

EVENT STUDY ON SUKUK ANNOUNCEMENT USING CAAR AND EXTENDED CAPM TO ISLAMIC INDEXES IN MALAYSIA

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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 Kuala Lumpur Interbank Offered Rate (KLIBOR) and government yield Sukuk on symmetric and asymmetric events based on the reaction of the FTSE Bursa Malaysia Emas Shari'ah Index and FTSE Bursa Malaysia Hijrah Shari'ah Index 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, Shari'ah indexes*

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Introduction

The recent modernization of Islamic finance has changed the dynamics of the Islamic financial industry. The changes have caused the demand of *Sukuk* to increase in the last few years and caused them to gain universal acceptance as an alternative to conventional financial products. *Sukuk* has developed into one of the most significant mechanisms to raise funds from the market using Islamic guidelines. *Sukuk* also appeals to conventional investors looking for *Sukuk* that provide the possibility of increasing an original asset and thus the value of the *Sukuk* themselves, while the original debt in bonds cannot be increased (Mohamed, 2008). Looking at both the increasing expectation of this industry and the growing investor base, the study will investigate the performance of the *Sukuk* industry from 2004 to 2011 in Malaysia.

According to MENA Sukuk Report (2009), Malaysia was the largest market for *Sukuk* in 2008, raising USD5.5 billion from 54 issues. During the 2008 financial crisis, the global amount of sukuk issuance decreased sharply by 54.5 percent to 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 market, hence exhausting resources for *Sukuk*.

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The number of global sukuk issuance weakened in the first half of 2008 and remained lower than the 2007 record. Despite the decline, the prospects for *Sukuk* market are still positive because of existing demand. By doing so, the main focus of this research is therefore to investigate stock market reactions following *Sukuk* announcements in Malaysia based on the event study methodology.

The paper contributes to the literature since the empirical work on *Sukuk* is relatively few. The remainder of the paper is organized as follows. Section II discusses the related literature review. Section III discusses the theoretical framework. Section IV highlights the research methodology. Section V discusses the findings and the final section concludes the paper.

Literature Review

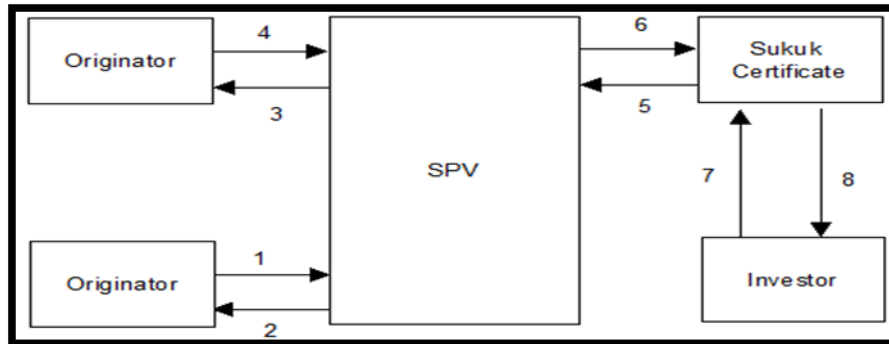
Definition of Sukuk

Sukuk is an Arabic word and is the plural of '*sakk*'; which means "legal instrument, deed, or check". *Sukuk* is considered as Shari'ah-compliant bonds, where bonds are defined as long-term debt obligations that are secured by a specified asset or a promise to pay (Al-Amine, 2008). *Sukuk* is defined by Securities Commission Malaysia (2011) as "certificates of equal value which evidence undivided ownership or investment in the assets using Shari'ah principles and concepts approved by the Shari'ah Advisory Council (SAC)". *Sukuk* and conventional bonds are different because *Sukuk* follows the rule of Shari'ah. However, conventional bonds include the elements or *gharar*, *maysir* and *ribs*, which are prohibited in Islam. Although *Sukuk* and conventional bonds are different, there are some similarities between them. Conventional bond has fixed term maturity, bear a coupon (profit) and is tradable with the normal yield price. However, *Sukuk* is structured in such a way that their issuance is not an exchange of paper for money consideration with interest as per conventional bonds. Instead, they are based on an exchange of an approved asset for some financial consideration that allows the investors to earn profits from the said transaction (Mohd Zin et al., 2011). According to the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), *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 (AAOIFI, 2008).

Process of Sukuk Issuance

There are three parties to a *Sukuk* arrangement in general (Tariq & Dar, 2007). They are the originator of the *Sukuk* (the obligor), the Special Purpose Vehicle (SPV) as the issuer of the *Sukuk* certificates, and the investors who buy these certificates. The SPV is a separate bankruptcy remote legal entity from the originator. At the expiry of the term of the *Sukuk* (and lease of the assets), the ownership of the asset will reside with the collective *Sukuk* holders. Figure 1 shows the basic arrangement of the *Sukuk* structure.

FIGURE 1: Arrangement of *Sukuk* Structure



Source: Tariq & Dar 2007

There are three parties involved in the process of *Sukuk* issuance: the originator, the Special Purpose Vehicle (SPV) and the investors. The steps involved in the process of sukuk issuance are explained below:

1. Originator sells assets to be leased to the SPV.
2. The originator receives payment for assets sold.
3. The SPV leases assets back to the originator.
4. The SPV receives rent payments from the originator under a term-specified contract.
5. The SPV collects funds from the issuances of *Sukuk* certificates to finance the purchase of assets from the originator.
6. The SPV utilizes the rent payments from the originator to disburse distributions on the *Sukuk* certificates.
7. Investors, both conventional and Islamic, secure the *Sukuk* certificates.
8. The investors are reimbursed periodically by the distributions from the SPV, which are funded by the originator's rental payments on the lease assets.

Previous Studies on Event Study (Stock Markets Reactions)

Many studies have been conducted to examine market participants' reactions to bond announcements and their impact on firm value. A considerable amount of literature so far has focused on the group of bonds carrying special features of having both equity and bond components. A noteworthy first finding was by Mikkelson and Partch (1986) who recorded the absence of any significant reaction of the stock markets to conventional bond announcements. This was evidence that stock markets do not react to debt announcements, including bond issuances, even if some studies also found support for a negative reaction (Spiess & Affleck-Graves, 1999). The reaction of stock markets to the issue of bonds was affected by opposing influences.

Brown and Warner (1980) said that event studies were frequently used to test market efficiency. An event study was a statistical method used to gauge the impact of a corporate event, such as stock splits, earnings announcements and acquisition announcements. Several studies for the United States market documented a significantly negative (on average -1.5 percent) market response to convertible bond issues, confirming the hybrid nature of these

financial instruments. The announcement effect of different corporate securities has been the subject of numerous studies, such as Mikkelson and Partch (1986) for equity, Eckbo (1986) for bonds, and Dann and Mikkelson (1984) for convertible securities. Furthermore, these results supported the models proposed by Myers and Majluf (1984).

However, the results of the effect of issuance analyzed in several studies present a mixed picture. For example, for the United States domestic market, Dann and Mikkelson (1984), Mikkelson and Partch (1986) and Billingsley et al. (1990) found significantly negative stock market reactions on the issuance date. Kang and Stulz (1996) found a significantly positive market reaction in the Japanese market. In general, the stock market did not appear to react very strongly on the date of issue.

Eckbo (1986) found significantly negative average abnormal returns to firms offering convertible debt, straight debt offering were, with the exception of a subsample of public utility offerings, on average associated with zero abnormal performance. Shaheen (2006) recorded that preliminary evidence showed that acquiring firms did not experience significant abnormal returns around the announcement date. Market participants received no signal on the acquisition announcement day regarding the acquiring firm. Meanwhile, Cakir and Raei (2007) examined the risk-reduction advantage of issuing sovereign *Sukuk*. They found that the VaR was reduced when *Sukuk* was added to the portfolio of fixed-income securities, demonstrating that these investment certificates created diversification benefits for investors. They suggest that there was no significant market reaction to conventional bond issues, but a significant negative stock market reaction to *Sukuk* issues.

Ibrahim and Minai (2009) found that the market reaction was significantly positive during event windows [-3, 0] and [-3, 3] during the announcements of Islamic debt issuance for the period 2000 to 2006 in Malaysia. The wealth effect of Islamic bond issuance announcements was positively influenced by the issuer's investment opportunity and negatively influenced by the size of the issue, the size of the firm and whether the announcement was accompanied by the Securities Commission (SC) approval. Ashhari et al. (2009) found that the early market reaction was positive. Regardless of the reaction kind (positive or negative), a possible reason for the early response could be the fact that information of Islamic bond offerings often leaks out to the market before the announcement. Ameer and Othman (2010) found significant negative abnormal returns near the announcement days in Malaysia over the period of 2001 to 2007. They found that the average abnormal return of the subordinated bonds was significantly positive compared to other types of bonds. The average abnormal return (AAR) for the subordinated bonds was significantly positive and larger than AAR for the medium term and straight bonds, whereas zero coupon bonds had the most significant negative returns. Since there was no risk of expropriation from the current bondholders, the stock market would react positively to such announcements.

Abdul Qoyum (2011) found a significant positive market reaction just prior to a 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 increase in the firm's stock price. According to Modirzadehbami and Mansourfar (2011), a significant negative abnormal return occurred one day before the announcement date in a sample of 45 listed companies on Bursa Malaysia involved in the issuing of Islamic debts during 2005 to 2008. The event window was -15 to +15 days around the announcement date

(22 working days). Significant negative abnormal return of the day before showed that the announcement of Islamic bonds in the market was a reflection of bad news.

Rahim and Ahmad (2014) 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. The market reacted negatively during the crisis and positively after the crisis. Rahim and Ahmad (2015) investigate whether market reacts asymmetrically to the issuance of selected Sukuk in Malaysia for the period 2009-2011. They are using CAAR on all symmetric and asymmetric events based on the reaction of the FTSE Hijrah Shari'ah Index and Dow Jones Islamic Market Index (DJIM) to the announcement of Sukuk issuance. The findings indicate that there is a positive and significant market for both indexes.

Theoretical Framework

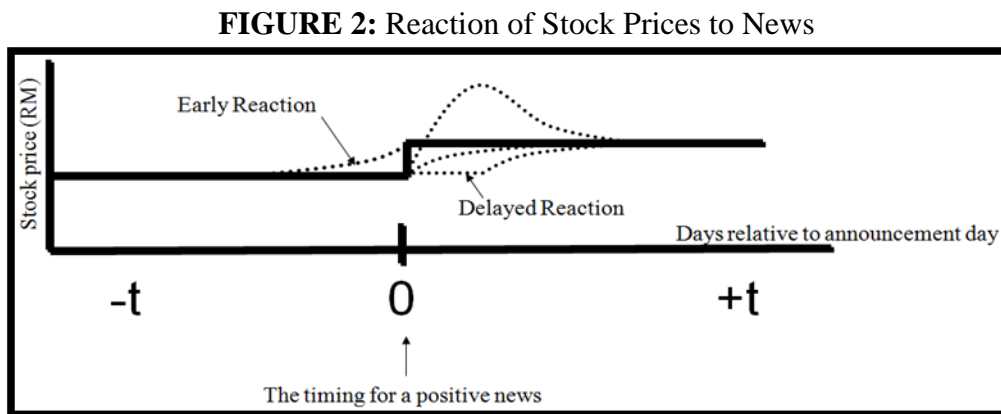
Pecking Order Theory

Myers and Majluf (1984) proposed the Pecking Order theory. They set a higher priority for internal financing and preferred debt over equity in case of external financing. According to their theory, managers tend to establish their capital structure based on the cost of adverse selection arising from information asymmetry between better-informed managers and less-informed investors, which is much lower for the bond than equity. They developed a model in which external financing had a negative effect on common stock prices. When raising external funds, managers tend to issue securities in ascending order of risk (or in a pecking order) to preserve the wealth of shareholders. The effect of new financing may be positive, neutral or negative, depending on how the implied changes in cash flow interacts with the changes in leverage implied by the type of security issued.

The Pecking Order theory has also been supported by Abhayankar and Dunning (1999). Their analysis showed that straight debt financing had a small non-negative effect on the firm value and also pure equity financing had a relatively large negative valuation effect. Several theoretical models related to the motivation for the issuing of convertible securities, pricing and wealth which affect issuers have also been recorded in their theory. Ashhari (2009) said that based on the Pecking Order theory, debts were better than equity because of their low costs. It signaled good news to investors when a firm used debt as a financing tool. Thus, bond offering size was positively related to the cumulative average abnormal return (CAAR). Otherwise, maturity would have a negative relationship with CAAR. This is because the longer the term, the higher the coupon was to compensate the bondholders for the additional risk of tying up money for a longer period. Pecking Order theory postulated a negative relationship between profitability and debt ratio. Hence, the debt ratio would have a negative relationship with the CAAR.

Event Studies Theory

Event studies theory explains how the cumulative average abnormal returns (CAAR) are calculated and how a market responds to either positive or negative news. According to Serra (2002), event studies are an important tool in finance for the valuation of firms and for estimating the changes in firm value resulting from, for example, changes in its capital structure. In general, the value of a firm is difficult to measure. However, if there is an efficient market for the firm's stock, the impact of a decision can be measured by the change in the stock price around the time when the decision becomes public knowledge. Although such events can be studied in many different ways, the empirical finance literature has taken a particular approach based on statistical tests of the significance of abnormal stock returns around the event dates. Figure 2 below shows that the reaction of a stock price to news, which will also change the security price, cannot be predicted.



Source: Frederic 2001

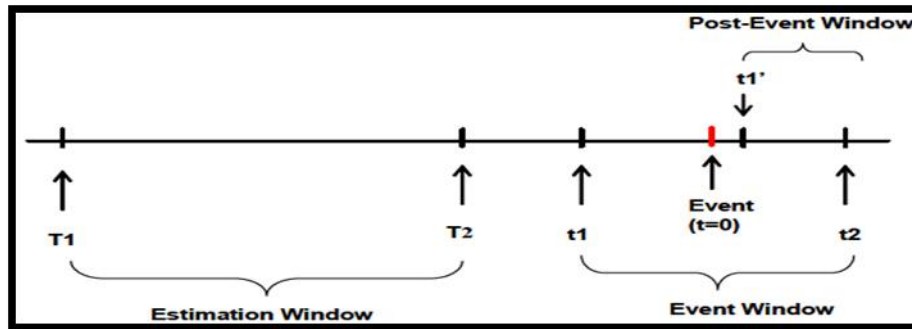
In an event study, it is important to test for any evidence of (1) under reaction, (2) overreaction, (3) early reaction, or (4) delayed reaction around the event. If the market is "semi-strong-form efficient", the effects of an event will be reflected immediately in the security prices. Thus, a measure of the event's economic impact can be constructed using the security prices that are observed over a relatively short time period (Frederic, 2001).

The efficient markets hypothesis (EMH) can be distinguished depending on the level of available information: (1) weak form EMH, (2) semi-strong form EMH and (3) strong form EMH. The weak form EMH states that current asset prices already reflect past prices and volume information. The information contained in the past sequence of prices of a security is fully reflected in the current market price of that security. It is named weak form EMH because the security prices are the most publicly and easily accessible information. In comparison, the semi strong form EMH states that all publicly available information is already incorporated in the asset prices. Finally, the strong form EMH stipulates that private information or insider information is quickly incorporated in the market prices.

According to Frank (2007), the main differences between the models are the chosen benchmark return model and the estimation interval. An abnormal return (AR) is defined as the return (R) minus a normal return (NR). The determination of the normal return requires

the estimation of some parameters. This estimation is typically performed over an estimated period, $[T_1; T_2]$, which precedes the event period, $[t_1; t_2]$. The event is typically defined to occur at $t = 0$. Notice that the time index t counts "event time" which is the number of periods (days, months) from the event and does not represent the usual calendar time. Figure 3 shows the timeline of an event study.

FIGURE 3: Timeline of an Event Study



Source: Frank 2007

Frank (2007) says that in analysing abnormal returns, it is conventional to label the event date as time $t = 0$. Hence, from now on, $AR_{i;0}$ denotes the abnormal return to the event date and $AR_{i;t}$ denotes the abnormal return t periods after the event. If there is more than one event relating to one firm or stock price series, they are treated as if they affect separate firms. They consider an event period, running from t_1 to t_2 . In order to study stock price changes around events, each firm's return data can be analysed separately.

However, this is not very informative because a lot of stock price movements are caused by information that is not related to the event being studied. The effect of this unrelated information could be reduced by averaging the information over a number of firms, thus improving the accuracy of the study. The average abnormal returns from zero indicate abnormal performance because they are all centered around one particular event. The average of abnormal returns should reflect the effect of that particular event. The usual way to study performance over longer intervals is by means of cumulative abnormal returns, where the abnormal returns are aggregated from the start of the event period, t_1 , up to time t_2 . In event studies, the cumulative abnormal return (CAR) is aggregated over the cross-section of events to obtain the cumulative average abnormal returns (CAAR). The CAAR estimates can be obtained by aggregating the AAR_t 's over time.

Methodology

This study defines a return as the difference between the stock market daily price at closing on that day and the stock market daily price at closing on the previous day, divided by the stock market daily price at closing on the previous day. The formula for measuring the return is as follows:

$$R_{mt} = [(P_{(t)} - P_{(t-1)}) / P_{(t-1)}] \quad (1)$$

where $P_{(t)}$ is the stock market daily price at closing. $P_{(t-1)}$ is the stock market daily price at closing on the previous day. The daily return of any stock can be calculated using the following formula:

$$R_{it} = \ln (P_{it}/P_{i(t-1)}) \quad (2)$$

where R_{it} is the return on security i for day t . P_{it} is the price of share i for day t and $P_{i(t-1)}$ is the price of share i on the day before day t . This research also filters the sample size to reduce the selected companies to those that have at least 100 days of stock return observation. The following formula can be used to calculate the market model's expected stock return:

$$E(R_{it}) = \alpha_i + \beta_i (R_{mt}) + \epsilon_{it} \quad (3)$$

where α_i is a market model parameter, β_i is a market model parameter, R_{mt} is the return on market index for day t , $E(R_{it})$ is the market model's expected stock return and ϵ_{it} is the error time. To calculate the difference between the actual returns and the expected returns predicted by the market model, the abnormal return (AR_{it}) can be obtained from the following formula:

$$AR_{it} = R_{it} - E(R_{it}) \quad \text{or}$$

$$AR_{it} = R_{it} - [(\alpha_i + \beta_i R_{mt}) + \epsilon_{it}] \quad (4)$$

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. Below is a formula for the multiple CAPM involved: KLIBOR and yield on *Sukuk*:

$$AR_{it} = R_{it} - [(\alpha_i + \beta_i R_{mt}) + \text{KLIBOR} + \text{YieldGov} + \epsilon_{it}] \quad (5)$$

where R_{it} is the return on share i in period t , R_{mt} is the return on 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. The yield on short-term government debt, which is used as a substitute for a risk-free rate of return, is not fixed but changes on a daily basis according to economic circumstances. A short-term average value can be used in order to smooth out this volatility. This is because real-world capital markets are clearly not perfect.

This research includes KLIBOR but does not include London Interbank Offered Rate (LIBOR) because according to Usmani (2008), *Sukuk* structure cannot use fixed interest rates or market indexes such as LIBOR as a return for the initial *Sukuk* investment. The extensive usage of conventional benchmarks such as LIBOR increases *Sukuk* exposure to the benchmark risk. Interest rates or market indexes such as LIBOR can be used as a benchmark while preparing a feasibility study or calculating rent fees. A proper Islamic index should be developed in the future as a benchmark for Islamic financial institutions. The average abnormal return (AAR_t) is calculated after computing the abnormal returns for all stocks in the sample. It can be calculated by taking the cross-sectional mean of the daily abnormal return:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (6)$$

where AAR_t is the average abnormal return for day t , AR_{it} is the abnormal return to share i for day t and N is the number of securities in the sample. After the (AAR_t) is known, the cumulative average abnormal return $(CAAR_t)$ is calculated. This research obtains the cumulative average abnormal return (CAAR) by summing the daily excess returns over the respective event windows. CAAR can be calculated using the following formula:

$$CAAR_t = \sum_{t-k}^t AAR_t \quad (7)$$

where k is the number of event days before day t , $CAAR_t$ is the cumulative average abnormal return and AAR_t is the average abnormal return. CAAR needs to be tested for their statistical significance by using the t-test. CAAR is important to define whether the Malaysian stock market and the global Islamic index will react positively or negatively when *Sukuk* are issued after the 2008 financial crisis.

Results and Discussion

Table 1 and Table 2 show the reactions on different Shari'ah indexes following Malaysian *Sukuk* issuance (2004-2011) including the Kuala Lumpur Interbank Offered Rate (KLIBOR) and yields on *Sukuk* for each index.

TABLE 1: Summary of Cumulative Average Abnormal Return (2004-2011) – Multiple CAPM

Indicators	Malaysian Sukuk Issuance by Listed Companies (2004-2011)					
	Cumulative Average Abnormal Return (CAAR) *includes KLIBOR and yield on <i>Sukuk</i> for each index					
	FBM EMAS SHARI'AH			FBM HIJRAH SHARI'AH		
	2004-2006	2007-2008	2009-2011	2004-2006	2007-2008	2009-2011
Average Overall		-0.0012	-0.0331		-0.0009	-0.0328
Average Significant	FTSE Bursa Malaysia Emas Shari'ah Index was launched on 21 May 2007	-0.0076	-0.0340	FTSE Bursa Malaysia Hijrah Shari'ah Index was launched on 22 January 2007	-0.0073	-0.0390
Average Symmetric		0.0079	-0.0347		0.0083	-0.0345
Average Asymmetric		-0.0051	-0.0323		-0.0048	-0.0321
Minimum		-0.0588	-0.0725		-0.0586	-0.0722
Maximum		0.1434	-0.0138		0.1448	-0.0136
No of Significant (+ve)		3	0		3	0
No of Significant (-ve)		14	19		14	19

Note: The average values are calculated based on the significant findings from Table 2. $N = 50$ companies.

Source: Author's calculation

TABLE 2: Reactions on Shari’ah Indexes following *Sukuk* Issuance (2004-2011) –Multiple CAPM

MALAYSIAN SUKUK ISSUANCE (2004-2011)								
No	Event Window	Types of Events	CUMULATIVE AVERAGE ABNORMAL RETURN (CAAR) *includes KLIBOR and yield on <i>Sukuk</i> for each index					
			EMAS SHARI’AH INDEX			HIJRAH SHARI’AH INDEX		
			2004-2006	2007-2008	2009-2011	2004-2006	2007-2008	2009-2011
1	[-1,+1]	Symmetric event windows	FTSE Bursa Malaysia Emas Shari’ah Index was launched on 21 May 2007	-0.0287***	-0.0293***	FTSE Bursa Malaysia Hijrah Shari’ah Index was launched on 22 January 2007	-0.0285***	-0.0291***
2	[-2,+2]			-7.529	-10.4328		-7.479	-10.383
3	[-3,+3]			-0.0344***	-0.0296***		-0.0341***	-0.0294***
4	[-7,+7]			-4.779	-5.7831		-4.787	-5.747
5	[-15,+15]			-0.0382***	-0.0270***		-0.0380***	-0.0268***
6	[-30,+30]			-4.004	-4.0094		-4.006	-3.978
7	[-1,+3]	Asymmetric event windows		0.0537	-0.0586**		0.0549	-0.0584**
8	[-3,+1]			1.355	-2.5009		1.385	-2.491
9	[-2,+4]			-0.0286***	-0.0298***		-0.0284***	-0.0296***
10	[-4,+2]			-3.841	-5.1677		-3.831	-5.133
11	[-3,+5]			-0.0384***	-0.0264***		-0.0382***	-0.0262***
12	[-5,+3]			-6.762	-6.6693		-6.795	-6.609
13	[-3,+7]			-0.0341***	-0.0288***		-0.0339***	-0.0285***
14	[-7,+3]			-4.390	-4.8433		-4.391	-4.807
15	[-4,+10]			-0.0362***	-0.0315***		-0.0359***	-0.0313***
16	[-10,+4]			-4.330	-5.2776		-4.305	-5.243
17	[-10,+20]			-0.0357***	-0.0292***		-0.0354***	-0.0290***
18	[-20,+10]			-4.198	-4.2339		-4.209	-4.201
19	[-20,+40]			-0.0588***	-0.0271***		-0.0586***	-0.0269***
20	[-40,+20]			-3.705	-3.8585		-3.693	-3.830
		-0.0245***	-0.0282***	-0.0243***	-0.0280***			
		-2.916	-3.3901	-2.921	-3.365			
		-0.0440***	-0.0243***	-0.0438***	-0.0241***			
		-3.049	-3.1992	-3.035	-3.171			
		-0.0367**	-0.0381***	-0.0365**	-0.0378***			
		-2.647	-3.8967	-2.638	-3.878			
		-0.0268**	-0.0239***	-0.0266**	-0.0236***			
		-2.103	-2.9939	-2.078	-2.967			
		0.0100	-0.0511***	0.0102	-0.0509***			
		.506	-3.7946	.517	-3.780			
		0.0972***	-0.0280**	0.0974***	-0.0278**			
		2.765	-2.3875	2.766	-2.370			
		0.0413	-0.0138	0.0415	-0.0136			
		1.161	-0.5741	1.166	-0.564			
		0.1434***	-0.0725***	0.1448***	-0.0722***			
		3.419	-4.0886	3.452	-4.074			

Note: t-statistics are in parentheses, *Significant at 10%, **Significant at 5%, ***Significant at 1%
Source: Author’s calculation

Almost both indexes 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, all of these four indexes shared the same event for maximum CAAR and they also shared the same event for the minimum CAAR.

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 indexes showed that 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 on all

indexes. Thus, the asymmetric event [-5,+3] also showed the minimum CAAR on all these two indexes. 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.

Hypothesis H_{1a} , which is stock markets reacted negatively and significantly during the 2008 financial crisis based on CAAR estimated, is accepted. Therefore, all symmetric and asymmetric events showed negative and significant results after the crisis except on asymmetric events [-20,+40], which showed insignificant results. Thus, these results support the hypothesis H_{1b} , which is 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.

In short, these two Shari'ah indexes display similar patterns when KLIBOR and *Sukuk* government yield variables were added. The findings indicate that the markets reacted 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.

Conclusion

This research found that stock markets reacted negatively and significantly during and after the 2008 global financial crisis, based again on CAAR estimates. All indexes showed the same pattern of results and thus the thesis hypothesis was accepted. 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 in this study is the HIJRAH Shari'ah index. The cumulative average abnormal return on the Hijrah Shari'ah index gave the maximum returns compared to the EMAS Shari'ah Index.

References

- AAOIFI. (2008). Investment Islamic Bonds (Shari'ah Standard No. 18). *Manama: Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI)*. <<http://www.aoifi.com>>
- Abdul-Qoyum & Ardiansyah. M. (2011). Testing the Semi-Strong Form Efficiency of Islamic Capital Market with Response to Information Content of Dividend Announcement- A Study in Jakarta Islamic Index. *International Conference on Management (ICM 2011) Proceeding*.
- Abhyankar, A. & Dunning. A. (1999). Wealth Effects of Convertible Bond and Convertible Preference Share Issues: An Empirical Analysis of the UK Market. *Journal of Banking and Finance*. Vol.23.
- Al-Amine, M. B. (2008). The Islamic Bonds Market: Possibilities and Challenges. *International Journal of Islamic Financial Services*. 3(1).
- Ameer, R. & Othman. R. (2010). Stock Market Reaction to Bonds Issuance: Evidence from Malaysian Banking Sector. *International Research Journal of Finance and Economics*. ISSN 1450-2887. Issue 45.
- Ashhari, Z.M., Chun, L.S. & Nassir, A.M. (2009). Conventional vs Islamic Bond Announcements: the Effects on Shareholders' Wealth. *International Journal of Business and Management*. 4(6).
- Billingsley, R.S., Lamy, R.E. & Smith, D.M. (1990). Units of Debt with Warrants: Evidence of the Penalty-Free Issuance of an Equity-Like Security. *Journal of Financial Research*. 8(3).
- Brown, S.J. & Warner. J.B. (1980). Measuring Security Price Performance. *Journal of Financial Economics*. Vol. 8.
- Cakir, S. & Raei, F. (2007). Sukuk vs. Eurobonds: Is There a Difference in Value-at-Risk. *International Monetary Fund Working Paper*.
- Dann, L. & Mikkelson. W. (1984). Convertible Debt Issuance, Capital Structure Change and Financing-Related Information: Some New Evidence. *Journal of Financial Economics*. Vol. 13.
- Eckbo, B. (1986). Valuation Effects of Corporate Debt Offerings. *Journal of Financial Economics*. Vol. 15.
- Frank, J. (2007). Event Studies: A Methodology Review. *Empirical Finance and Investment Cases*. Tilburg University.
- Frederic, S.M. (2001). The Economics of Money, Banking, and Financial Markets. *Columbia University*.
- Ibrahim, Y. & Minai. M.S. (2009). Islamic Bonds and the Wealth Effects: Evidence from Malaysia. *Investment Management and Financial Innovations*. 6(1).
- Kang, J.K. & Stulz. R.M. (1996). How Different Is Japanese Corporate Finance? An Investigation of the Information Content of New Security Issues. *Review of Financial Studies*. 9(1).
- MENA Sukuk Report. (2009). Sukuk Market – Down but Not Out. Global Investment House. *Global Research Sukuk*. February.
- Mikkelson, W. & Partch. M. (1986). Valuation Effects of Security Offerings and the Issuance Process. *Journal of Finance Economics*. Vol.15.
- Modirzadehbami, S. & Mansourfar. G. (2011). Information Content of Islamic Private Debt Announcement: Evidence from Malaysia. *World Academy of Science, Engineering and Technology*.

- Mohamed, Z. (2008). Sukuk-A Brief Introduction. Senior Associate. Azmi & Associates.
- Mohd Zin, M.Z., Sakat, A.A., Ahmad, N.A., Mohd Nor, M.R. Bhari, A., Ishak, S. & Jamian, M.S. (2011). The Implementation of Sukuk in Islamic Finance. (Proceeding). *The 2011 International Conference on Sociality and Economics Development IPEDR*. Vol.10. Singapore.
- Myers, S. & Majluf, N. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics*. Vol. 13.
- Rahim, S.A. & Ahmad, N. (2014). Stock Market Reactions Following Sukuk Announcement: An Analysis of Dow Jones Islamic Market Index (2004-2011). *IOSR Journal of Economics and Finance (IOSR-JEF)*. e-ISSN: 2321-5933, p-ISSN: 2321-5925. Vol. 5. Issue 6. Ver. III (Nov-Dec. 2014), pp 29-35.
- Rahim, S.A. & Ahmad, N. (2015). Asymmetric Market Reactions to Sukuk Issuance. *International Journal of Novel Research in Humanity and Social Sciences*. Vol. 2. Issue 3, pp: 48-56.
- Securities Commission Malaysia. (2011). Annual Report of Securities Commission Malaysia 2011.
- Serra, A.P. (2002). Event Study Tests: A Brief Survey. *Universidade do Porto - Faculdade de Economia (FEP)*. 2(3).
- Shaheen, I. (2006). Stock Market Reaction to Acquisition Announcements using an Event Study Approach. *Department of Economics*.
- Spiess, D. & Affleck-Grave, J. (1999). The Long Run Performance of Stock Returns following Debt Offering. *Journal of Financial Economics*. 1(54).
- Tariq, A.A. & Dar, H. (2007). Risk of Sukuk Structures: Implications for Resource Mobilization. *International Business Review*. March-April.
- Usmani, M.T. 1998. Introduction to Islamic Finance. Karachi: Maktaba Maariful Quran.