

Stock Market Reactions Following Sukuk Announcement: An Analysis of Dow Jones Islamic Market Index (2004-2011)

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Abstract: *The aim of the paper is to examine whether different announcement of the sukuk issuance carry any new information to market for the period 2004-2011 in Malaysia. Data are collected from the Securities Commission Malaysia (SC) and Bloomberg databases. The study employs event study methodology using cumulative average abnormal return (CAAR) and the extended CAPM including data for the KLIBOR and government yield sukuk on symmetric and asymmetric events based on the reaction of the Dow Jones Islamic Market Index (DJIM) to the announcement of sukuk issuance. This study would be useful to issuers, investors and decision-makers in assessing the credit risk of sukuk issuance.*

Keywords: *Sukuk, CAAR, extended CAPM, Dow Jones Islamic Market Index, event study*

I. Introduction

Malaysia was the largest market for sukuk raising USD5.5 billion from 54 issues in 2008 [1]. During the 2008 financial crisis, the global amount of sukuk issuance decreased sharply by 54.5 percent to reach USD15.1 billion, as compared to USD33.1 billion in 2007. The decline in sukuk issuance was due to the credit crunch that forced investors to step aside from the money markets, hence exhausting resources for sukuk as well. The number of global sukuk issuance had weakened in the first half of 2008 and remained lower than the 2007 record. Despite the decline, the prospects for the sukuk market were still positive because of the existing demand. Besides, sukuk has a specific form in the structure of Islamic finance. Firstly, sukuk embarked as a benchmark for bond in the conventional system where the bond market increased rapidly in the last several years. The appearance of sukuk in Islamic finance can attract the economic world. Second, sukuk rose significantly, when the condition of financial industries was in a serious crisis and the debt (interest base) was recognized as the main factor causing the financial crisis. Therefore, sukuk as an alternative to conventional bonds can help in stabilizing financial markets [2].

Thus, this paper examines whether different sectors of sukuk issuers' announcements contain pricing relevant information for sukuk. This is motivated by three key factors affecting the sukuk market. First, the industry regained market confidence after the restructuring of the higher profile sukuk default in Dubai after the 2008 financial crisis. Second, investors are avoiding the riskiest markets of the United States and Europe. Third, positive economic growth and favorable debt dynamics in the two most important sukuk issuing regions of the Gulf and Malaysia has attracted investors to the Islamic capital market. The paper contributes to the literature since the empirical work on sukuk issues by sectors is relatively few. The remainder of the paper is organized as follows. Section II discusses the related literature and provides a brief background on recent development of sukuk in Malaysia. Section III discusses the theoretical framework. Section IV highlights the research method. Section V discusses the findings and the final section concludes the paper.

II. Literature Review

A. Definition Of Sukuk

According to the Accounting and Auditing Organization for Islamic Institution (AAIOFI), sukuk is defined as "certificates of equal value that represent an undivided interest in the ownership of an underlying asset (both tangible and intangible), usufruct, services or investments in particular projects or special investment activities" [3].

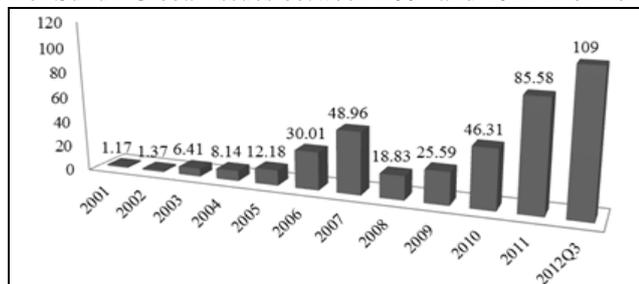
The Securities Commission Malaysia [4] defines sukuk as "a financial document or certificate which represents the value of an asset evidencing an undivided pro rata ownership of an underlying asset".

B. Sukuk Development In Malaysia

The sukuk market has become an increasingly important component of the development of the global sukuk market [5]. Recently, there has been an increase in the issuance of Islamic capital market securities (sukuk) by corporate and public sector entities amidst growing demand for alternative investments [6]. Although the size of the market is modestly by global standards, the sukuk market is experiencing remarkable growth, increasing at an average rate of growth of 40 percent per annum [7].

The sukuk market is the fastest growing and a promising segment of Islamic finance. Indeed, the issuance of Sukuk is increasing considerably worldwide, especially in Malaysia, United Arab Emirates (UAE) and Saudi Arabia [8]. The global value of sukuk issues exceeds 109 billion dollars in 2012. Figure 1 shows the evolution of sukuk global issues between 2001 and 2012. There was an increasing trend of sukuk issuance from 2009 onwards.

Fig. 1 Evolution of Sukuk Global Issues between 2001 and 2012 in billion (\$).



Source: Thomson Reuters Zawya 2014

The Malaysian capital market has significant growth prospects. The Securities Commission (SC) Malaysia estimates the size of Malaysia’s capital market (comprising stock market capitalization and debt securities) to more than double from RM2.0 trillion in 2010 to RM4.5 trillion by 2020. Further analysis indicates there are strong upside prospects for the Malaysian capital market. Based on benchmarks for regional financial centers, it is estimated that the internationalization of the stock market can increase the potential size of the Malaysian capital market by another 30 percent to RM5.8 trillion in 2020. The most important effect of achieving critical mass is the facilitation of volume strategies and higher efficiency of increased economies of scale [9].

Sukuk contribute approximately 90 percent to the Islamic capital market. The Malaysian sukuk market took off in 1990, when the world’s first sukuk was issued by a non-Islamic corporation, Shell MDS, RM125 million of al-Bai’ Bithaman Ajil. The market faced a liquidity crunch not only from the global financial crisis and the debate on the compliance of some of the sukuk structures with Islamic law. Despite the challenging market environment, Malaysia continued to be the top world issuer [10]. Despite the significant drop in sukuk volume in Malaysia in 2013, the country still dominates value and volume of sukuk globally. Malaysia issued USD54.33 billion sukuk in the first nine months of 2013, followed by Saudi Arabia (USD8.69 billion), UAE (USD5.17 billion) and Indonesia (USD5.03 billion). Malaysia stood out in terms of domestic market issuance in Asia, followed by Indonesia. Pakistan also suffered from a significant drop in sukuk volume compared to last year. Table 1 shows the global aggregate sukuk issued a breakdown by country from January 1996 to September 2013.

Table 1: Global Aggregate Sukuk Issued By Country (Jan 1996 – Sep 2013)

Country	Number of Issues	Amount Issued (\$ Million)
Malaysia	2438	324,576.9
UAE	73	47,876.4
Saudi Arabia	64	39,296.0
Indonesia	216	19,924.1
Qatar	19	19,245.6
Bahrain	273	13,918.5
Pakistan	57	6,348.9
Turkey	9	5,469.7
Brunei Darussalam	95	4,980.7
Kuwait	22	2,992.4
Singapore	9	984.2
United States	3	765.7
United Kingdom	5	279.1
China	3	274.7
Yemen	2	251.5
Sudan	3	220.9
Germany	2	190.9
Gambia	242	149.2
Iran	4	132.8
Jordan	1	120.3
Japan	1	100.0
Kazakhstan	1	73.3
France	1	0.7
GRAND TOTAL	3,543	488,172

Source: Thomson Reuters Zawya 2014

C. Stock Market Reactions To Sukuk Issuance

The recent studies on stock market reactions to sukuk issuance who found that the market reaction is significantly positive during event windows [-3, 0] and [-3, 3] for the period 2000-2006 in Malaysia. The finding implies that the positive reaction is not due to investors' preference for Islamic compliant activities, but it is due to similar factors found in studies on conventional bonds. Ameer and Othman (2010) find significant negative abnormal returns near the announcement days and the responses are asymmetrical to different types of bonds issuance announcements in Malaysia over the period 2001-2007 [11].

Modirzadehbami and Mansourfar [12] report a significant negative abnormal return occurs one day before the announcement date in a sample of 45 listed companies on Bursa Malaysia involved in issuing of Islamic debts during 2005 to 2008. Meanwhile, Mohd Ashhari, Sin-Chun and Md Nassir [13] indicate that there is a wealth effect of the announcement of Islamic bond issues for the period 2001 to 2006 in Malaysia. In short, empirical evidence shows that stock market reactions to sukuk issuance are mixed and inconclusive.

Abdul Qoyum [2] said a significant positive market reaction just prior to the firms' positive surprise earnings announcements. When a firm announced positive surprise earnings, investors appeared to perceive a positive signal about the firm's future, which caused an increased in the firm's stock price. Ahmad and Rahim [14] found that there was a negative return on FTSEKLCI for the shorter horizons [0,0] one-day and [-1,+1] three-day events; and positive reactions are recorded only during the five day event in 2009. In 2010, sukuk issues generate positive responses for all calculations for all event windows.

Godlewski et al. [15] investigated the reaction of Malaysian market investors to the announcements of sukuk and conventional bond issues. The stock market is neutral to announcements on conventional bond issues, but it reacts negatively to announcements of sukuk issues. They assigned this result to the great demand for Islamic investment certificates and to the adverse selection promoting sukuk issuance by lower-quality debtor firms.

III. Research Methodology

A. Sample and Data Collection

The sukuk issuances are collected between the period of study (2004-2011). The sukuk data that are collected in this study are the listed companies that issue sukuk in Malaysia. The estimation period for the study is three years based on the FTSE Kuala Lumpur Composite Index (FTSE KLCI) as a proxy. The data on closing prices of the Dow Jones Islamic Market index (DJIM) are collected based on daily date from the DataStream Database. The sukuk data are collected from Bloomberg Database, Security Commission Malaysia and Bursa Malaysia.

B. Method

For the purpose of the study, the market is hypothesized to react positively to the announcement of sukuk issues. This is due to firstly, cheaper financing costs since sukuk has higher liquidity due to a wider investor base encompassing of both Muslims and conventional investors. Second, there is higher demand for Shari'ah compliant stocks since 85 percent of total securities listed on Bursa Malaysia are Shari'ah compliant. Third, funds raised from the Islamic debt instruments are used to finance new activities.

The performance of stock prices of firms on certain days is measured using (1):

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad (1)$$

Where; AR_{it} = Abnormal returns for firm i at time period t

R_{it} = Actual returns for firm i at time period t

R_{mt} = Returns on market portfolio in period t

α_i = The constant average returns of stock i

β_i = Beta estimate of stock

β are estimated using market model which relates the given sukuk to the return of the market portfolio. The returns of the FTSE Kuala Lumpur Composite Index are used as a proxy of market returns. They are calculated by running regression of sukuk returns against the market returns. After estimating the abnormal returns for each firm, the abnormal return for all of the firms on each day of the event window are then aggregated and averaged at (2); where N is equal to the number of firms in the sample:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (2)$$

The t-test for AAR_t is estimated as (3)

$$t\text{-test} = CAAR / \delta (CAAR) \tag{3}$$

where; AAR_t = Average abnormal return of period t

δ = Standard deviation of average abnormal return over the estimation window

To observe the cumulative effects, the cumulative abnormal returns ($CAAR_{t,t2}$) are computed as (4) below:

$$CAAR_{(-t1,+t2)} = \sum_{t=1}^{=t2} AAR \tag{4}$$

$CAAR_t$ is a more precise representation of the long term effect on share prices from bond offering announcements. The standard deviation of CAAR is defined as (5); where N is the number of days in the CAAR statistics:

$$\delta(CAAR) = \delta(AAR)\sqrt{N} \tag{5}$$

T-test is a parametric test. They refer to statistical tests in which assumptions are made about the underlying distribution of the observed data. Parametric tests are more robust and for the most part require less data to make a stronger conclusion than nonparametric tests. Below is a formula for the multiple CAPM involved: KLIBOR and yield on sukuk:

$$AR_{it} = R_{it} - [(\alpha_i + \beta_i R_{mt}) + KLIBOR + YieldGov + \epsilon_{it}] \tag{6}$$

where R_{it} is the return on share i in period t, R_{mt} is the return on a market index during period t, $E(R_{it})$ is the market model's expected stock return, AR_{it} is the abnormal return and ϵ_{it} is the error time, KLIBOR is the Kuala Lumpur Interbank Offered Rate and YieldGov is the yield on sukuk, using data from long term Islamic government investment issues with two years maturity.

IV. Findings

Table 2 shows 20 event windows separated by symmetric and asymmetric events. The minimum event was 3 days [-1,+1] and the maximum event was 61 days: [-30,+30], [-20,+40] and [-40,+20]. The announcement day (day 0) is defined as the day the sukuk offering was first made known to the public. This is supported by Ashhari, Chun, and Nassir (2009) who said that these events are chosen because any period of less than 61 days may not be able to test the effects of the events, as the volatility of the stock is low. The effects of the events may not be clearly seen for periods of more than 61 days, as other factors may trigger the effects.

Table 2: Reactions on DJIM Index following Malaysian Sukuk Issuance (2004-2011)

MALAYSIAN SUKUK ISSUANCE BY LISTED COMPANIES (2004-2011)								
No	Event Window	Types of Events	DOW JONES ISLAMIC MARKET INDEX					
			CAAR			CAAR *includes KLIBOR and yield on sukuk for each index		
			2004-2006	2007-2008	2009-2011	2004-2006	2007-2008	2009-2011
1	[-1,+1]	Symmetric event windows	0.0067**	-0.0110***	-0.0057**	-0.0256***	-0.0268***	-0.0281***
			2.426	-3.566	-2.145	-7.119	-7.119	-10.016
			0.0079	-0.0178***	-0.0079	-0.0294***	-0.0324***	-0.0284***
			1.561	-2.835	-1.594	-4.559	-4.559	-5.56
			0.0201***	-0.0228***	-0.0045	-0.0199***	-0.0363***	-0.0258***
			3.189	-2.692	-0.738	-3.83	-3.83	-3.844
2	[-2,+2]	Symmetric event windows	-0.0034	-0.0132	-0.0075	-0.0306**	-0.0283**	-0.0242**
			-0.289	-1.114	-0.847	-2.155	-2.155	-2.632
3	[-3,+3]	Symmetric event windows	0.0058	0.1359***	-0.0259**	-0.0159***	0.1273***	-0.0372***
			0.277	4.398	-2.157	3.651	3.651	-2.879
4	[-7,+7]	Symmetric event windows	0.0097	0.0843**	-0.0597**	0.0056	0.0556	-0.0574**
			0.269	2.323	-2.608	1.402	1.402	-2.447
5	[-15,+15]	Symmetric event windows	0.0209***	-0.0085	-0.0065	-0.0183***	-0.0267***	-0.0286***
			4.16	-1.334	-1.232	-3.609	-3.609	-4.984
6	[-30,+30]	Symmetric event windows	-0.0127***	-0.0162**	-0.0037	-0.0272***	-0.0364***	-0.0252***
			-2.999	-2.639	-1.013	-6.511	-6.511	-6.365
7	[-1,+3]	Asymmetric event windows	0.0013	-0.0187**	-0.0072	-0.0312***	-0.0322***	-0.0275***
			0.188	-2.591	-1.296	-4.175	-4.175	-4.653
8	[-3,+1]	Asymmetric event windows	0.0159**	-0.0228***	-0.0077	-0.0226***	-0.0343***	-0.0303***
			2.614	-3.394	-1.365	-4.124	-4.124	-5.09
9	[-2,+4]	Asymmetric event windows	0.0098	-0.0267***	-0.0078	-0.0256***	-0.0337***	-0.0280***
			1.142	-3.509	-1.224	-4.005	-4.005	-4.067
10	[-4,+2]	Asymmetric event windows	0.0165**	-0.0374**	-0.0049	-0.0228***	-0.0569***	-0.0259***
			2.614	-3.394	-1.365	-4.124	-4.124	-5.09
11	[-3,+5]	Asymmetric event windows	0.0098	-0.0267***	-0.0078	-0.0256***	-0.0337***	-0.0280***
			1.142	-3.509	-1.224	-4.005	-4.005	-4.067
12	[-5,+3]	Asymmetric event windows	0.0165**	-0.0374**	-0.0049	-0.0228***	-0.0569***	-0.0259***
			2.614	-3.394	-1.365	-4.124	-4.124	-5.09

		2.035	-2.551	-0.764	-3.592	-3.592	-3.698
13	[-3,+7]	0.0042	-0.0154**	-0.0071	-0.0263***	-0.0226***	-0.0270***
		0.507	-2.032	-0.911	-2.706	-2.706	-3.249
14	[-7,+3]	0.0126	-0.0207	-0.0049	-0.0243***	-0.0421***	-0.0231***
		1.307	-1.594	-0.697	-2.924	-2.924	-3.05
15	[-4,+10]	-0.0027	-0.0250**	-0.0159*	-0.0291**	-0.0347**	-0.0368***
		-0.218	-2.308	-1.679	-2.515	-2.515	-3.776
16	[-10,+4]	-0.007	-0.0153	-0.0081	-0.0351*	-0.0249*	-0.0226***
		-0.587	-1.341	-1.121	-1.95	-1.95	-2.846
17	[-10,+20]	0.0349	0.0364**	-0.0365***	0.0056	0.0119	-0.0498***
		1.559	1.987	-2.823	0.607	0.607	-3.701
18	[-20,+10]	-0.0499*	0.0998***	-0.0220**	-0.0556***	0.0992***	-0.0268**
		-1.984	3.332	-1.979	2.821	2.821	-2.282
19	[-20,+40]	-0.0486	0.0767**	-0.025	-0.046	0.0432	-0.0125
		-1.249	2.468	-1.079	1.215	1.215	-0.521
20	[-40,+20]	0.0088	0.1588***	-0.0756***	0.0032***	0.1454***	-0.0712***
		0.271	3.978	-4.576	3.465	3.465	-4.015

Note: t-statistics are in parentheses, *Significant at 10%, **Significant at 5%, ***Significant at 1%

Source: Author's calculation

There are six symmetric 3, 5, 7, 15, 31 and 61-day events in this study. Asymmetric event is when there is the same number of days before and after the announcement of sukuk issuance. There were 14 asymmetric events from 5 days to a maximum of 61 days. The events have been separated to study market efficiency in Malaysia. The efficiency of the market in Malaysia can be examined using different symmetric and asymmetric event windows. In an efficient market, the closing price of the stock market fully reflects all available information. The stock prices should approximately follow a random walk, that is, future changes in stock prices should be unpredictable.

The DJIM indexes show they were sharing the same asymmetric event [-10,+20], with a maximum value of CAAR 10 days before the sukuk announcement and 20 days after the sukuk announcement. The positive response to these two indexes before the crisis showed the sukuk investors' confidence about investing in sukuk in local and global markets. The results showed positive and significant results on DJIM before the crisis. The stock markets reacted positively before the 2008 financial crisis based on the CAAR estimated. During the crisis, the maximum value of CAAR showed positive and significant results of 1% on the asymmetric event [-40,+20]. These results show that an asymmetric event with more days before the announcement is the best. The results indicate that in short events show negative results in both symmetric and asymmetric events.

In long term events, both symmetric and asymmetric events showed positive and significant results. This means the markets react negatively following negative information, such as during the 2008 global financial crisis. The stock markets reacted negatively and significantly during the 2008 financial crisis based on the CAAR estimated. The period after the crisis showed that all event windows, both symmetric and asymmetric events reacted to negative results. All events showed no positive results after the crisis. After the crisis, the markets showed negative results following the negative information. The maximum results of CAAR, which was at the asymmetric event [-3,+1]. This showed that the maximum results after the crisis were in shorter events. Moreover, after the crisis, a minimum value of CAAR in the asymmetric event [-40,+20]. There were negative with significant results of 1% on this event. This meant the markets took a longer time to absorb the negative news. After the crisis, sukuk investors' confidence was lower than before the crisis happened. Stock markets responded negatively and significantly following sukuk issuance after the 2008 financial crisis based on the CAAR estimated.

The table also shows the reactions on DJIM index following Malaysian sukuk issuance (2004-2011) including the Kuala Lumpur Interbank Offered Rate (KLIBOR) and yields on sukuk for each index. There were no surprising results, although this table was tested with the extended CAPM including data for the KLIBOR and government yield sukuk. Almost the results of multiple CAPM showed negative and significant results in all events during the period of study. They showed the same patterns of results which were: all of the maximum and minimum results were asymmetric events. The results showed the 15 events with negative and significant results. Only three events showed positive and insignificant results before the crisis. During the crisis, there were early reactions on indexes where negative results were associated with negative information. The long term change in positive results suggested that the markets had recovered after the crisis.

All short term events would react to negative reactions and all long term events would react to positive reactions during the crisis. The asymmetric event [-40,+20] demonstrated the maximum CAAR and the asymmetric event [-5,+3] also showed the minimum CAAR. Overreactions made markets react positively, although the crisis happened in 2007 to 2008. The results indicated a leakage of information among the sukuk

issuers and perhaps higher confidence levels among sukuk issuers to issue sukuk as the alternative financial instrument during the crisis. As investors slowly realized their overreaction before the bad news, the returns were positive after the announcement day. All symmetric and asymmetric events showed negative and significant results after the crisis except on asymmetric events [-20,+40], which showed insignificant results. Stock markets reacted negatively and significantly after the 2008 financial crisis based on the CAAR estimated. The negative results after the crisis showed the markets were affected by the crisis and took a long time to recover.

The findings indicate that the markets reacted positively before the crisis and negatively and significantly both during and after the crisis. The alternative hypothesis is that the security market was inefficient and the results of stock prices did not accurately reflect the new information. This might result from the following: investors were unable to interpret the new information correctly; investors had no access to the new information; the transaction cost of trading security obstructed free trading; the restriction was on short sale; and finally, the investors might have been misled by the changes in accounting principles.

V. Conclusion

The investors on DJIM index did not seek risks before the crisis. During the crisis, the high risk-averse behaviour had the highest result, which indicated that the sukuk investors on the DJIM index avoided negative news during the crisis. After the crisis, results showed that the market recovered and investors' confidence was restored. The results showed that during and after the crisis, the investors avoided risks. Negative results were associated with negative information during the crisis. These results showed that the DJIM index was an efficient market index in reacting to negative results during and after the crisis, with no delays or overreactions. Having sufficient information on the market, the investors avoided and stayed away from adding higher risks to their portfolio.

The results showed that the market reacted negatively during the crisis as it was impacted by the negative information. There were overreactions in the market, which took a longer time to absorb the negative news because of the lack of information among sukuk investors and issuers. However, the results showed positive reactions after the crisis, indicating that the overreactions during the crisis recovered slowly. Thus, there were no surprising results, although this study was tested with the extended CAPM, including data of KLIBOR and government sukuk yield. But, the results showed that the best index which included KLIBOR and the sukuk yield is the DJIM index. The cumulative average abnormal return on the DJIM index gave the maximum returns compared to other indexes.

Weak-form efficiency occurs when stock prices reflect all the information found in past stock prices. Stock prices reacted so fast to past information that no investor could earn an above-average risk-adjusted returns by acting on this level of information. Thus, the security market was inefficient and that resulted in stock prices not accurately reflecting the new information. The researcher found that this might have resulted from the following: investors were unable to interpret the new information correctly; investors had no access to the new information; the transaction cost of trading security was an obstruction to free trading; investors were affected by short-sale restrictions; and finally, investors might have been misled by the change in accounting principles.

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