Are *Sukuk* Really Special?
Evidence from the Malaysian Stock Exchange

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Abstract

The last decade has witnessed rapid expansion of Islamic financial instruments with notably the proliferation of Islamic investment certificates called *Sukuk*. Since *Sukuk* represent an alternative instrument to conventional bonds, it is of interest to evaluate the economic differences between these financing techniques and appraise the implications on the future expansion of *Sukuk*. We use a market-based analysis to investigate whether investors react differently to the announcements of the issues of *Sukuk* and conventional bonds. We find that stock markets are neutral to the announcement of conventional bonds, but we observe a significant negative stock market reaction to the announcement of *Sukuk*. We explain this different reaction of stock markets by the adverse selection mechanism which favors the use of *Sukuk* by lower-quality debtor companies. Unlike arguments presented in prior literature, our results support the view that differences exist between *Sukuk* and conventional bonds because the market is able to distinguish among these securities. They also suggest some detrimental effects of *Sukuk* expansion as these instruments adversely affect firm value, at least in the short run.

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I. Introduction

The last decade has witnessed an unprecedented rapid expansion in Islamic finance. Recent figures indicate that the total assets of Islamic banks operating in over 75 countries worldwide are about 300 billion USD with an annual growth rate exceeding 15% (Chong and Liu, 2009). However, this expansion is also fuelled by the impressive increase in the issuance of *Sukuk*, often referred to as Islamic bonds. Just like Islamic banks provide an alternative mode of financing compared to conventional banking, *Sukuk* are Islamic investment certificates similar to conventional bonds in that they allow sovereign and corporate entities to raise funds in capital markets but following the principles of *Shari'a*, which is the Islamic legal code.

The global outstanding volume of *Sukuk* exceeds 90 billion USD with an increase in the volume issued from 7.2 billion USD in 2004 to 39 billion USD in 2007 (Jobst et al., 2008). These Islamic financial instruments largely originate in the Far East (Malaysia and Indonesia) and in the Gulf Cooperation Council (GCC) countries. Nevertheless, they are also issued outside these regions with the *Sukuk* of the German State of Saxony-Anhalt in 2004 and the US GE Capital more recently in 2009. What is even more striking is the fact that several European governments (including France and the United Kingdom) are taking legal steps to favor the issuance of *Sukuk* in their countries. The motivations for this development in countries outside the Muslim world might be numerous, but they notably highlight the willingness of Western governments to attract funds from the GCC countries to finance sovereign and corporate debt.

This new and rising global interest in *Sukuk* raises several questions. To which extent do *Sukuk* differ from conventional bonds? Are *Sukuk* an alternative way of financing that may gradually replace conventional bonds? What are the economic implications of the expansion of *Sukuk*? To answer these timely research questions, we investigate the stock market reaction to the issuance of *Sukuk* and conventional bonds by corporate entities. By doing so, we provide a comparative analysis of *Sukuk* and conventional bonds that is only based on the market's perception of these alternative financing instruments. Our approach appraises *Sukuk* from two novel perspectives.

First, we inform on the opinion of stock markets on the differences between *Sukuk* and conventional bonds. Are *Sukuk* different from conventional debt instruments? There is currently a debate on whether *Sukuk* really differ from conventional bonds. Miller, Challoner, and Atta (2007) and Wilson (2008) argue that *Sukuk* returns are structured to replicate conventional bond characteristics, but others like Cakir and Raei (2007) take an opposite stand to show that *Sukuk* are different from bonds because they present diversification benefits in terms of risk reduction when added to a portfolio of fixed income securities. Our analysis uses market-based evidence to address this unresolved issue.

Second, our market perception analysis rests on investors' valuation of *Sukuk* and provides insights into their future prospects. Are *Sukuk* likely to replace conventional bonds? While the issuance of *Sukuk* is mainly motivated by religious principles, it is also spurred by financial reasons (e.g. the access to a new class of investors). In this light, a better (worse) valuation of *Sukuk* in comparison to conventional bonds would be in favor of an optimistic (pessimistic) view of the expansion of *Sukuk* markets.

Our study is important because it touches upon the economic implications of the recent expansion of *Sukuk* both at the firm and systemic levels. Indeed, a better valuation of *Sukuk* relative to conventional bonds indicates that their increasing use contributes to creating firm value, whereas a worse valuation suggests that *Sukuk* expansion may contribute to destroying firm value. Another economic implication concerns the systemic stability and long-run viability of Islamic banking. All banks (conventional or Islamic) have incentives to hold a portfolio of investment assets, because they are more liquid than loans and they yield a higher return than interbank loans. However, the liquidity needs of Islamic banks are accentuated by the lack of acceptable means to deal with the asset liability mismatch inherent in banking operations. Islamic banks cannot borrow in the interbank market or at the central bank's discount window because such transactions involve the payment of interest. As Wilson (2004) argues, the vast majority of *Sukuk* is held by Islamic banks because these financial instruments represent the backbone for the development of a much needed secondary Islamic capital market. If market participants view *Sukuk* as different financing instruments compared to conventional bonds, then it is likely that the financial stability of Islamic banks might also be affected, either positively or negatively.

The paper also contributes to the literature by broadening the body of research on these scarcely investigated securities that are *Sukuk*. Existing work on the recent development of *Sukuk* appears in the context of books that describe the basics of

Islamic finance (e.g. Iqbal and Mirakhor, 2007; Visser, 2009), and very few studies analyze *Sukuk* by focusing on their evolution or their specific characteristics (e.g. Jobst, 2007; Jobst et al., 2008).

To analyze the stock market reaction to *Sukuk* and conventional bond issuance, we use the event study methodology which allows measuring the impact of a corporate event on the company's stock return. Specifically, we examine whether announcements of *Sukuk* and conventional bond issues lead to significant abnormal returns for the issuers. In this aim, we consider a sample of Malaysian listed companies which issued conventional bonds and *Sukuk* from 2002 to 2009. Malaysia represents the most interesting country to address our research questions because it is by far the most dynamic country for the issuance of *Sukuk*. In 2007, the volume of issued *Sukuk* in Malaysia was 28.1 USD billion compared with 19 USD billion in GCC countries (Ernst & Young, 2009). This feature is particularly true for corporate *Sukuk*, as 75% of total *Sukuk* were issued in Malaysia over the period January 2004-June 2007. Furthermore *Sukuk* represent about half of the total stock of Malaysian corporate bonds (Jobst et al., 2008), implying that *Sukuk* are not limited to a small portion of the disintermediated financing for companies. Therefore, Malaysia represents the most interesting country to address our research questions.

The remainder of the paper is structured as follows. In Section II, we overview *Sukuk* developments, challenges, and related literature. In Section III, we present our empirical design with a description of the data used and the presentation of results, which we discuss in Section IV. We conclude in Section V.

II. Overview of *Sukuk*

In this section, we start by defining *Sukuk*, distinguishing them from conventional investments such as bonds and stocks, followed by a description of recent market developments. We then review the prospects and challenges faced by *Sukuk*. We conclude by addressing our main research question regarding whether *Sukuk* are expected to be different from conventional bonds.

II.1 What are *Sukuk*?

The Islamic capital market has taken a head start since the turn of the century with the development of *Shari'a*-compliant financial instruments known as *Sukuk*.[1] *Sukuk* investments represent a distinct class of securities issued by sovereign and corporate entities. They are investment certificates with bond- and stock-like features, which are issued to finance trade or the production of tangible assets. Similar to bonds, *Sukuk* certificates have a maturity date, and holders are entitled to a regular stream of income over the life of the *Sukuk* in addition to another balloon payment at maturity. However, *Sukuk* are asset-based (rather than asset-backed) securities, with the underlying being *Shari'a*-compliant in its nature and use. The eligibility of *Sukuk* rests on identifying an existing or a well-defined asset, service, or project that is capable of being certified by a third party, and for which ownership can be recorded in some form. *Sukuk* holders might be responsible for asset-related expenses, and the sale of *Sukuk* results in the sale of a share of an asset. Bonds, in contrast, are pure debt obligations issued to finance any activity and whose value rests on the creditworthiness of the issuer, whereas *Sukuk* prices vary both with the creditworthiness of the issuer and the market value of the underlying asset. Further, *Sukuk* and shares of stock are similar financial instruments in the sense that they represent ownership claims and that the return on both investments is not guaranteed, but *Sukuk* are related to a specific asset, service or project for a period of time, whereas equity shares represent ownership claims on the whole company with no maturity date.

In May 2003, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) officially defined *Sukuk* in the *Standard for Investment Sukuk* as certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services, and it identified at least fourteen possible *Sukuk* structures. The AAOIFI Standard distinguishes *Sukuk* from stocks, bonds, and from the conventional process of securitization as well, emphasizing that *Sukuk* are not debt certificates with a financial claim to cash flow and that they may not be issued on a pool of receivables. Rather, they are similar to a trust certificate with proportional or undivided interest in an asset or a pool of assets, and the right to a proportionate share of cash flow is derived from ownership interest that carries risks and benefits.

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[1] The term *Sukuk* is a plural form of the Arabic term *Sakk* that can be translated as "to strike one's seal on a document" (McMillen, 2007) and which, according to Adam (2006), worked its way in Medieval Europe to become the modern day Latin word of "Cheque".

Sukuk structures vary from *Murabaha* (cost-plus sales), *Salam* (pre-payment of an asset for future delivery), *Ijara* (rental/ lease agreement), *Istisna* (build-to-own property), *Mudaraba* and *Musharaka* (partnerships).[2] However, most offerings to-date are *Ijara*-based, with some recent innovations taking place in the structuring and pricing of *Musharaka Sukuk* (Abdel-Khaleq and Richardson, 2007; Wilson, 2008). Appendix 1 and 2 present diagrams to illustrate *Ijara* and *Musharaka Sukuk* structures, respectively.

In a typical *Ijara Sukuk* structure, the originator sells assets to the *Sukuk* issuer, which is a bankruptcy-remote special purpose vehicle (SPV) that is created to act as a trustee for investors acquiring the assets (Iqbal and Mirakhor, 2007).[3] The assets are leased back to the *Sukuk* issuer for a stated period, with the agreement to sell the asset back to the lessee at the end of the lease period.[4] At the same time, the SPV issues certificates of participation to investors representing undivided ownership in the underlying asset. Over the term of the lease contract, the trustee receives rental payments for the use of the asset and distributes them to certificate holders in proportion to their ownership stake.[5] At the expiry of the lease contract, *Sukuk* holders' ownership claims cease to exist and payments flow stop. They receive the return on their principal and asset ownership reverts to the lessee. If the asset has a market value, *Sukuk* holders can realize a capital gain or loss. However, if the underlying is a public good for which there is no market, *Sukuk* holder exercise an embedded put option whereby the originator buys back the underlying assets at face value.

Alternatively, in a *Musharaka Sukuk* structure, the two parties include an originator providing a pool of assets and an SPV which raises cash by selling *Sukuk* notes to investors (Abdulkader and Nathif, 2004). These parties enter into a

[2] *Murabaha, Salam,* and *Istisna Sukuk* certificates are not readily tradable on the secondary market due to *Shari'a* restrictions (Usmani, 2002).

[3] *Shari'a* scholars agree that ownership of an asset is possible with proper documentation even if the title is not registered under the buyer's name. The common practice is to transfer the beneficial title but not the legal title of ownership to avoid transfer taxes or other unfavorable costs. One exception is the case of Qatar global *sukuk* whereby an actual transfer of the land title took place to the SPV.

[4] It should be noted that there are *Shari'a* restrictions to executing a contract of sale of the leased assets at a future date at the time of initiating the *Ijara* agreement. The sale/ purchase deal is not an integral part of the *Ijara* agreement, and can only be executed at the time of transferring back the assets from the lessor to the lessee. Alternatively, an initial sale/ purchase undertaking can be entered into, allowing the lessee to ultimately purchase back the assets. Such an undertaking is not a contract, and is only binding on the undertaker while the other party has the option not to proceed. Further, it is only signed after completing the initial sale agreement relating to the assets.

[5] Most *Ijara Sukuk* pay a predetermined rate of return to investors. Variable rate *Sukuk* linked to an agreed upon pricing benchmark, usually the LIBOR, may also issued under a Master Lease Agreement.

Musharaka (partnership) arrangement for a fixed period and agree on profit- and loss-sharing ratios. The issuer also undertakes to buy the *Musharaka* shares of the SPV on a periodic basis. The two partners then appoint a managing agent (usually the originator) to act on behalf of the *Musharaka*, and to develop or make efficient use of the asset(s). In return, the agent gets a fixed agency fee and a variable incentive fee payable. The cash returns generated from the *Musharaka* are paid as profits to the *Sukuk* investors. At the end of the fixed *Musharaka* period, the issuer would have bought back the *Musharaka* shares at pre-agreed prices and intervals, and the SPV no longer has any shares in the partnership. Partnership contracts through *Musharaka Sukuk* strengthen the paradigm of Islamic finance and are preferred from the viewpoint of jurists because they rest on profit-and-loss arrangements. The returns on such participation certificates are contingent on the company fundamentals and not benchmarked to market rates. They are also attractive to investors because they are negotiable instruments that can be traded in the presence of an active secondary market.

II.2 *Sukuk* developments

Sukuk were issued as early as the 1980s, but their growth was significantly marked after the turn of the century. According to Moody's (2007, 2008), the global outstanding volume of *Sukuk* exceeds US$90 billion and is expected to reach $200 billion by 2010, with issuance quadrupling from $7.2 billion in 2004 to close to $39 billion by the end of 2007, and up from $336 million only in 2000. Table 1 shows the distribution of *Sukuk* across corporate and sovereign issues over the period 2000-2006.

Figures in Table 1 indicate that corporate *Sukuk* dominate total issuance with a market share that reached a peak exceeding 94% in 2005. Corporate *Sukuk* broaden the firm's financing base away from traditional sources of fund (such as bank loans and lines of credit that are saved for other strategic investments), and extend their maturity beyond the short term horizon usually granted by banks. Further, corporate *Sukuk* issues increase public recognition of the company and raise its profile in the market.

Malaysia dominates the *Sukuk* market with a share standing at approximately 70% of total issues, despite some mega-deals in the past two years that have established Dubai International Financial Exchange (DIFX)'s position as another global leader in *Sukuk,* with a total of eight listings worth exceeding $10 billion as of June 2007 (DIFC, 2007).[6, 7] The Malaysian law plays a significant role in developing the market for *Sukuk* because it has a special provision for non-profit making trusts, similar to English law (Wilson, 2008). Such a legal framework facilitates the establishment of SPV that is required for all *Sukuk* to hold the title of the underlying securitized assets and administer payments to investors.[8] In this background, *Sukuk* issuance proliferated in Malaysia and a secondary market that is much more active compared to the GCC region developed.[9] In our study, we only include *Sukuk* from Bursa Malaysia to address our research question. Figures 1 and 2 show the strong expansion of *Sukuk* in Malaysia during the last decade.

On the international level, London is keen on maintaining a lead in the provision of Islamic financial services, and it signaled its intention to stimulate the industry through the Finance Bill 2007 (Miller, Challoner, and Atta, 2007). The objective of this new legislation is to place *Sukuk* on a level playing field with conventional securitization by providing them with a tax treatment equivalent to other financial products.

More recently in late 2009, two new issues have marked the recognition and acceptance of *Sukuk* beyond the borders of the Islamic world (Parker, 2010b). First, the 5-year Aaa-rated $100m *Sukuk* by the International Finance Corporation (IFC), jointly lead arranged by HSBC, Dubai Islamic Bank and Kuwait Finance House-Bahrain, was well oversubscribed, with the proceeds intended to increase funding for development activities in emerging markets, including the MENA region. Although the size of the issue is not large compared to other mega-*Sukuk*, it shows that leading international institutions like the World Bank recognize the importance of *Sukuk* as a financing tool. Second, GE Capital in the US also closed a 5-Year $500 million *Sukuk*

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[6] Some of the mega-*Sukuk* of the GCC include the 2004 Department of Civil Aviation of UAE issue for $750 million to fund the expansion of the Dubai International Airport, the 2006 *Sukuk* by Dubai Ports, Customs and Free Zone Corporation for $3.5 billion, the 2006 Abu Dhabi Aabar Petroleum oil exploration and production fully convertible *Sukuk* for $460 million, the 2006 Abu Dhabi Islamic Bank $800 million floating rate Islamic note which secured ratings from Fitch Ratings and Moody's, and the 2006 Nakheel Group record of $3.52bn unrated *Sukuk* with unique IPO rights.

[7] As of December 2009, Bursa Malaysia took the lead again in terms of total *Sukuk* value which exceeds $17.6 billion for 12 issues, followed by DIFX ($15.7 billion), London (GBP 6.5 billion), Luxembourg ($7.3 billion), and Bahrain ($2.18 billion and BD330 million) (Parker, 2010a).

[8] According to Wilson (2008), lead *Sukuk* managers include Citigroup. HSBC, Standard Chartered, and Deutsche Bank.

[9] Wilson (2008) suggests that Malaysian *Sukuk* might serve as a tool for Islamic banks to manage liquidity problems, as an alternative to going to London Metal Exchange to buy/ sell commodities on a *Murabaha* basis.

issuance whose proceeds will be used for general corporate and balance sheet purposes. This transaction is strategically important for GE because it raises funds from a new and important investor base.

II.3 *Sukuk* prospects and challenges

Sukuk serve as an important instrument for resource mobilization and a primary vehicle for the development of Islamic capital markets. Solé (2008) argues that expanding the range of financing opportunities for the private sector in Kuwait (and other similar emerging economies engaged in large infrastructure projects) by developing *Sukuk* and bond markets is likely to deepen the financial sector and diversify the economy away from oil activities. Jobst et al. (2008) summarize the economic, financial, legal, and regulatory challenges for the *Sukuk* market. They also suggest that, despite the global financial crisis, there is a strong demand from both Muslim countries and conventional global institutions for *Shari'a*-compliant securities in the form of *Sukuk*.

Abdel-Khaleq and Richardson (2007) evaluate the legal challenges for issuing *Sukuk* in non-Islamic jurisdictions and argue that *Sukuk* avail a new area of cooperation between various international stakeholders. The authors present the first American *Sukuk* offering backed by US oil and gas assets, and issued by The East Cameron Gas Company. The deal involves parties from the US, a bankruptcy-remote intermediary issuer of certificates in the Cayman Islands, investors from the Muslim and Western worlds, bankers in London and Beirut, and legal counsels from Dubai and Houston. The transaction is deemed *Shari'a*-compliant because it essentially involves the sale of property, and it ties investor returns to a profit distribution scheme which also depends on the performance of the underlying. More importantly, the *Sukuk* originator was able to tap liquid resources from the Muslim world to support drilling and operation wells in the Gulf of Mexico for a Texas-based company, thus providing an alternative and innovative form of corporate financing that complements traditional sources of funding.

Wilson (2008) addresses the criticisms to *Ijara Sukuk* related to linking distributions to the LIBOR. He examines innovations in the structuring of *Sukuk* securities and the potential for novel structures based on *Musharaka* or a hybrid of different *Sukuk* structures. Wilson also proposes adopting alternative benchmarks to the LIBOR based on macroeconomic indicators of real activity such as GDP growth for sovereign *Sukuk* and of firm performance in the case of financing corporations.

In Islamic finance, conventional financial derivatives are not *Shari'a* permissible investments because they are regarded as being unreal instruments, or 'promises', as opposed to actual assets. Tariq and Dar (2007) assess the various risks associated with *Sukuk* investing. They also discuss the possibility of developing *Shari'a*-compatible risk mitigating techniques such as embedding in *Sukuk* options and swap features to hedge against those risks. Convertible *Sukuk* are first issued in the Malaysian market in 2005, but they have not been widely launched in any market before until recently in Dubai.[10]

However, these financial instruments can only achieve their benefits if they are issued and traded on a large scale. According to Moody's (2007, 2008), the major drawback is that *Sukuk* are usually held till maturity and an active secondary market has yet to develop. In the GCC region, there is almost no secondary trading in *sukuk* because most investors treat these instruments as "buy and hold" investments**.** McMillen (2007) argues that widespread issuance and trading can be achieved if *Sukuk* obtain ratings, which are currently absent in light of the inability to secure satisfactory legal opinions with respect to *Shari'a* enforceability issues in different jurisdictions. The impact of such legal impediments might be lessened under a standardization of *Shari'a*-compliant transactions that reduces transactional risks through consistency, predictability, and transparency in the enforcement of *Shari'a*, in addition to contributing to the integration of Islamic financial services in the global economy.

Aside from legal enforceability issues, a recent debate was initiated regarding the *Shari'a*-compliance nature of *Sukuk*.[11] After a series of meetings in 2007, the AAOIFI *Shari'a* council issued in February 2008 proposals for amendments in contemporary *Sukuk* issues including new recommendations regarding the ownership of underlying assets in a *Sukuk* transaction and the guarantee of the principal investment to *Sukuk* certificate holders. These AAOIFI efforts culminated in the

[10] Examples include the $200 million International Investment Group (IIG) *Sukuk* exchangeable into shares of a Kuwaiti company, and the Malayan Banking Bhd subordinated *Sukuk* qualifying as Tier 2 capital and which includes embedded options for the originator to redeem in whole (and not in part) the *Sukuk*.

[11] The *Sukuk* debate was triggered after a scholar reportedly said that most current *Sukuk* structures are not *Shari'a*-compliant and appear to violate the principle of risk and profit sharing by promising to pay back principal (Norman, 2009).

publication of six core principles for structuring and issuing *Sukuk* in relation to asset ownership rights and obligations of *Sukuk* holders, the nontradability of *Sukuk* with underlying revenue streams or debt, the corporate responsibility of the *Sukuk* manager when actual earnings fall short of expected earnings, the lessee's right to purchase leased assets when *Sukuk* are extinguished for their nominal value, the purchase of *Sukuk* at net value instead of nominal value, and the on- going duty of the *Shari'a* Supervisory Board after initial *Sukuk* issuance (AAOIFI, 2008).

II.4. Are *Sukuk* different from conventional bonds?

The recent controversy on the compliance of *Sukuk* with the precepts of *Shari'a* signals that *Sukuk* are generally structured along Western rules of asset securitization, and raises the question of whether these innovative financial instruments are really different from conventional bonds. According to Miller, Challoner, and Atta (2007), *Sukuk* are structured in a way to ensure an equivalent return to a conventional bond, the difference being that the return on the *Sukuk* is generated from an underlying asset and not from the obligation to pay interest. Similarly, Wilson (2008) argues that financiers exercise special care to render *Sukuk* identical to other conventional securities because they aim at simplifying investors' risk assessment of these new investments. As a result, *Sukuk* mirror conventional securities, suggesting that product innovation coupled with distinctive and pricing risk characteristics is lagging in the Islamic finance industry.

Shari'a scholars disagree with rendering Islamic financial instruments familiar to international investors because of the danger of making them similar to conventional interest-based products, despite the argument that such similarity helps bridging the gap between conventional capital markets and the emerging Islamic securities market, further strengthening global financial integration. According to the President of the AAOIFI *Shari'a* Council, Mohammad Taqi Usmani, current practices of issuing *Sukuk* replicate the structure of conventional bonds in terms of lack of ownership, right to a fixed return, and the guarantee of repayment of principal. Usmani (2007) also argues against obtaining international ratings, since *Sukuk* can be rated by the recently established regional ratings agency, if needed, and Islamic banks should stand ready to endorse the acceptability of *Sukuk*.

Alternatively, Cakir and Raei (2007) take an opposing stand on the suspected comparability of *Sukuk* and conventional bonds, suggesting that *Sukuk* are different financial instruments compared to conventional bonds. The authors examine the risk reduction advantages of issuing sovereign *Sukuk* as alternative financing instruments compared to sovereign conventional bonds. Using a sample of sovereign *Sukuk* and Eurobonds by the same issuer, the authors estimate and compare the value-at-risk (VaR) for a portfolio that includes both instruments to another portfolio that only comprises Eurobonds. They find that VaR is reduced when *Sukuk* are added to the portfolio of fixed-income securities, implying that these investment certificates offer diversification benefits for investors.

In our study, we propose to examine whether *Sukuk* are really different from conventional bonds using a sample of actively traded *Sukuk* and bond instruments in Malaysia.

III. Empirical design

In this section, we first provide a description of the data and relevant descriptive statistics. Then, we present the methodology and the results.

III.1 Data and summary statistics

The sample of issues of *Sukuk* and conventional bonds comes from Bloomberg. Our sample spans the years 2002 through 2009. The sample size is determined by information availability on all requested variables, particularly closing stock prices for companies issuing debt on a time span long enough before the announcement date of the issue in order to apply the market model and to compute abnormal returns. Our final sample includes 170 issues from which 77 are sukuk and 93 normal bonds.

Table 2 presents descriptive statistics on our sample of securities classified by issue type, distinguishing between conventional bonds and *Sukuk*. We observe that, on average, conventional bonds are considerably larger in size than *Sukuk*, with respective means for the amount issued equal to 314 million and 96 million Malaysia Ringgit (approximatively 92 million USD and 28 million USD at the current exchange rate). The maturity is, on average, twice longer for conventional bonds than for *Sukuk* (six years and half versus three years and half, respectively). The shorter maturity of *Sukuk* might suggest that these financial instruments are likely to pay lower total return in terms of both current yield and capital gains yield. However, the descriptive statistics show that the average coupon rate on *Sukuk* is higher than for conventional bonds (4.06 versus 3.79 percent), and that Islamic securities in Malaysia are issued at a deeper discount compared to conventional debt instruments (97.94 versus 99.17 percent of par) thereby offering greater capital appreciation. These preliminary observations are interesting in the sense that higher promised returns on *Sukuk* might associate with greater investment risk, notwithstanding shorter maturity for these securities. They also suggest that *Sukuk* issuers are keen on offering greater return incentives for investors to purchase their securities, and who unwilling to commit their funds for long periods of time.

To shed more light on the nature and characteristics of different issuers of conventional bonds and *Sukuk*, we provide in Table 3 descriptive statistics by issuer of each security. We find that companies issuing *Sukuk* are smaller in size than those issuing conventional bonds, both in terms of balance sheet assets and market valuation. They are also more indebted and exposed to greater financial risk. *Sukuk* issuers are less capitalized with an average equity-to-assets ratio lower than 20 percent, which is twice as small as the 40 percent equity-to-assets ratio of conventional bonds issuers. All of their leverage ratios are similarly higher than those of conventional bonds issuers. To illustrate, the long-term debt-to-assets ratio of companies issuing *Sukuk* is close to 30 percent, whereas the corresponding figure for firms borrowing in the conventional market is around 20 percent. Under normal economic conditions, greater financial risk is likely to translate into higher profitability levels. However, all profitability ratios listed in Table 3 indicate that they are worse for firms issuing *Sukuk* compared to companies raising funds through conventional bonds. Indeed, operating margin and ROA are negative for companies issuing *Sukuk*, suggesting greater operating risk on top of the higher financial risk. In a nutshell, these observations point to a better financial and operating position for companies issuing conventional bonds compared to those engaging in *Sukuk*. To some extent, we can explain why *Sukuk* have shorter maturity and lower amount than conventional bonds, since they are associated with lower-quality borrowers. Further, *Sukuk* issuers have issued in the past twice more investment certificates (6.63) than conventional bond issuers (3.10). This finding might be in line with the fact that *Sukuk* are smaller in size and have shorter maturity, thus leading to the need for more issues.

III.2 Methodology and findings

Following the literature, we use a standard market model to estimate abnormal returns around the event date for a security issue[12]. Our sample period is 2002 until 2009, and we consider 93 events for conventional bonds and 77 events for *Sukuk*.The date of announcement is considered as day 0. We estimate the market model parameters over the period (-100, -10). This filter reduces the sample size to companies that have at least 100 days of stock returns observations. Using larger estimation periods (150 trading days) as well as stopping the estimation period up to 30 days before the event date does not affect our results. We define returns as [P(t)-P(t-1)]/P(t-1), where P is the stock market daily price at closing. We use several Malaysian stock indices (FBM 100, FBMKLCI, FBMEMAS, FBMS), all giving similar findings.[13] In the tables below, we show the results pertaining to the stock index giving the largest R^2 for the market model regression (or FBMEMAS).

We examine one-day [0,0], three-day [−1,+1] and five-day [−2,+2] event windows and calculate average abnormal daily returns (non standardized and standardized). We obtain cumulative average abnormal returns (CAARs) by summing daily excess returns over the respective event windows. We use standard OLS regressions estimate the market model, with an average R^2 (not reported) close to 20% for all estimations.

We perform t-tests to investigate the statistical significance of CAARs and standardized CAARs[14]. Then, to investigate if the stock market discriminates among the type of investment certificate event (*Sukuk* versus conventional bond issuance), we apply Student, Wilcoxon and Kruskal-Wallis tests to the CAARs and standardized CAARs by type of debt.

Table 4 displays CAARs and standardized CAARs by type of security issue (*Sukuk* versus conventional bonds). The percentage of positive CAARs appears in the fourth column,

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[12] See, for instance, Lummer and McConnell, 1989; Preece and Mullineaux, 1996; and Gasbarro et al., 2004. MacKinlay (1997) also provides an excellent survey on event studies methods.

[13] FBM 100: FTSE Bursa Malaysia Top 100 Index is a capitalization weighted index that is comprised of the top 100 large and mid cap companies on the Bursa Malaysia Main Board by market capitalization. FBMKLCI: FTSE Bursa Malaysia KLCI Index comprises of the largest 30 companies by full market capitalization on Bursa Malaysia Main Board. FBMEMAS: FTSE Bursa Malaysia EMAS Index is a capitalization weighted index that is comprised of the large and mid cap constituents of the FTSE Bursa Malaysia 100 Index and the FTSE Bursa Malaysia Small Cap Index. FBMS: FTSE Bursa Malaysia EMAS Shariah index is a market capitalization weighted index that incorporates the large and mid cap stocks of the FTSE Bursa Malaysia 100 Index and the FTSE Bursa Malaysia Small Cap Index.

[14] We standardize CAARs using the square root of the product of the number of days in the event window and the mean square *error*.

while the last two columns provide p-values for t-tests of CAARs significance. Across all event windows, we notice that all computed CAARs are positive for conventional bonds and negative for *Sukuk*, despite lack of significance over the [0,0] and [-1,1] windows of returns. However, we observe that *Sukuk* issues' CAARs and standardized CAARs are negative and significantly different from 0 for the largest event window [-2,2].[15] Further, the percentage of positive *Sukuk* CAARs is generally lower than the corresponding ratio for conventional bonds, and it decreases as the event window widens, whereas the percentage of positive conventional bonds CAARs rises with larger event windows.

Table 5 displays the results of Student, Wilcoxon and Kruskal-Wallis tests for the difference of CAARs and standardized CAARs by type of issue (*Sukuk* versus conventional bonds). For the first two tests, the null hypothesis is that the difference of CAARs (respectively standardized CAARs) between *Sukuk* and conventional bond issues' events is null. For the Kruskal-Wallis test, the null hypothesis is that the *Sukuk* and conventional bond issues' events samples come from identical populations. CAAR and standardized CAAR variances are unequal according to Fisher tests, so we use the Satterthwaite method for the Student tests. Student approximation gives similar results to normal approximation for Wilcoxon tests. We display the normal approximation (Z-score) for this test.

We note that the Student and Wilcoxon tests allow rejecting the null hypotheses for standardized CAAR over the largest event window [-2,2] at the 10% confidence level, i.e. the difference between the CAARs of *Sukuk* and bonds is not zero. In other words, abnormal returns are different for *Sukuk* and conventional bond issues or, stated differently, the market does not react in a similar manner to these two types of issues and is hence capable of discriminating them. This result reinforces our previous finding of a negative market reaction to *Sukuk* issues in Table 4.

We also perform robustness checks of the results using two different (asymmetric) four days event windows, i.e. [-1,2] and [-2,1]. Since financial markets in emerging economies are not expected to be as efficient as in more developed countries, we may expect the existence of a leakage of information that a certain type of securities will be issued. In this light, it is possible that abnormal returns can be realized prior to the announcement date.

[15] We also use Patell (1976), Boehmer et al. (1999), and cross-sectional t-statistics and obtain similar findings.

We display the results of tests similar to those conducted over the three previously considered symmetric event windows in Tables 6 (for CAARs and standardized CAARs by type of security issue) and 7 (for results of Student, Wilcoxon and Kruskal-Wallis tests for the difference of CAARs and standardized CAARs by type of issue, respectively). First, we find that stock market reaction is negative and significant for *Sukuk* over both asymmetric event windows. This result confirms the results reported over the [-2,2] event window in Table 4, but they are slightly weaker in significance. Second, we observe that the stock market reaction differs following the type of investment security issuance, similar to the finding over the largest event window in Table 5. Hence, investors perceive conventional bonds and *Sukuk* issues differently on the Malaysian stock market.

These additional robustness checks confirm and therefore reinforce our previously obtained results. Overall, the Malaysian stock market is capable of distinguishing *Sukuk* from conventional bond issues and that stock market reaction is negative when *Sukuk* are issued.

IV. Discussion

Our empirical results wind up with three major findings related to *Sukuk* and conventional bonds issues in Malaysia: the absence of significant stock-market reaction to conventional bond announcements, the negative reaction to *Sukuk* issues and, as a corollary, the significant difference in stock market reactions to *Sukuk* and conventional bond issues.

A noteworthy first finding is the absence of significant reaction of stock markets to conventional bond announcements. This is not at odds with former literature, which includes studies providing evidence that stock markets do not react to debt announcements including bond issuances (Eckbo, 1986; Mikkelson and Partch, 1986), even if some of them also find support for a negative reaction (Spiess and Affleck-Graves, 1999). The reaction of stock markets to the issue of bonds is influenced by opposing influences.

On the one hand, two hypotheses can explain a positive reaction of stock markets to bond issues. First, the issuance of debt might send a positive signal to markets, helping to solve the adverse selection problem that results from information asymmetries between firm insiders and outsiders. According to Leland and Pyle (1977), high-quality firms use debt to signal their superior quality. In particular, Ross

(1977) advances that a high-quality firm can issue more debt than a low-quality firm, because debt-servicing costs represent a costly outcome for firm insiders and they lead to a higher probability of default. Thus, debt is a credible signal of the quality of firms. Second, the issuance of debt might reduce moral hazard behavior and agency costs resulting from conflicts of interest between shareholders and managers. Managers can waste firm resources or minimize their efforts rather than strive to increase firm value. Debt financing, however, raises the pressure of managers to perform better (or to reduce their waste of resources and to increase their effort) because it reduces "free cash-flow" at their disposal (Jensen, 1986). Interest payment obligations increase the threat of a bankruptcy if not satisfied, and they increase manager discipline in this respect. Grossman and Hart (1982) also argue that debt financing provides better incentives for managers to perform as they aim to avoid the personal costs of bankruptcy. As a consequence, debt issuance can represent an indicator of positive firm performance and should favor a positive reaction of stock markets.

On the other hand, stock markets might react negatively to debt issue events under two conceivable scenarios. First, debt enhances the bankruptcy risk of the borrower by definition, as bankruptcy is associated with the failure to repay due debt commitments. Second, debt increases the agency costs resulting from the conflicts of interest between shareholders and debtholders. Shareholders have incentives to take actions that benefit themselves at the expense of debtholders, and consequently that do not necessarily maximize firm value. This divergence of interests has two manifestations, coming from moral hazard issues. Primarily, it gives incentives to shareholders to invest in riskier projects than those preferred by debtholders (Jensen and Meckling, 1976). This "asset substitution" comes from the asymmetry of gains for shareholders. Secondarily, conflicts between shareholders and debtholders can also lead to underinvestment, as demonstrated by Myers (1977). Thus, the agency costs resulting from the conflicts of interest shareholders-debtholders suggest that greater debt may contribute to enhance moral hazard behavior, which can be perceived negatively by stock markets.

Against this background, we interpret the absence of significant reaction to conventional bond announcements in the Malaysian stock exchange as the result of these opposing effects, and in line with the findings of former studies.

However, the main conclusion of our study is the significant difference in stock market reaction to *Sukuk* and conventional bond issues, following the negative reaction to *Sukuk* issues in comparison with insignificant reaction to conventional bond issues.

We use the adverse selection argument to explain our finding. We propose that only the borrowers with the lowest return expectations have incentives to prefer *Sukuk*. The reason is the following: borrowers can choose between interest-based (conventional bonds) and profit-and-loss sharing (*Sukuk*) securities. If an entrepreneur expects a low profit, he prefers profit-and-loss sharing financing schemes to minimize his loss in the likely event of failure. If an entrepreneur expects a high profit, he prefers interest-based financing to maximize his gain in the likely event of success. So the worst borrowers will choose to issue *Sukuk*, and stock market participants expect this outcome. Hence a *Sukuk* issuance is likely to send a negative signal on the financial position of the issuing firm.

Kuran (2004) provides a similar argument to explain why many Islamic banks do not supply more equity-like financing instruments in line with the profit-and-loss sharing principle (*Musharaka* and *Mudaraba*) and in comparison with debt-based financing instruments. Since Islamic banks coexist with conventional banks in most countries, they are likely to face such adverse selection problems if they only propose equity-like financing instruments. Borrowers with low expectations might opt for these instruments whereas those with high expectations will deal with conventional banks.[16]

Our interpretation of the findings is supported empirically by differences in the characteristics of the issuers of the two categories of securities. Companies issuing *Sukuk* are in worse financial and operating shape than those issuing conventional bonds. They are notably more leveraged and less profitable. Therefore, these weaker companies may have economic incentives to prefer issuing a security based on a profit-and-loss sharing principle rather than a fixed-income instrument that imposes more financial burden.

[16] "By allowing allowing entrepreneurs to choose between interest and profit and loss sharing, conventional banks create an adverse selection problem for the Islamic banks: entrepreneurs with below-average profit expectations prefer profit and loss sharing in order to minimize their losses in the likely event of failure, while those with above-average expectations prefer interest in order to maximize their gains in the likely event of success. The upshot is that the Islamic banks receive a disproportionately large share of the bad risks." (Kuran, 2004, p.12)

Our major conclusion regarding the negative market reaction to *Sukuk* issues in comparison with insignificant reaction to conventional bond issues has several implications. The first one concerns the fact that stock market investors are able to distinguish between sukuk and conventional bonds. This market-based evidence supports the view of Cakir and Raei (2007) that *Sukuk* are different from conventional bonds, and opposite to the arguments of and Wilson (2008) and Miller, Challoner, and Atta (2007), Even though *Sukuk* are similar in structure to conventional bonds (Usmani, 2007), stock market participants do not perceive these instruments as similar, and they react differently to the issuance of these securities.

A second implication relates to the evolution of *Sukuk* and the predictions of strong growth of this market. There might be several motivations for firms to issue *Sukuk*, including religious factors. However, the fact that stock markets negatively perceive *Sukuk* may provide incentives for shareholders to limit the use of these securities.

The third implication deals with the economic effects of the expansion of *Sukuk*. The significant negative market returns following *Sukuk* issuance suggest that these financing instruments may be detrimental to firm value, implying that the use of these securities should not be favored for economic reasons. Our finding has also some implications on Islamic banks, which is a key pillar in the Islamic finance industry. These financial institutions hold *Sukuk* on their balance sheet as liquidity management tools in the same way that conventional banks invest in fixed income securities. It is possible that the worse market perception registered for *Sukuk* issues than for conventional bond issues might lead to a worse perception of their holders.

V. Conclusion

This research analyzes the stock market reaction to announcements of conventional bonds and *Sukuk*. We use the event study methodology to a sample of Malaysian public companies. Our findings support the view that stock markets react differently to issuances of both securities. While there is no significant market reaction to conventional bond issues, we observe a significant negative stock market reaction to *Sukuk* issues. Furthermore, the stock market reaction is significantly different between both types of issues.

We attribute this different reaction of stock markets to the expectations of participants that an adverse selection mechanism encourages worse companies to prefer *Sukuk* to conventional bonds. Companies with low profit expectations have incentives to finance their project through *Sukuk* as these instruments are based on profit-and-loss sharing schemes to allow them minimize their share in the loss, while companies with high profit expectations opt for conventional bonds as it means a fixed repayment schedule and thus the maximization of their upside potential. This explanation is corroborated by the worse financial situation for companies issuing *Sukuk* than for those issuing conventional bonds.

Our findings are of interest for two major debates in Islamic finance. First, Islamic finance is subject to criticism because its empirical application exhibits great similarity with conventional finance. Ayub (2007) observes that a major criticism of Islamic finance rests on the lack of differences with incumbent modes of finance. We provide opposing evidence that that stock markets are able to distinguish between *Sukuk* and conventional bonds. Thus, market-based information supports the existence of differences between instruments emerging from Islamic finance and those associated with conventional finance.

A second debate concerns the economic effects of the expansion of Islamic finance. Our results show that *Sukuk* announcement leads to a negative market reaction, adversely affecting firm value, whereas the issuance of conventional bonds has a neutral impact on market capitalization. Therefore, the increasing use of *Sukuk* may be detrimental to the firm and eventually to economic development, at least in the short run.

A pessimistic view on the latter finding is the fact that negative stock market reaction may limit the incentives for companies to issue *Sukuk* rather than conventional bonds. In other words, market mechanisms are likely to limit the expansion of *Sukuk*, even if religious motivations may counterbalance them. In parallel, an optimistic interpretation of the implication of our results on the future development of *Sukuk* relates to the adverse selection mechanism in place that results from the coexistence of *Sukuk* and conventional bonds on the Malaysian market. Such a process would not happen if only *Sukuk* are issued on the same exchange. Thus, the detrimental effects of *Sukuk* issues may be reduced in a pure Islamic financial system. Nonetheless, before arguing in favor of the large-scale adoption of Islamic finance, additional research is needed to assess the long run implications of using *Sukuk* financing.

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Table 1
Total *Sukuk* issuance 2000-2007

The table below provides the value of *Sukuk* issuance in million USD for each year for the period 2000-2007. Source: adapted from data provided by the Islamic Finance Information Services (IFIS).

	2000	2001	2002	2003	2004	2005	2006	2007
Corporate *Sukuk*	336.30	530.00	179.90	4,537.06	5,731.19	11,358.89	24,832.50	31,916.70
% of total	100.00	67.95	18.36	79.36	79.48	94.14	90.65	82.69
Sovereign *Sukuk*	0.00	250.00	800.00	1,180.00	1,479.35	706.50	2,560.00	6,679.90
% of total	0.00	32.05	81.64	20.64	20.52	5.86	9.35	17.31
Total *Sukuk* issuance	336.30	780.00	979.90	5,717.06	7,210.54	12,065.39	27,392.50	38,596.60

Table 2
Descriptive statistics by type of security

The table below provides the mean and standard deviation for several characteristics of the issues by type of bonds. All variables are in million Malaysian Ringgit, with the exception of coupon and issue price (in percent), maturity (in years), and number of past issues. Amount issued is the original issue amount for a security. Amount outstanding is the current amount of the issue outstanding. Coupon is the current interest rate of the security. Issue price is the price of the security at issue.

Variable	**N**	**Mean**	**Standard deviation**
	Conventional bonds		
Amount issued	93	314.15	1,034.87
Amount outstanding	93	208.37	304.87
Coupon	93	3.79	3.13
Issue price	51	99.17	4.14
Maturity	82	6.51	11.69
	Sukuk		
Amount issued	77	96.00	160.73
Amount outstanding	77	84.42	151.88
Coupon	76	4.06	3.37
Issue price	21	97.94	7.56
Maturity	62	3.53	4.14

Table 3
Descriptive statistics by issuer

The table below provides the mean and standard deviation for several characteristics of the issuers by type of bonds. All variables are in million Malaysian Ringgit, with the exception of financial ratios and the number of past issues. Financial leverage is the ratio of average total assets to the average total common equity. Global amount outstanding is the debt distribution among outstanding for the current issuer only (excluding subsidiaries). Number of past issues is the number of securities used in the calculation of debt distribution values for the issuer.

Variable	**N**	**Mean**	**Standard deviation**
Conventional bonds			
Total assets	47	4 719.99	10 772.23
Total market value	47	4 558.93	12 121.02
Sales	47	1 122.33	3 015.00
Equity to total assets	47	40.60	20.41
Total debt to total assets	47	32.16	15.39
Long term debt to total assets	47	20.34	11.24
Financial leverage	46	4.17	5.02
Ebit to total interest expenses	43	3.60	5.63
Current ratio	44	2.13	1.60
Operating margin	47	13.60	17.36
Return on assets	46	1.73	6.45
Global amount outstanding	47	653.36	1,287.50
Number of past issues	47	3.10	3.68
Sukuk			
Total assets	30	3 057.78	5 437.40
Total market value	29	2 944.87	5 507.26
Sales	30	2 028.13	4 169.64
Equity to total assets	30	19.70	119.42
Total debt to total assets	30	52.62	96.67
Long term debt to total assets	30	29.84	35.92
Financial leverage	28	2.63	1.99
Ebit to total interest expenses	29	3.27	5.87
Current ratio	29	1.90	1.43
Operating margin	30	-4.32	86.39
Return on assets	28	-3.10	33.25
Global amount outstanding	30	610.66	1,487.26
Number of past issues	30	6.63	6.96

Table 4
Cumulative average abnormal returns

This table displays CAARs and standardized CAARs by type of event (*Sukuk* vs. conventional bond announcement) in the third and fourth columns, and across three event windows. The percentage of positive CAARs is in the fifth column, while the last two columns provide p-values for t-tests of CAARs and Std. CAARs significance. *, **, *** denote significance at the 10%, 5% or 1% level, respectively.

Event window	Type of announcement	CAAR	Std. CAAR	Positive CAAR (%)	Prob. > |t| for CAAR	Prob. > |t| for Std. CAAR
[0,0]	Conventional bonds	0.01426	0.34058	0.41860	0.46865	0.46057
	Sukuk	-0.00388	-0.09743	0.43421	0.28957	0.39266
[-1,1]	Conventional bonds	0.01828	0.12773	0.44086	0.26698	0.57526
	Sukuk	-0.00858	-0.19963	0.42857	0.18531	0.15673
[-2,2]	Conventional bonds	0.01904	0.14915	0.47312	0.29123	0.46663
	Sukuk	-0.01552**	-0.28522***	0.36364	0.01303	0.00812

Table 5
Difference significance tests by type of events for cumulative average abnormal returns

This table displays the results of Student, Wilcoxon and Kruskal-Wallis tests for the difference of CAARs and standardized CAARs by type of investment security event (*Sukuk* vs. conventional bonds) across each of three event windows. For the first two tests, the null hypothesis is that the difference of CAARs (and standardized CAARs) between *Sukuk* and conventional bond events is zero. For the Kruskal-Wallis test, the null hypothesis is that the *Sukuk* and bond events samples come from identical populations. CAAR and standardized CAAR variances are unequal for the [0,0] event window according to Fisher tests, hence we use the Satterthwaite method for the Student tests. We find equal variances for the other event windows and we use the pooled method for the tests. The Student approximation gives similar results to the normal approximation for Wilcoxon tests. *, **, *** denote significance at the 10%, 5% or 1% level, respectively.

		Student test		**Wilcoxon test**		**Kruskal-Wallis test**	
Event window		**t**	**Prob. > |t|**	**Z**	**Prob. > |Z|**	**Chi²**	**Prob. > Chi²**
[0,0]	CAAR	0.91	0.3650	-0.1091	0.4566	0.0123	0.9118
	Std. CAAR	0.93	0.3570	0.0990	0.4606	0.0101	0.9198
[-1,1]	CAAR	1.53	0.1293	-0.4696	0.3193	0.2220	0.6375
	Std. CAAR	1.23	0.2214	-0.1033	0.4589	0.0110	0.9165
[-2,2]	CAAR	1.82*	0.0708	-1.1489	0.1253	1.3235	0.2500
	Std. CAAR	1.89*	0.0605	-1.3304*	0.0917	1.7742	0.1829

Table 6
Cumulative average abnormal returns – robustness checks

This table displays CAARs and standardized CAARs by type of event (*Sukuk* vs. conventional bond announcement) in the third and fourth columns, and across three event windows.. The percentage of positive CAARs is in the fifth column, while the last two columns provide p-values for t-tests of CAARs significance and Std. CAARs. *, **, *** denote significance at the 10%, 5% or 1% level, respectively.

Event window	Type of announcement	CAAR	Std. CAAR	Positive CAAR (%)	Prob. > |t| for CAAR	Prob. > |t| for std. CAAR
[-1,2]	Conventional bond	0.017403	0.09836	0.46237	0.31130	0.63475
	Sukuk	-0.013191*	-0.25224*	0.38961	0.05976	0.05545
[-2,1]	Conventional bond	0.019917	0.17901	0.44086	0.22326	0.38247
	Sukuk	-0.010906*	-0.23953**	0.40260	0.05445	0.03319

Table 7
Difference significance tests by type of events
for cumulative average abnormal returns – robustness checks

This table displays the results of Student, Wilcoxon and Kruskal-Wallis tests for the difference of CAARs and standardized CAARs by investment security event (*Sukuk* vs. conventional bonds) across each three event windows. For the first two tests, the null hypothesis is that the difference of CAARs (and standardized CAARs) between *Sukuk* and conventional bond events is zero. For the Kruskal-Wallis test, the null hypothesis is that the *Sukuk* and bond events samples come from identical populations. CAAR and standardized CAAR variances are unequal for the [0,0] event window according to Fisher tests, hence we use the Satterthwaite method for the Student tests. We find equal variances for the other event windows and we use the pooled method for the tests. The Student approximation gives similar results to the normal approximation for Wilcoxon tests. *, **, *** denote significance at the 10%, 5% or 1% level respectively.

		Student test		**Wilcoxon test**		**Kruskal-Wallis test**	
Event window		**t**	**Prob. > |t|**	**Z**	**Prob. > |Z|**	**Chi²**	**Prob. > Chi²**
[-1,2]	CAAR	1.66*	0.0966	-0.767	0.2216	0.5906	0.4422
	Std. CAAR	1.44	0.1524	-0.5009	0.3082	0.2524	0.6154
[-2,1]	CAAR	1.79*	0.0754	-1.2804	0.1002	1.6433	0.2022
	Std. CAAR	1.80*	0.0733	-1.4838*	0.0689	2.2064	0.1374

Figure 1
Total amount of issues per year from 2002 to 2009 on the Malaysian market

This figure is based on data from the Bloomberg database. The breakdown distinguishes among *Sukuk* and conventional bonds.

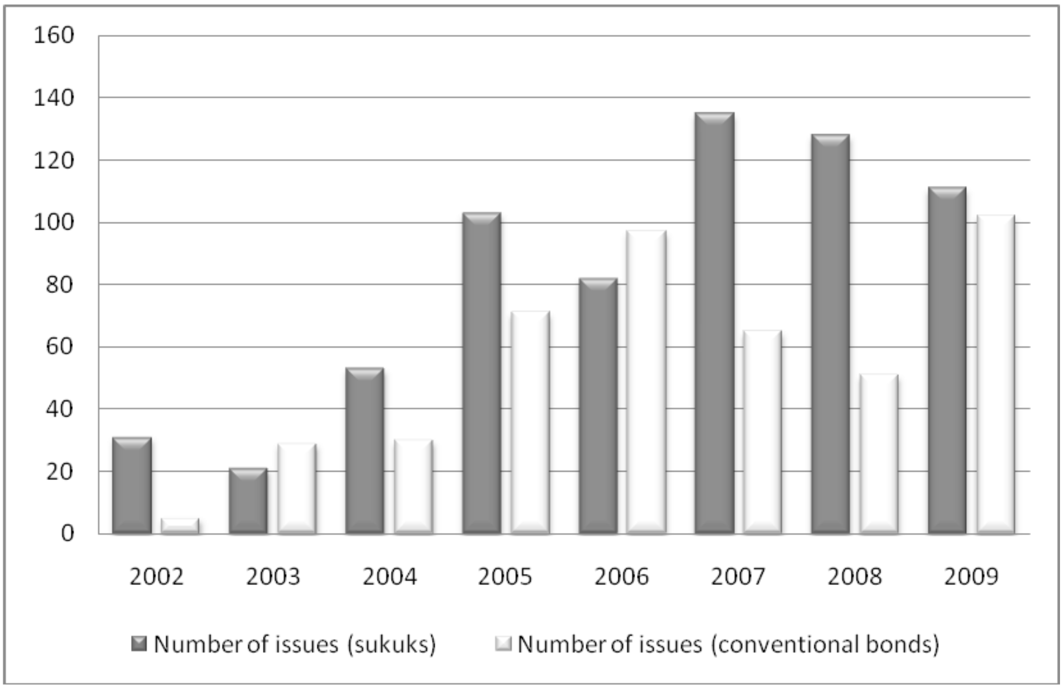
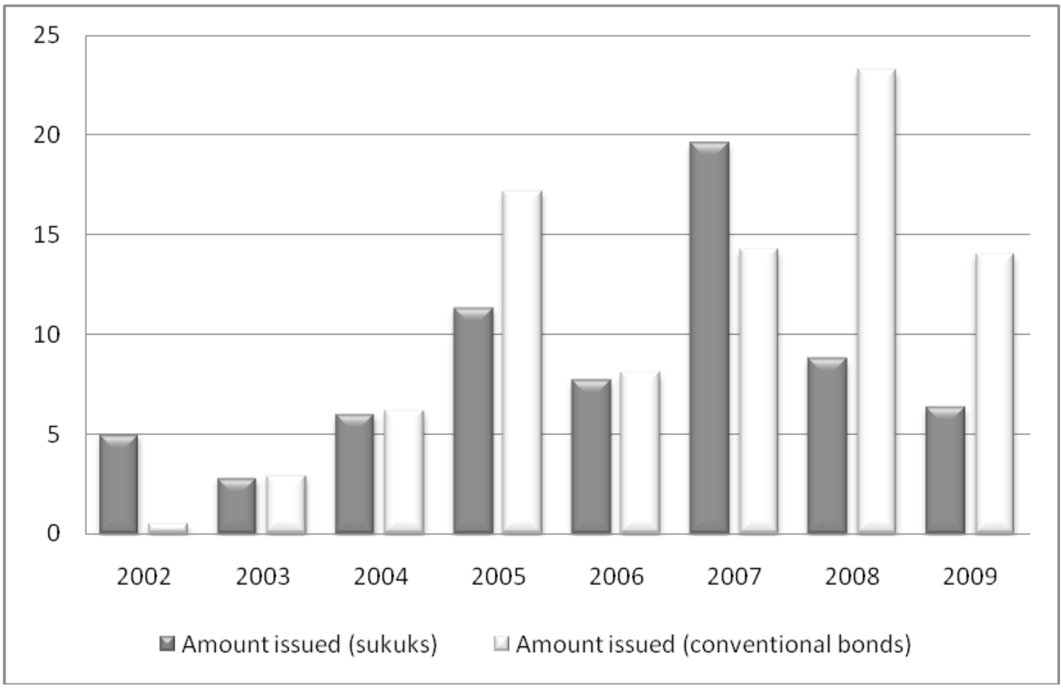
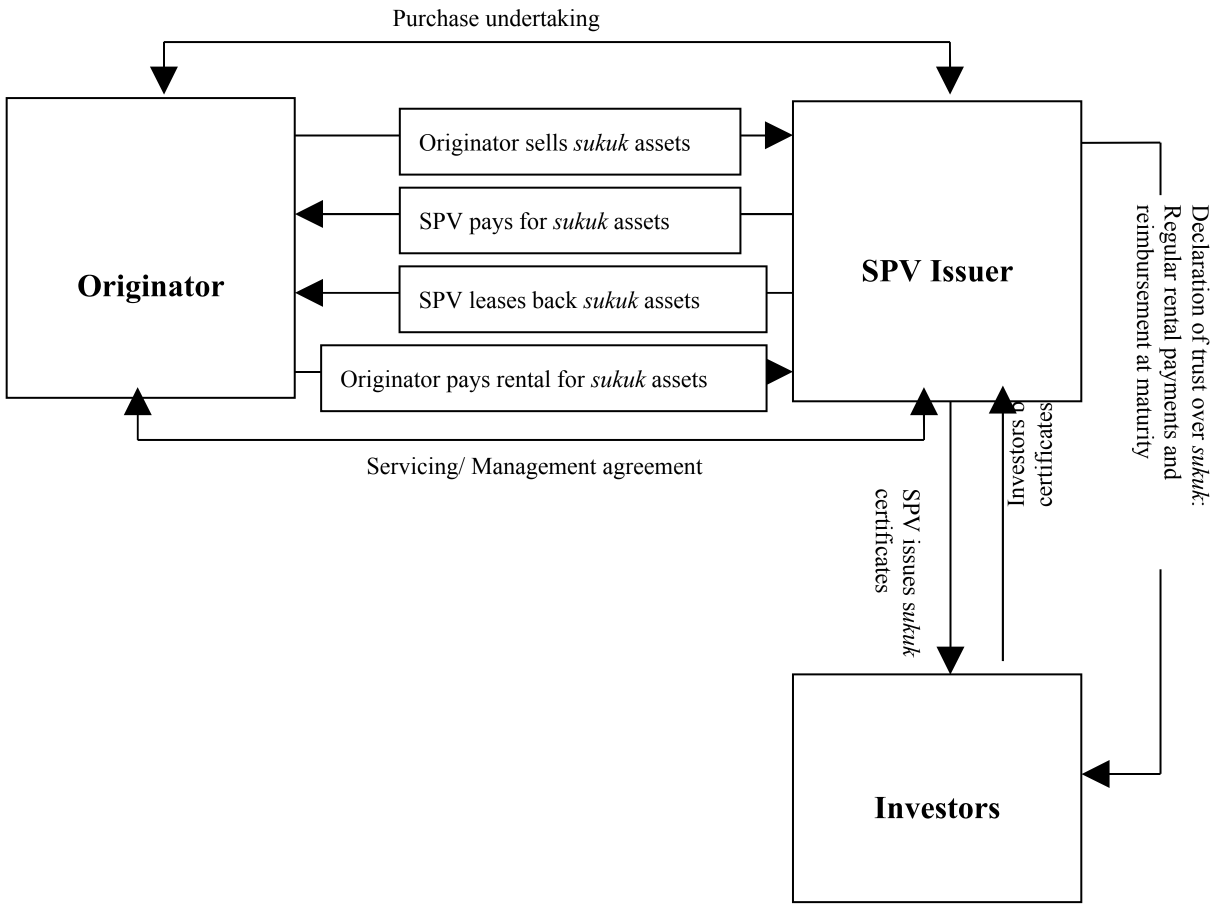


Figure 2
Total amount issued per year from 2002 to 2009 on the Malaysian market

This figure is based on data from the Bloomberg database. The breakdown distinguishes among *Sukuk* and conventional bonds. Amounts are in million Ringgit.



Appendix 1: *Sukuk al-Ijara* Structure



Appendix 2: *Sukuk al-Musharaka* Structure