Stock Market Liberalization Impact on Sectoral Stock Market Return in Malaysia

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Abstract: The stock market liberalization policies announcement dates shows that the liberalization policies were implemented on specific sectors in Malaysia instead of the whole stock market in the country. Therefore, this paper analyses the impact of stock market liberalization on sectoral stock market return in Malaysia, in particular finance sector and service sector. Dynamic Fixed Effect (DFE) method was used to study the stock market liberalization impact on the stock market return while controlling the effects of stock market characteristics, which are stock market size, volatility and liquidity. The results indicate that, in the long run stock market liberalization has positive effect on stock market return only for the service sector, but no significant impact on finance sector's stock return.

Keywords: Stock market liberalization, sectoral stock market return, Bursa Malaysia, pooled mean group, dynamic fixed effect method.
JEL classification: F30, F32, G14, G15, G18, G28

1. Introduction

Stock market liberalization is defined as domestic government's decision to permit foreigners to purchase shares from the domestic country's stock market and also allow the domestic investors to buy foreign equity securities (Henry, 2000a; Bekaert *et al.*, 2005). Malaysia had its first official liberalization in the late 1980s or early 1990s. The liberalization policies resulted in large inflows of short term foreign capital which finance long term domestic lending (Kuroda, 2002). In the year 1997, Asian financial crisis occurred and stock market liberalization claimed to be one of the causes of financial crisis. This is because the first official liberalization of stock market was pushed and adapted too fast for the existing economic system in the late 1980s and early 1990s (Stiglitz, 2004).

Regardless of the Asian financial crisis, the government authorities in Malaysia continuous to implement stock market liberalization. The authorities believed that subsequent stock market liberalization would reduce the negative effect of the financial crisis and also boost the stock market performances (Sheng, 2006). However, subsequent stock market liberalization may worsen the situation in Malaysia where the stock market becomes more volatile as the country becomes vulnerable to political and economic turmoil (Bae *et al.*, 2004; Jayasuriya, 2005) or the financial system is destabilized (Naceur *et al.*, 2008). Other than that, Malaysia may be more vulnerable to international capital flight. Most importantly, subsequent stock market liberalization may trigger another financial crisis in the Asian region (Kwan and Reyes, 1997).

Malaysian first official stock market liberalization date is December 1988, where the country received the first American Depository Receipt (ADR) issuance in Malaysia (Bekaert *et al.*, 2003). As shown in Table 1, the authorities continue to implement stock market

liberalization, following the first official liberalization policy decree. The stock market liberalization policies announcement dates shows that the liberalization policies were implemented on specific sectors in Malaysia instead of the whole stock market in the country. Therefore, it is our interest to examine the impact of stock market liberalization impact on sectoral stock market return in Malaysia. This paper examines the impact of subsequent stock market liberalization on finance sector and service sector stock return in Malaysia from 2009 to 2014 instead of focusing on the initial stock market liberalization which is implemented at the end of 1980s or early 1990s as other researchers did (Henry, 2000b; Bekaert *et al.*, 2003; Patro, 2005; Boubakri *et al.*, 2005). The analysis on the efficiency and effectiveness of subsequent stock market liberalization on generating high stock returns would assist policy makers in making decision whether there should be greater liberalization or greater regulation to be implemented in the future. Thus, if subsequent stock market liberalizations do not generate significant positive impact, then there is no reason for the authorities and policy makers to considerate the liberalization policy.

Table 1: Subsequent stock market liberalization dates, degree of openness to foreign investors and affected sectors

Date	Degree of Openness to Foreign Investors	Sectors Indices
3 April 1998	49% to 61% for local telephone companies	Service sector
17 June 2003	100% foreign ownership in manufacturing companies	Manufacturing sector
22 April 2009	100% foreign ownership in 27 service sectors	Service sector
27 April 2009	Increase foreign equity limits from 49% to 70% of investment banks, Islamic banks, insurance companies & Takaful operators.	Finance sector
30 June 2009	100% foreign ownership for fund management. 70% foreign ownership for unit trust management companies & stockbrokers.	Finance sector
28 Oct 2009	Partly open the protected car industry to foreign producers.	Manufacturing sector
7 Oct 2011	100% foreign ownership in 17 service sectors	Service sector
9 June 2014	100% foreign ownership in unit trust management companies	Finance sector

In terms of literature, despite the extensive research on the impact of stock market liberalization on returns, there have been only a few analyses that included Malaysia in their studies. Those which have come to our notice are research done by Henry (2000b), Christoffersen *et al.* (2006) and Kim and Singal (2000). This paper extends the existing literature in few directions. Firstly, this paper covered recent period which from year 2009 until 2014. The reason for choosing time period from year 2009 onwards is to avoid the 1997 Asian financial crisis and 2008 subprime crisis. Secondly, this paper used announcement date of stock market liberalization instead of using the implementation date. The vital reason for using announcement date instead of implementation date is due to the fact that stock prices respond better to the announcement dates compare to the implementation (Patro, 2005). Besides that, there might be a widespread information leakage before the official implementation date and it may affect the result (Henry, 2000b). Thirdly, the stock market liberalization policies announcement dates shows that the liberalization policies were implemented on specific sectors in Malaysia instead of the whole stock market in the country. Therefore, this paper studies the sectoral indices of finance sector and service sector. This will help the policy makers to decide on which specific sectors the liberalization policy to be implemented for a significant impact. In addition, this paper also used more appropriate method which is the Pool Mean Group (PMG) method. The benefit of using this method is it can detect the long run equilibrium relationship. Besides that, it can also produce long run

and short run results. Other than that, this approach has statistical advantages such as low co-linearity, higher estimation efficiency and greater degrees of freedom (Lee and Wang, 2015).

The rest of the paper is organized as follows. Section two provided summary of selected empirical studies and their findings on stock market liberalization impact on stock return. Section three discussed the theoretical framework, methodology and data used in this study. The results and discussion of the study were presented in section four. Section five concluded the study and spelled out some policy recommendations.

2. Literature Review

A number of papers explore the impact of stock market liberalization on returns (Henry, 2000b; Patro, 2005; Christoffersen *et al.*, 2006; Kim and Singal, 2000). However, those studies focus on the impact of the first or initial stock market liberalization only and do not focus on the subsequent stock market liberalization. Patro (2005), Christoffersen *et al.* (2006), Kim and Singal (2000) and Henry (2000b) study the impact of the first implementation of stock market liberalization on emerging countries. Their findings support the prediction of International Asset Pricing Model (IAPM) where stock market returns and stock market liberalization has positive relationship. For instance, Henry (2000b) stated that the stock index in a liberalized country generates 3.3% abnormal return per month. At the same time, Kim and Singal (2000) research finding stated that the stock return increase for a short run only after liberalization due to high demand for the domestic stock by foreign investors.

International Asset Pricing Model (IAPM) predicts that liberalization of stock market will reduce the cost of capital in the country (Henry, 2000b; Tai, 2007). According to Iwata and Wu (2009), a country's cost of capital has two major components, which are the risk free rate and the equity premium. A greater international risk sharing occur when the stock market liberalizes and this lead to a reduction of cost of capital. Their research also showed that stock market liberalization allows for a better hedge against exogenous and idiosyncratic financial market risks. Zurigat and Gharaibeh (2011) studied on Amman Stock Exchange in Jordan from 1985 to 2010 and found that there is increase in the capital inflows after the liberalization of stock market. At the meantime, Christoffersen *et al.* (2006) research at the firm level on 12 emerging countries (Argentina, Brazil, Chile, India, Korea, Mexico, Thailand, Colombia, Malaysia, Philippines, Taiwan and Venezuela) found that stock market liberalization has positive impact on the stock market performance especially small firms. Besides that, their analysis also found that large firms' stock market performance does not show any significant change after liberalization. The price pressures or different economies are the reason for the obvious different between the small and large firm performance.

3. Methodology
3.1 Theoretical Framework

The performance of liberalization policy is analysed in detail by looking into some related theory which is International Asset Pricing Model (IAPM). The International Asset Pricing Model (IAPM) stated that cost of equity capital of a county decreases after the stock market is liberalized (Bekaert and Harvey, 2000; Henry, 2000b). The main reason for reduction in cost of equity is higher risks sharing across the border. The equity premium decreases as the risk sharing increases between local and foreign investors. The required return decreases and as a result, there is rise in the country's equity price provided that, the expected future cash flows are held constant and the cost of equity capital reduced after stock market liberalization.

3.2 Definition and Measurement of Variables

This paper used stock market returns as a proxy for stock market performances. In the past, many researchers used stock market return as a proxy to measure stock market performance

in their studies such Levine and Zervos (1998), Henry (2000b) and Tai (2007). This study used weekly closing price of stock market which on Friday instead of using monthly or yearly data. According to Fuss (2005), usage of weekly data can help to avoid problems such as having irregular and nonsynchronous trading which will occur if daily data is used for the study.

As mention earlier, the main objective of this study is to examine the impact of stock market liberalization on the stock return. This study applied short horizon event window to measure the stock market liberalization impact on stock return of firm in Malaysia. Henderson (1990) stated that event window would able to measure the effect of an identifiable event on financial markets, which in this study would be the stock market liberalization impact on stock return. Dummy variables were used for this event window where dummy equals to the value of 1 begins on the week of announcement to the week three, five, seven or nine depending on the window length, and zero otherwise (Henry, 2000b; Jayasuriya, 2005; Levine and Zervos, 1998). Short horizon event window is used in this study because it is assumed that the impact of subsequent stock market liberalization would not be as great as the initial implementation.

Besides our main variable of interest, there are other stock market characteristics that may influence the stock return. The stock market characteristics are chosen based on Naceur *et al.* (2008) and Levine and Zervos (1998) which studied about stock market developments. The stock market characteristics used in both of the research are stock market size, volatility, liquidity, and efficiency. However, this study only focuses on three stock market characteristics which are stock market size, volatility and liquidity. Naceur *et al.* (2008) calculate efficiency of stock market by dividing the value of trades of shares on national stock markets with market capitalization. The unavailability of value of trades of shares data has hindered this study from including efficiency as the stock market characteristics.

Stock market size symbolizes a company's or a stock's total value. The weekly stock market capitalization or better known as market value is used to measure the stock market size of firm (Dey, 2005). The market value is obtained by multiplying the number of the stock's outstanding shares with the current share price. The unavailability of gross domestic product (GDP) data in weekly basis has hindered this study from using the market size measurement applied by Levine and Zervos (1998) and Naceur *et al.* (2008) which is the ratio of market capitalization to the gross domestic product (GDP).

Stock market volatility of firm is determined by estimating or measuring the variance of asset returns of the stock in the long run. Generalized Autoregressive Conditional Heteroskedasticity (GARCH) is applied to measure the stock market volatility of firm in this study instead of using a 12-month rolling standard deviation of returns which is used in Levine and Zervos (1998). This is because GARCH method is more commonly used by researchers such as Jayasuriya (2005), Tai (2007) and Kwan and Reyes (1997) in their research. Besides that, GARCH method is more accurate and flexible in measuring the stock market volatility of firm compare to other methods (Matei, 2009).

Liquidity in the stock market is determined by how easily securities are bought or sold. Turnover ratio is used as proxy for stock market liquidity of firm in this study. Besides, Levine and Zervos (1998), Dey (2005), Bekaert *et al.* (2005) also used turnover ratio to capture the stock market liquidity in their research. The value traded ratio which is calculated by dividing the value traded with gross domestic product (GDP) are applied by Levine and Zervos (1998) and Naceur *et al.* (2008) in their research is unable to be used in this study. This is due to the unavailability of value traded data. Furthermore, the gross domestic product (GDP) is not available in weekly basis but only obtainable on a quarterly and yearly basis.

3.3 Data

This research collected the data of finance and service sector's stock return, stock market size, liquidity and volatility in weekly basis from January 2009 to December 2014 from Datastream. This study used only 17 stocks from 30 stocks listed under FTSE Bursa Malaysia KLCI and omitted the 13 stocks due to unavailability of data. Seven stocks were chosen from the FTSE Bursa Malaysia KLCI for finance sector which are Public Bank, Maybank, CIMB, AM Bank, Hong Leong Bank, RHB and Hong Leong Finance. Meanwhile, for service sector, 10 stocks were chosen from the FTSE Bursa Malaysia KLCI, which are Axiata, Digi, Genting Malaysia, Genting, MISC, Petronas Dagangan, Sime Darby, Telekom, Tenaga Nasional and YTL.

3.4 Empirical Model

The impact of stock market liberalization on the finance sector and service sector stock return was analysed in this study by using the Pooled Mean Goup (PMG) method which is proposed by Pesaran *et al.* (1999). Before that, all the variables except for stock market return and the stock market liberalization dummy variable were transformed using logarithm. The panel data model is specified as follows:

$$R_{it} = \alpha_0 + \beta_1 Lib_{it} + \beta_2 logSize_{it} + \beta_3 logVol_{it} + \beta_4 logLiq_{it} + \mu_{it} \qquad (1)$$

where,

R_{it}	=	Stock market returns (of firm i at time t)
Lib_{it}	=	Dummy variable for stock market liberalization which is defined to be equal to the value of 1 from the week of announcement to week 9 of stock market liberalization announcement and zero otherwise.
$Size_{it}$	=	Stock market size (of firm i at time t)
Vol_{it}	=	Stock market volatility (of firm i at time t)
Liq_{it}	=	Stock market liquidity (of firm i at time t)
μ_{it}	=	Error term
$\alpha_0, \beta_1, \dots, \beta_4$	=	Parameters to be estimated.

The International Asset Pricing Model (IAPM), predicts that stock market returns and stock market liberalization has positive relationship. Besides that, the research done by Patro (2005), Christoffersen *et al.* (2006), Kim and Singal (2000) and Henry (2000b) on the impact of the first implementation of stock market liberalization on emerging countries also support the International Asset Pricing Model's (IAPM) prediction. Hence, the expected sign for coefficient of liberalization variable, β_1 is positive.

According to Lee and Wong (2009) and Levine and Zervos (1998) stock market liberalization generates more liquid and bigger size stock market. This is due to greater participation of investors in the stock market, more new shares issued, increased in the number of listed firms and finally, increased of capital and dividend flows after stock market liberalization. Thus, the coefficient of stock market size, β_2 is expected to be positive. At the same time, the coefficient of stock market liquidity, β_4 *is* also expected to be positive. On the other hand, previous studies show two contradicting results where the stock market return could be more volatile or less volatile after the implementation of liberalization policy on the equity market. Therefore, the expected sign for coefficient of stock market volatility variable, β_3 will either be positive or negative.

Generalized Autoregressive Conditional Heteroskedasticity (GARCH) is applied to measure the stock market volatility in this study. The GARCH method used variance equation

to calculate the volatility. Hence, the weekly basis stock market volatility of firm (Vol) in this study is calculated using the following variance equation.

$$\sigma_t^2 = \omega_0 + \alpha_i \sigma_{t-1}^2 + \beta_j u_{t-1}^2 \tag{2}$$

where,

σ_t^2	=	Variance
u_{t-1}^2	=	Squared of previous week stock return
ω, α, β	=	Parameters to be estimated

$\omega_0 > 0$, $\alpha_i \geq 0$, and $\beta_j \geq 0$ for all i and j, $\alpha_i + \beta_j < 1$. The omega, ω in the variance equation interpreted the level of the variance. Meanwhile, alpha, α can be interpreted as the persistence and beta, β as the impact in volatility of new information. The three parameters is estimated using Maximum Likelihood (ML) method. The Maximum Likelihood equation is as follows.

$$\sum_{t=1}^{m} \left[-\ln(\sigma_t^2) - \frac{u_t^2}{\sigma_t^2} \right] \tag{3}$$

where,

$\ln(\sigma_t^2)$	=	Natural logarithm of variance
u_t^2	=	Squared of stock return

3.5 Pool Mean Group (PMG) Method

The PMG method involves both pooling and averaging. Besides that, the PMG method allows the intercepts, short run coefficients and error variances to differ freely across countries or groups. On the contrary, the PMG method imposes homogeneity in the long run coefficients.

$$
\begin{aligned}
R_{it} ={}& \mu_{it} + \delta_{10i} Lib_{it} + \delta_{11i} Lib_{it-1} + \delta_{20i} logSize_{it} + + \delta_{21i} logSize_{it-1} \\
& + \delta_{30i} logLiq_{it} + \delta_{31i} logLiq_{it-1} + \delta_{31i} logLiq_{it-1} + \delta_{40i} logVol_{it} \\
& + \delta_{41i} logVol_{it-1} + \lambda_i R_{it-1} + \varepsilon_{it}
\end{aligned} \tag{4}
$$

$$
\begin{aligned}
\Delta R_{it} ={}& \emptyset_i (R_{it-1} - \beta_{0i} - \beta_{1i} Lib_{it} - \beta_{2i} logSize_{it} - \beta_{3i} logLiq_{it} \\
& - \beta_{4i} logVol_{it}) - \delta_{11i} \Delta Lib_{it} - \delta_{21i} \Delta logSize_{it} - \delta_{31i} \Delta logLiq_{it} \\
& - \delta_{41i} \Delta logVol_{it} + \varepsilon_{it}
\end{aligned} \tag{5}
$$

Equation (4) is the autoregressive distributed lag, ARDL (1,1,1,1,1) model. Meanwhile, equation (5) is the error correction model, which measures the speed of adjustment towards the long run equilibrium. The parameter $\emptyset_i$ is the error correcting term and it is expected to be significant and negative which implies that variables return to long run equilibrium. If $\emptyset_i = 0$, then there would be no evidence for a long run relationship (Blackburne and Frank, 2007).

In addition, Mean Group (MG) and Dynamic Fixed Effect (DFE) method were used to analyse the data as recommended by Pesaran *et al.* (1999). The estimation results obtained from PMG, MG and DFE methods were compared in this study. Hausman test was used to test for the suitability between the three methods (PMG, MG and DFE) based on the consistency and efficiency properties of the three estimators. In this case, the null hypothesis is that the coefficients are homogeneous over cross-sectional units and the alternative hypothesis is that the coefficients are heterogeneous. Hence, the null hypothesis supports the use of DFE estimator and the alternative hypothesis supports the use of PMG/MG estimators.

4. Results and Discussion
4.1 Panel Unit Root
A panel unit root rest was conducted by using the Im, Pesaran and Shin tests where all the variables in the series are logarithm transformed except for the stock return. Table 2 shows the result of unit root test for the stock market return and the three stock market characteristics for finance sector and service sector. Table 2 shows that the finance and service sector's stock returns are stationary at level where the panel unit tests reject the null hypothesis of the series contains a unit root at 1% level of significance. Meanwhile, stock market size and liquidity are stationary at level and integrated of order zero, I(0) whereas stock market volatility is stationary at first difference and integrated of order one, I(1) for both the sectors.

Table 2: The panel unit root test

Variables	Finance Sector		Service Sector	
	Level	First Difference	Level	First Difference
Return	-55.776***	-	-65.026***	-
Size	-19.786***	-	-6.601***	-
Liq	-7.723***	-	-26.069***	-
Vol	4.436	-53.928***	2.606	-62.796***

*Notes: *, ** and *** indicate significant difference at 10%, 5% and 1% levels, respectively. Size of firm (Size), liquidity of the firm (Liq) and stock volatility of the firm (Vol) were logarithm transformed.*

4.2 Finance Sector
As mention earlier, three methods namely, Pooled Mean Group (PMG), Mean Group (MG) and Dynamic Fixed Effect (DFE) recommended by Pesaran *et al.* (1999) were performed and used to analyse our models[1]. On the whole, Dynamic Fixed Effect (DFE) is selected as the most efficient estimator compared to Pooled Mean Group (PMG) and Mean Group (MG) by using the Hausman test[2]. Table 3 shows the overall DFE estimator long run and short run results of the stock market reactions to stock market liberalization for finance sector using five different lengths of event study which are 9 weeks (T* to T*+9), 7 weeks (T* to T*+7), five weeks (T* to T*+5), three weeks (T* to T*+3) and the announcement week only, T*.

Table 3: Stock market reactions to stock market liberalization for finance sector (alternative window event)

Variables	Long Run				
	T*	T* to T*+3	T* to T*+5	T* to T*+7	T* to T*+9
Lib	-0.0020	0.0011	0.0006	0.0007	0.00001
Size	-0.0013	-0.0010	-0.0011	-0.0010	-0.0012
Vol	-0.0004	-0.0004	-0.0004	-0.0005	-0.0004
Liq	0.0009	0.0009	0.0009	0.0008	0.0009
Variables	Short Run				
	T*	T* to T*+3	T* to T*+5	T* to T*+7	T* to T*+9
Lib	-0.0011	-0.0030***	-0.0025***	-0.0014	-0.0040***
Size	0.8415***	0.8405***	0.8403***	0.8422***	0.8423***
Vol	-0.0003	-0.0003	-0.0003	-0.0001	-0.0002
Liq	-0.0001	-0.0001	-0.0001	-0.00002	-0.00001

*Notes: *, ** and *** indicate significant difference at 10%, 5% and 1% levels, respectively. Size of firm (Size), liquidity of the firm (Liq) and stock volatility of the firm (Vol) were logarithm transformed.*

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[1] To save space, the results were not reported here, however, there are available upon request.
[2] Hausman test is not significant, therefore failed to reject the null hypothesis where the coefficients are homogeneous over cross-sectional units. Hence, supports the use of DFE estimator.

The result of finance sector of stock market reactions to stock market liberalization in the long run is presented in Table 3 upper panel. The overall results show that the liberalization coefficients are insignificant. This implies that the stock market liberalization does not have any impact on finance sector's stock returns. This finding contradicts with the prediction of International Asset Pricing Model (IAPM) where stock market returns and stock market liberalization supposedly has positive relationship. Besides that, the finding for finance sector also not consistent with Patro (2005), Christoffersen *et al.* (2006), Kim and Singal (2000) and Henry (2000b) and Tai (2007) research findings. Based on the finding from this study, it can be concluded that the liberalization of foreign ownership is not able to significantly increase the stock return of finance sector in Malaysia.

According to Klein and Olivei (2008), developing countries such as Malaysia, the liberalization of stock market has a small amount of impact only on the domestic stock market compared to developed countries. In addition, lack of adequate institutions and sound macroeconomic in developing countries are other causes for the insignificant of liberalization policy. In the meantime, the gradual process of liberalization also may cause the ineffectiveness of the stock market liberalization (Kawakatsu and Morey, 1999). Last but not least, the liberalization plans are announced in advance which leads to information leakage is another reason for insignificant impact of stock market liberalization.

The lower panel of Table 3 presents the Dynamic Fixed Effect (DFE) result of finance sector stock market reactions to stock market liberalization in the short run using alternative window event. Table 3 provides empirical evidence that there exist significant relationship between stock market liberalization and finance sector stock return in the short run from T* to T*+3 onwards. This shows that it takes three weeks for the finance sector's stock market to react to the stock market liberalization policy. However, the stock market liberalization and stock return has a negative relationship which means the finance sector's stock return decrease when the stock market is liberalized. This empirical evidence also contradicts with IAPM and previous research findings. Stiglitz (2004) stated that liberalization does not always to lead welfare improvement but instead increase the variability of output and consumption with lower growth.

Table 3 also reveals that among the three market characteristics, only stock market size has significant impact on finance sector's stock return in the short run. The stock market size and stock return has a positive relationship from the week of announcement. The finding is consistent with Irfan *et al.* (2002), Levine and Zervos (1998), and Mobarek and Mollah (2005) research findings. On the other hand, the stock market liquidity and volatility coefficients are insignificant both in the long run and short run which indicate that it does not have any impact on finance sector's stock return. Meanwhile, all the three stock market characteristics have insignificant effect on stock return on the long run. The lack of homogeneous expectation on risk return characteristics may cause the stock market volatility and liquidity to be insignificant (Mobarek and Mollah, 2005; Tudor, 2009).

4.3 Service Sector
Again, three methods namely, PMG, MG and DFE were performed and used to analyse the models[3]. In summary, Dynamic Fixed Effect (DFE) is selected as the most efficient estimator compared to Pooled Mean Group (PMG) and Mean Group (MG) by using the Hausman test[4]. Table 4 shows the overall DFE estimator for the long run and short run results of the stock market reactions to stock market liberalization for finance sector using five different lengths

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[3] To save space, the results were not reported here, however, there are available upon request.
[4] Hausman test is not significant, therefore failed to reject the null hypothesis where the coefficients are homogeneous over cross-sectional units. Hence, supports the use of DFE estimator.

of event study which are 9 weeks (T* to T*+9), 7 weeks (T* to T*+7), five weeks (T* to T*+5), three weeks (T* to T*+3) and the announcement week only, T*.

Table 4: Stock market reactions to stock market liberalization for service sector (alternative window event)

Long Run					
Variables	T*	T* to T*+3	T* to T*+5	T* to T*+7	T* to T*+9
Lib	0.0042**	0.0024***	0.0020***	0.0020***	0.0014***
Size	0.0011	0.0012	0.0012	0.0014	0.0013
Vol	-0.0001	-0.0002	-0.0002	-0.0003	-0.0002
Liq	0.0006	0.0006	0.0006	0.0006	0.0006
Short Run					
Variables	T*	T* to T*+3	T* to T*+5	T* to T*+7	T* to T*+9
Lib	-0.0010	0.0007	-0.0018*	0.0016	0.0004
Size	0.7417***	0.7410***	0.7421***	0.7408***	0.7420***
Vol	-0.0014	-0.00141	-0.0013	-0.0013	-0.0012
Liq	-0.0007	-0.0007	-0.0007	-0.0006	-0.0007

Notes: *, ** and *** indicate significant difference at 10%, 5% and 1% levels, respectively. Size of firm (Size), liquidity of the firm (Liq) and stock volatility of the firm (Vol) were logarithm transformed.

The results based on Table 4 (upper panel) shows that the liberalization coefficients are significant. This implies that the stock market liberalization have impact on service sector's stock returns in the long run from the announcement week onwards. This shows that service sector's stock market has high market efficiency where the stock market has reacted immediately to the announcement of liberalization event. This results support the prediction of International Asset Pricing Model (IAPM) and also consistent with the findings of Patro (2005), Christoffersen *et al.* (2006), Kim and Singal (2000), Henry (2000b) and Tai (2007) where stock market returns has positive relationship with stock market liberalization. Based on the finding from this research, it can be concluded that the liberalization of foreign ownership has significantly increase risk sharing, inflows of investment and reduce the cost of capital which lead to increase in service sector's stock market returns. Correspondingly to the finance sector result, the three stock market characteristics do not have any significant effect on the service sector's stock return.

On the other hand, Table 4 (lower panel) shows that the stock market liberalization coefficient is weakly significant with a negative value at T*+5 in the short run. This indicates that service sector's stock return decrease after five weeks of liberalization announcement date. Since there is only one significant negative liberalization coefficient, thus the evidence is considered weak. Therefore, it does not assure that the stock market liberalization would have negative impact on service sector's stock return. The stock market size is the only stock market characteristic that has a significant effect on service sector's stock return while the other two stock market characteristics do not have any significant impact on stock return. The stock market size has a positive impact on stock return where increase in the stock size would increase the service sector's stock return.

5. Conclusions
This study used the subsequent stock market liberalization to analyse the liberalization policy impact on finance and service stock return in Malaysia from year 2009 until 2014. Overall, the results show that liberalization policy has significant and positive impact on service sector stock return which is consistent with the prediction of the IAPM. On the other hand, liberalization policy does not have significant impact on finance sector stock return. Stock market size is the only stock market characteristic that has significant positive relationship with stock return for both sectors in this study. The results provide greater confidence that the

greater the stock market size, the better the stock market returns (Mobarek and Mollah, 2005; Irfan *et al.*, 2002). Meanwhile, the volatility and liquidity variables are not significant, this may be due to lack of homogenous expectation on risk return characteristics (Tudor, 2009; Mobarek and Mollah, 2005).

On the basis of the empirical findings presented above, the study concludes that liberalization policy has significant and positive impact on service sector's stock return but no impact on finance sectors. These findings suggest that policy makers and government authorities must analyse the stock market of a sector before making decision to liberalize the stock market because each sector is different. Besides, the positive relationship between liberalization policy and service sector's stock return implied that investors can gain higher profit by buying service sector's stock if there is any liberalization announcement for service sector. Furthermore, the result also showed that the service sector stock market have immediate effect after the liberalization announcement date. Therefore, policy makers shall identify the market efficiency of the chosen sector's stock market whether the stock market will have immediate effect after the liberalization announcement date or not. This will help the policy makers to plan the duration to announce and implement the liberalization policy since liberalization is a gradual process. In addition, this study's findings also show that market characteristics such as stock market size have impact on the stock return. The positive relationship suggests that investor would gain more by investing in shares of big firms.

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