FORECASTING STOCKS PRICES OF GLCS USING THE CAPITAL ASSET PRICING MODEL: FROM THE EVENT OF POLITICAL ELECTIONS IN MALAYSIA

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ABSTRACT
This paper is aimed to investigate the impact of new government administration on Government Linked Companies (GLCs) stock prices by using event methodology. The change of new administration just happens recently (in May 2019), therefore this research will be useful contribution to the literature. Data for 129 GLCs companies were collected and used for this study. The results show that there is a significant impact at 20% level.

INTRODUCTION
Numerous studies have found that there is a significant relation between elections and stock market (Wagner et al., 2018; Liew & Rowland, 2016; Durnev, 2010; Füss & Bechtel, 2008). However, election events are unique. There are various factors that may contribute to the uniqueness of this event such as demographic of the nations, socio-economic, people sentiments, also
candidates and parties involved. Hence a number of available literatures related to election and stocks return can be found. However, the studies are quite limited for Malaysia and to the author knowledge there was no paper written on 2018 Malaysian General Election yet.

May 9th, 2018 was a historical victory for Parti Keadilan Rakyat (PKR), the then opposition party as it was the first time Barisan Nasional (BN), the then ruling party, who has been in power for 60 years since independence was defeated in the 14th General Election (GE). The unexpected win of new government causes havoc to the Malaysian’ stock market and substantial reactions to the Government Linked companies (GLCs). Hence, this paper is developed to discuss the effect of the change of new government to GLCs’ stock returns.

The uniqueness of this paper is its focus on the immediate after effect of elections to GLCs’ stocks return which to the author knowledge has not been discussed in previous research. What are GLCs and why GLCs are the centre of this study? GLCs are companies invested by government through Government Linked Investment Companies (GLICs). Before 1970, about 62% shares of the limited companies in Malaysia are owned by foreigners, 23% by the Chinese and only 1.5% by the Bumiputera’s (the sons of the soil) mainly Malays, which occupied about 70% of Malaysian population (refer to Table 1). Malaysian government has very minimal interest in the limited companies at that time. BN, the then ruling party realized the economic disparities for the Bumiputera and introduced National Economic Plan (NEP) for the purpose of reducing the disparities and improving the economy of Bumiputera. Under NEP, government employs public limited companies now known as GLCs to venture into various sectors of economy on behalf of Bumiputera.

GLCs has been the pillar of the Bumiputera economy since then introduced. As government is the backbone of GLCs, the influence of the political party that rule the government at the time could not be denied. There is a relationship between politicians and firms (Gomez et. al., 1999) and Government plays dominant roles in Malaysian businesses (Backman, 2004).

Table 1: Ownership of Share Capital (at par value) of Limited Companies, (1969-2006) in percentage

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Bumiputra's individual and trust</td>
<td>1.5</td>
<td>2.4</td>
<td>9.2</td>
<td>12.5</td>
<td>19.1</td>
<td>19.2</td>
<td>20.6</td>
<td>19.1</td>
<td>18.9</td>
<td>19.4</td>
</tr>
</tbody>
</table>
In addition, prior to the election, the new government coalition came out with 10 promises in 100 days’ manifesto which include investigations of scandals in few companies including FGV Berhad a GLC company and Lembaga Tabung Haji a GLIC. Thus, all these reasons are worth to initiate the investigation of the effect of change of government to GLCs stock return. This paper is aimed to investigate the following hypothesis: Hypotheses: There is abnormal return among the changes of Malaysian government administration in 2018.

Data for 129 GLCs companies has been collected and event methodology has been adopted for the purpose of analysis. The result shows there the change of new administration does have an impact to the stock’s prices of GLCs Company.

**LITERATURE REVIEW**

It is being classified that firms that has member of parliament (MP) as one of its top management; or has MP as one of its shareholders are politically or relatives of MP’s as top management or shareholders are politically connected (Faccio, 2006). Firms that are politically connected are known to receive various forms of advantages (Stigler, 1971). This might include preferential treatment by bankers (Backman, 2004), preferential treatment in competition for government contracts and relaxed regulatory oversights (Kroszner & Stratmann, 1998). Politicians tempt to use government-owned bank to achieve their political goals (La Porta et al., 2002). There is an increasing trend in lending among government owned bank during the election years (Dinç, 2005). On the other hand, if the firm is a bank it will easily attracts deposits compared to non-politically connect (Nys & Trinugroho, 2013).
Political connections exacerbate the information asymmetry between managers and investors (Chen et al., 2010). It is being argued that politically connected firms have lower quality of earning reporting because of lesser need and pressure from the market to increase quality of information (Chaney et al., 2011). This might work adversely if the firms are no longer being supported by the government. Thus, it is expected to see significant result for this study. Indonesia election in year 2014 stocks market shows abnormal return during the election however there is no significant different for the return before and after election (Chandra, 2015). Banks that are government owned have higher positive abnormal return during election period (Yan & Wooi, 2016). Positive abnormal return for politically connected firms during 2008 Taiwanese presidential election was also found (Lin, 2016). There was a cycle pattern in stock prices responding to United States presidential election where it dropped in the first half of presidency term and rose in the second half of presidency. United States stock market response positively to the winning party that market favors, which is Republican in this study; and negatively following Democratic party victories (Wong & McAleer, 2009). In contrast, no evidence of cycle in response to Germany presidential election (Döpke & Pierdzioch, 2006).

Canadian stock market shows positive response to changes in Canadian government and even stronger positive response to the changes of United States regime (Foerster, 1993). Additionally, Stock market has higher volatility during election period and one of the reasons is change of political orientation of the government (Bialkowski, 2008). Therefore, this is also supporting the motivation to detect the abnormal return for Malaysian GLCs firms.

Malaysian government is under BN is pro-businesses but not market as it intervenes heavily to reduce disparities and ensure better wealth distribution between Chinese and Bumiputera (Backman, 2004). It was also being elaborated that Malaysian Government awarded contract without tenders or close tenders. It was claimed that the action was for the best interest of the government as government is the quasi-shareholders of the firms. The government revenue will increase as these business revenue increases (Backman, 2004).

It was reported that GLC employs 54% of Kuala Lumpur Composite Index (KLCI) and 36% market capitalization of Bursa Malaysia (Menon, 2017). PETRONAS an oil and gas company wholly owned by government is prioritizing awarding contracts and tenders to Bumiputera (Yeoh, 2019). 40% of the nation revenue come from PETRONAS. FGV is the world’s largest Crude Palm Oil (CPO) producer and the second largest Malaysian palm oil refiner was incorporated in 2007 (FGV, 2019) as the commercial arm of FELDA, a government agency that was founded to handle the resettlement of rural poor into newly developed areas and to organize smallholder farms growing cash crops. FELDA has always been a secure political tool for UMNO, a majority party under BN coalition (Lhériteau, 2014). In general,
GLCs companies has been argued to be underperformed compared to non-GLCs (Razak et al., 2011).

An event methodology is one of the frequently use method to assess excess return earned by security holders upon specific event. Generally, event methodology used stock prices which are assumed to be representing the value of the firm (McWilliams & Siegel, 1997). Various scholars have chosen event methodology since 1969 as it can be used in different applications and the modelling of abnormal returns as coefficients in a (multivariate) regression framework (Binder, 1998). The crucial part of event methodology is determining the event window, the period of abnormal return is expected to be present. Inaccurate assignment of event window will produce wrong value of results.

There are 3 common approaches to evaluate the abnormal return (Brown & Warner, 1985) which are:

Mean adjusted return
\[ AR(i,t) = r(i,t) - \bar{r}_i \] ………………(1)

Market model
\[ AR(i,t) = r(i,t) - (\alpha - B_i r) \] ... ………………………………(2)

Modified adjusted return
\[ AR(i,t) = r(i,t) - r_m \] ………………………………… (3)

\[ AR(i,t) = \text{Abnormal return of stock } i \text{ at time } t \]
\[ r(i,t) = \text{return of stock } i \text{ at time } t \]
\[ \bar{r}_i = \text{average return of stock } i \]
\[ r_m = \text{return of the market} \]
\[ \alpha \text{ and } B_i \] are the OLS values from estimation

Mean adjusted return is less popular as it did not consider market input. Market model is leveraging on CAPM where beta of the firm is considered when calculating abnormal return. However, there will be no difference between market model and modified adjusted return in determining the abnormal return for short event window (Brown & Warner, 1985). Modified market model is viewed as a restricted market model with alpha equal to zero and beta equal to one for each stock (MacKinlay, 1997).

**MATERIALS AND METHODS**

129 GLCs companies has been identified and data related to the companies were collected using Thompson Reuters Eikon Datastream. Event methodology was adopted and modified adjusted return will be used to determine the abnormal return (Brown & Warner, 1985). Identification of event window is important to ensure the effectiveness of this study. May 14th, the first working day after announcement of new government was identified as event day or D-0. Event window should be [-20,20] interval stock (MacKinlay, 1997). However, for the purpose of this study post event days
were extended to 120 days. This is due to the inefficient nature of ASEAN market (Guidi & Gupta, 2011). Market takes longer time to react to the news (Dickinson & Muragu, 1994). Then, equation (3) was used to determine the abnormal return. FBM100 data was used for this purpose. Since the motive of this study is to see the abnormal in GLCs, FTSEKLCI is not appropriate to represent market. The reason is because majority of companies’ stocks (28 out of top 30 components) that made up KLCI are part of this study. Proceed from the results were then used to determine the cumulative abnormal return (CAR) and cumulative average abnormal return (CAAR) were then determined as per equation (4) and (5).

\[
\text{CAR}_t = \sum_i \text{AR}_it \quad \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (4)
\]

\[
\text{CAAR}_t = \frac{\text{CAR}_t}{N} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (5)
\]

\*N=number of firms

t_stat were then calculated to determine the significant of the results. After that, the regression model was developed as (6).

\[
\text{CAAR}=\alpha + \text{share proportion owned by government} + \sum \text{[control variable]} + \epsilon \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (6)
\]

Proportions of shares own by the government were chosen as the main variable to represents the existence and influence of government to the firms which may contribute to the reasons of investors whether to invest or to walk away from the firms. The research controls the effect of firms’ characteristics through;

Sectors which is represent as \( \sum \text{[Dummy]} \ldots \ldots \text{sector} \) in the regression equation (6)

Market value

As mentioned in the earlier section, Malaysian government is very active in the market and has ownerships in various sectors. Each sector may react differently (Baca, 2000) towards the changes of the government and the magnitude of the response may also be different. Therefore, this is the more the reason why sector must be controlled. Furthermore, sector such as oil and gas were expected to have unique reaction towards the event as PETRONAS and SAPURA Holdings are majorly owned by the government. Financial sector was also expected to have reaction upon the changes of the government as more than 50% of major banks shares is owned by the government.

There is numerous studies show that firm size is impact the return of the companies (Chan, 1985). Firm size also used as a variable in his study (Bunkanwanicha et al., 2013). In this study, firm size is measure as logarithm of total market value of the firm. Microsoft Excel and Stata were used as tools to run the study.
RESULTS AND DISCUSSION

Table 2 below represents the descriptive statistics of the variables used. On average, government hold about 27% of ownership in a company and the maximum holding is 85%. Malaysian government is the majority shareholders for 21 firms and holds more than 30% ownership for 40 firms. These firms have average market value of about RM10 billion. This data portrayed that Malaysian government is active in businesses.

Table 2: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Government Ownership</td>
<td>129</td>
<td>0.2742961</td>
<td>.2115479</td>
<td>.0019</td>
<td>.8581</td>
</tr>
<tr>
<td>Market Value (in million ringgit)</td>
<td>129</td>
<td>10093.78</td>
<td>17532.43</td>
<td>24.45</td>
<td>118161.1</td>
</tr>
</tbody>
</table>

Figure 1: Ownership of Share Capital (at par value) of Limited Companies, (1969-2006) in percentage

Figure 1 illustrates the Cumulative Abnormal Return from (16th April 2018 until 29 October 2018). Figure 1 showed that the market was reacting positively towards the change of government in the first 50 days of new administration however it is pessimistic with the firms afterwards. Market may be afraid of the new policies and the news about overhauling GLCs companies. Many prominent GLCs’ directors are forced to resign under new government.

Even so, the statistics barely shows significant results on the abnormal response. Various event window has been tested only [0,120] shows significant at 20% critical value. In general, it can be concluded that the market is not showing over or under reaction towards the new administrative. However, if longer event window were taken, some abnormal response has been detected.
Table 3: Cumulative abnormal return and Cumulative average abnormal return of GLCs before and after new administration

<table>
<thead>
<tr>
<th>Event window (d-, d+)</th>
<th>CAR</th>
<th>Variance of CAR</th>
<th>CAAR</th>
<th>Variance of CAAR</th>
<th>t_{stat} (CAAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-20, +20]</td>
<td>0.013866</td>
<td>0.000863</td>
<td>0.00010</td>
<td>5.1882E-08</td>
<td>0.47189</td>
</tr>
<tr>
<td>[-10, +10]</td>
<td>0.008782</td>
<td>0.00108</td>
<td></td>
<td>6.81E-05</td>
<td>0.26722</td>
</tr>
<tr>
<td>[-5, +5]</td>
<td>-0.014174</td>
<td>0.001603</td>
<td>-0.00011</td>
<td>9.6355E-08</td>
<td>-0.3539</td>
</tr>
<tr>
<td>[-2, +2]</td>
<td>-0.002424</td>
<td>0.002272</td>
<td>-1.88E-05</td>
<td>1.3653E-07</td>
<td>-0.0508</td>
</tr>
<tr>
<td>[-1, +1]</td>
<td>-0.001263</td>
<td>0.003491</td>
<td>-9.79E-06</td>
<td>2.0976E-07</td>
<td>-0.0213</td>
</tr>
<tr>
<td>[0, +30]</td>
<td>0.038892</td>
<td>0.001444</td>
<td>0.000301</td>
<td>8.68E-08</td>
<td>1.02331</td>
</tr>
<tr>
<td>[0, +50]</td>
<td>0.035567</td>
<td>0.001071</td>
<td>0.000276</td>
<td>6.435E-08</td>
<td>1.08687</td>
</tr>
<tr>
<td>[-20, +60]</td>
<td>0.027141</td>
<td>0.000789</td>
<td>0.00021</td>
<td>4.7386E-08</td>
<td>0.96651</td>
</tr>
<tr>
<td>[0, +60]</td>
<td>0.029526</td>
<td>0.000948</td>
<td>0.000229</td>
<td>5.6989E-08</td>
<td>0.95879</td>
</tr>
<tr>
<td>[0, +120]</td>
<td>-0.039704</td>
<td>0.000691</td>
<td>-0.000308</td>
<td>4.1496E-08</td>
<td>-1.510*</td>
</tr>
</tbody>
</table>

Regression following equation (6) was conducted for various event windows to confirm the results and for robustness check. Table 3 shows that government ownership is significant at 20% for the even window [0,120]. Longer even period maybe needed as Malaysia is considered as emerging market (Guidi & Gupta, 2011; Dickinson & Muragu, 1994). Results also shows that other factors do not seems significant thus can be dropped. However, dropping the insignificant variable does improve the t statistic value. The results also show significant at 20% for event window of [0,60] and [-20,60]. Results are conforming to the literature where longer even window is needed for the study as Malaysia is considered as emerging market (Guidi & Gupta, 2011; Dickinson & Muragu, 1994). Addition to that, results also shows significant at 20% or more for sector 2, 5 and 6 for most cases. Sector 2 is for firms involve in manufacturing and transportation industry, sector 5 is construction and sector 6 is oil and gas.

Oil and gas are expected to show a big reaction as government is holding the most ownership in PETRONAS and SAPURA the two giants in the industry. In addition, petroleum is one of the highest revenue contributions to the government. As for constructions, there are various issue with regards to awarded tender related to public infrastructures and the possibilities of retendering and reassignment of projects may cause the market to show bigger reaction. Manufacturing is the second largest sectors that contribute to
Malaysian GDP (Department of Statistics Malaysia, 2018). Thus, this may give good enough reasons of why the bigger response was detected.

**Table 4: Regressions results for event window [0,120]**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 129</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>0.000672625</td>
<td>12</td>
<td>5.2188e-06</td>
<td>Prob &gt; F = 0.1382</td>
</tr>
<tr>
<td>Residual</td>
<td>0.000390434</td>
<td>116</td>
<td>3.3900e-06</td>
<td>Adj R-squared = 0.1382</td>
</tr>
<tr>
<td>Total</td>
<td>0.00453079</td>
<td>128</td>
<td>3.5397e-06</td>
<td>Root MSE = 0.00183</td>
</tr>
</tbody>
</table>

**Table 5: Regressions results for event window [0,120]**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Number of obs = 129</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>0.000563082</td>
<td>11</td>
<td>5.6911e-06</td>
<td>Prob &gt; F = 0.0804</td>
</tr>
<tr>
<td>Residual</td>
<td>0.000390477</td>
<td>117</td>
<td>3.3174e-06</td>
<td>Adj R-squared = 0.1382</td>
</tr>
<tr>
<td>Total</td>
<td>0.00453079</td>
<td>128</td>
<td>3.5397e-06</td>
<td>Root MSE = 0.00183</td>
</tr>
</tbody>
</table>

**CONCLUSION**

This research examines the relationship between GDP, changes in exchange rate volumes, Event study has been used to investigate whether there is abnormal return among GLC stocks during the changes of Malaysian government in 2018. The results conclude to reject null hypothesis for even window [0,120], [0,60] and [-20,60]. The change of new administration does have an impact to the stock’s prices of GLCs Company. However, the result show only 20% level of significant, which is not at per expected. Market does response and behaves slightly different than expectation. Manufacturing and industrial transportation, constructions and oil and gas sectors are showing bigger response towards the new government administration.

**REFERENCES**


