2.984**	-2.429
d+31	0.498	-2.150	-0.513	-1.514	-0.368	-2.470
d+32	-2.456	-2.423	1.282	-1.371	-1.075	-2.590
d+33	1.949**	-2.206	-0.964	-1.478	-0.758	-2.674
d+34	0.017	-2.204	1.912**	-1.266	0.112	-2.661
d+35	1.442	-2.044	-0.037	-1.270	0.871	-2.565
d+36	0.072	-2.036	0.507	-1.213	0.873	-2.468
d+37	-2.779	-2.345	-2.342	-1.474	-0.728	-2.548
d+38	-1.130	-2.470	1.387	-1.320	-0.160	-2.566
d+39	-0.198	-2.492	-1.021	-1.433	-1.699	-2.755
d+40	-2.139	-2.730	-0.066	-1.440	-0.760	-2.839
d+41	0.207	-2.707	1.074	-1.321	0.011	-2.838
d+42	-1.114	-2.831	-2.112	-1.556	-1.481	-3.003
d+43	-3.328**	-3.200	-1.046	-1.672	-1.510	-3.171

d+44	0.037	-3.196	-1.974	-1.891	-2.469	-3.445
d+45	-2.230	-3.444	1.573	-1.716	-0.849	-3.539
d+46	1.483	-3.279	-0.875	-1.814	-1.875	-3.748
d+47	0.611	-3.211	0.902	-1.713	0.218	-3.723
d+48	-0.694	-3.288	1.019	-1.600	0.807	-3.634
d+49	-1.355	-3.439	-1.785	-1.798	-1.999	-3.856
d+50	-1.173	-3.569	-0.377	-1.840	-1.012	-3.968
d+51	0.579	-3.505	-0.151	-1.857	-0.321	-4.004
d+52	0.154	-3.488	0.164	-1.839	-0.157	-4.021
d+53	-1.372	-3.640	0.315	-1.804	0.036	-4.017
d+54	0.014	-3.639	-1.208	-1.938	-0.742	-4.100
d+55	-1.796	-3.838**	-0.838	-2.031	-0.768	-4.185**
d+56	2.010**	-3.615	-1.095	-2.153	-0.381	-4.228**
d+57	-0.905	-3.716**	-0.112	-2.165	1.061	-4.110
d+58	-0.404	-3.760**	-2.370**	-2.429**	0.327	-4.073
d+59	-3.071**	-4.102**	-0.899	-2.528**	-3.002**	-4.407**
d+60	-0.286	-4.133**	-0.046	-2.534**	-1.534	-4.577**

Note: To conserve space, the actual AR and CAR values are not reported, but are available upon request. ** indicates 5% level of significance based on bootstrapped critical values.

Conclusion and implications

This paper attempts to assess the response of the foreign exchange market in Malaysia to a number of political events. These events include two general elections (namely the 13th and 14th General Elections), the 1MDB exposé, the imprisonment of erstwhile opposition leader Anwar Ibrahim and the appointment of Muhammad Ibrahim as the 8th Governor of the Central Bank of Malaysia. Our study is conducted within the framework of an Event Study. We adopt the spot RM/USD exchange rate as the proxy for the foreign exchange markets. Using daily data in a 250-day estimation window, we estimated market model of RM/USD exchange rate returns in an ARDL framework and calculated the resulting ARs and CARs. The statistical significance of the ARs and CARs are also determined. To our knowledge, this is the first study of its kind in Malaysia and represents a meaningful contribution to the literature.

Some of our salient findings are that the CARs from the scandal arising from the 1MDB exposé are significantly positive. This indicates that the Ringgit had depreciated more than

expectations, signifying an unfavourable market response. Second, the response to the results of the general elections are not uniform. Particularly, subsequent CARs in reaction to the GE13 were mostly positive, again implying a larger than expected depreciation of the Ringgit and an unfavourable market reaction. In contrast, the CARs for the GE14 were mostly negative, implying a favourable market response since the Ringgit depreciated less than expected. Meanwhile, CARs in reaction to Anwar Ibrahim's imprisonment had been negative, generally an unfavourable market reaction. Finally, the subsequent CARs in response to the appointment of a new Central Bank Governor was negative towards the end of the event window, implying a favourable market reaction. We also notice that these results are robust, even if RM/USD is substituted with RM/GBP and RM/EUR.

There are a number of practical implications following the results of our paper. First, the market's reaction to general election outcomes could be used as input to measure how well a newly elected government is performing as a gauge of public sentiments. For instance, the loss of public enthusiasm for the new government almost two months after GE13 is captured very succinctly in the CAR plots in Figures 2-4. The advantage that exchange rates have over public surveys and polls is that the former can be available real-time and can be analysed more quickly. Second, the manner in which the markets responded to political events suggests evidence of market inefficiency i.e. a violation of the Efficient Markets Hypothesis (EMH). As such, there exists arbitrage opportunities among players in the foreign exchange markets. For instance, the exposure of corruption (in the case of the 1MDB exposé) and the subsequent unfavourable market response implies arbitrage opportunities, shorting the Ringgit before the market reaction is fully reflected. Finally, as the response of the three exchange rates to key political events are quite uniform, there is very little room for the practice of diversification among RM/USD, RM/EUR and RM/GBP when a key political event is triggered.

References

- Ahmad R., Rhee, S.G., Wong, Y.M., 2012. Foreign Exchange Market Efficiency Under Recent Crises: Asia-Pacific Focus. *Journal of International Money and Finance*, 31(6), 1574-1592
- Adam M., Kozinsky W., Zielinski J., 2013. To what extent can central banks influence exchange rates with foreign exchange interventions? The case of Poland. BIS Papers No. 73
- Bowes, D.R., 2018. Stock Market Volatility and Presidential Election Uncertainty: Evidence from Political Futures Markets. *Journal of Applied Business Research*, 34(1), 143-150
- Bialkowski, J., Gottschalk K. and Wisniewski T.P., 2008. Stock Market Volatility around National Elections. *Journal of Banking and Finance*, 32(9), 1941-1953
- Bin, L., 2015. Political Leadership Events and Stock Market Reactions: Evidence from the Greater China Region. *Journal of Accounting and Finance*, 15(8), 81-94.
- BIS (2016), Foreign Exchange Turnover in April 2016. Triennial Central Bank Survey, Bank for International Settlements
- BIS (2019), Global Foreign Exchange Market Turnover in 2019. Triennial Central Bank Survey, Bank for International Settlements
- Booth, J.R., Booth, L.C., 2003. Is presidential cycle in security returns merely a reflection of business conditions? *Review of Financial Economics* 12, 131–159.
- Brown, C.R., 2018. The Sarawak Report: The Inside Story of the 1MDB Exposé. Gerakbudaya Enterprise, Kuala Lumpur.
- Brown S. J. and Warner J. B., 1985. Using daily stock returns: The case of event studies. *Journal of Financial Economics*, 14(1), 3.31.
- Chesney, M., Reshetar, G. and Karaman, M., 2011. The impact of terrorism on financial markets: An empirical study. *Journal of Banking and Finance*, 35(2), 253-267
- Chia, R.C.C., 2018. *General Election and Political Uncertainty in the Malaysia Stock Market: Evidence from Stock Market Returns and their Volatility*. Dissertation (PhD). Yokohama National University.
- Chin, J., 2015. Malaysia: Pseudo-democracy and the making of a Malay-Islamic State. In: Case W., ed. *Routledge Handbook of Southeast Asian Democratization*, Routledge, London and New York, 399-409
- Ding Z., Granger, C. W. J. and Engle, R.F., 1993. A Long Memory Property of Stock Market Returns and a New Model. *Journal of Empirical Finance*, 1, 83–106.
- Echavarria, J.J., Villamizar-Villegas, M., 2016. Great expectations? evidence from Colombia's exchange rate survey. *Latin American Economic Review*, 25(3), 1-27
- Gunasegaram, P., 2018. *1MDB The Scandal That Brought Down a Government*. The Strategic Information and Research Development Centre (SIRD), Malaysia.

Hou, X. and Li, S., 2019. The price of official-business collusion: Evidence from the stock market reaction to “Hunting the Tigers” in China. *China Finance Review International*, forthcoming.

IMF, 1997. *World Economic Outlook: Crisis in Asia, Regional and Global Implication. Interim Assessment*. Washington DC, December.

Lean, H.H., 2010. Political General Election and Stock Performance: The Malaysian Evidence. In: Ismail, M.T., ed. *Research in Mathematics and Economics*, USM Press, 111-120

Liew, V.K.S. and Rowland, R., 2016. The effect of Malaysia general election on stock market returns. *SpringerPlus*, 5, 1-13

Lobo, B.J. and Tufte, D., 1998. Exchange rate volatility: Does politics matter? *Journal of Macroeconomics*, 20(2), 351-365

Kliger, D. and Gurevich, G., 2014. *Event Studies for Financial Research: A Comprehensive Guide*. Palgrave Macmillan, US.

Kollias, C., Papadamou, S. and Stagiannis, A., 2011. Terrorism and capital markets: The effects of the Madrid and London bomb attacks. *International Review of Economics and Finance* 20(4), 532-541

Khuntia, S., Pattanayak, J.K. and Hiremath, G.S., 2018. Is The Foreign Exchange Market Efficiency Adaptive? The Empirical Evidence From India. *Journal of Asia Pacific Business*, 19(4), 261-285

MacKinlay, A.C., 1997. Event Studies in Economics and Finance. *Journal of Economic Literature*, 35(1), 13-39

Mpofu T.R. and Peters A., 2017. The Impact of Monetary Policy Announcements and Political Events on the Exchange Rate: The Case of South Africa. ERSa working paper 700

Nazir, M.S., Younus, H., Kaleem, A. and Zeshan Anwar, 2014. Impact of political events on stock market returns: empirical evidence from Pakistan. *Journal of Economics and Administrative Sciences*, 30(1), 60-78

Nofsinger, J.R., 2004. The stock market and political cycles. Paper presented at the Annual Meeting of the Financial Management Association, October 6-9, 2004, New Orleans, LA.

Sen, K. and Tyce, M., 2017. The elusive quest for high income status—Malaysia and Thailand in the post-crisis years, *Structural Change and Economic Dynamics*, In press

The Economist, 2016. Malaysia’s central bank tries to stem a slide in the ringgit. *The Economist*, 24 November, pp. 64-65

Wong, W.Y. and Hooy, C.W., 2016. The Impact of Election on Stock Market Returns of Government-Owned Banks: The Case of Indonesia, Malaysia and Thailand. *Asian Journal of Business and Accounting*, 9(1), 31-58

Yusoff, W.A., Salleh, M.F.M., Ahmad A. and Idris, F., 2015. Short-run Political Events and Stock Market Reactions: Evidence from Companies Connected to Malaysian bi-Power Business-political Elite. *Procedia - Social and Behavioral Sciences*, 211, 421-428