



**Universitat Autònoma  
de Barcelona**

**Title: Does the ham matter in my “free” lunch?**  
*An analysis of the insights of the Islamic Corporate Social Responsibility in the Financial  
Markets and its impact in value creation*

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## ABSTRACT

The focal object of study in this bachelor thesis is the Islamic Corporate Social Responsibility, the financing instruments of its complying companies and whether financial markets value it or not.

As an introduction, one discusses the main concepts around Islamic morality including an appraisal to the idea of justice and its differences between Islam and the western approach.

Then, a review of the Shari'ah (the Islamic law that governs social and economical relations) is done to further understand the Islamic approach to Corporate Social Responsibility. The principles of Riba prohibition, risk sharing, real asset backing, wealth accounting, speculative behaviour veto and asymmetric-information-ban are debated.

After that, one argues the technical insights between the concept of Riba (interest) and its prohibition in the Islamic economic transactions.

Subsequently, there is a thorough description of the external financing tools included in the Shari'ah, their main goals and the dissimilarities with their vanilla counterparts.

Thus, it can be stated that there is a mainstream counterpart for every Islamic financing instrument. Nonetheless, there are risk structure significant disparities. The efficient market hypothesis (EMH) acknowledges that any difference in the risk of a financial product shall be discounted through the required profitability rate. Consequently, our main hypothesis outlines that Islamic Corporate Social Responsibility should not affect value creation in the financial markets.

In order to test our hypothesis, an Ordinary Least Squares (OLS) model is proposed including the monthly average return of an equity stock as the dependent variable. We set as independent variables the standard deviation of the monthly average return and a dummy argument applying for the Shari'ah compliance. The sample includes the S&P 500 index and S&P 500 Shari'ah index time series from January 2012 to December 2014.

After running 36 OLS regressions, it can be observed that none of the 36 Shari'ah compliance coefficients is statistically significant. Thus we cannot reject our null hypothesis.

As a main conclusion, it can be stated that Islamic Corporate Social Responsibility shall not create value in financial markets.

**JEL CLASIFICATIONS:** A13 - Relation of Economics to Social Values, M14 - Corporate Culture • Diversity • Social Responsibility, Z1 – Religion

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## 1. INTRODUCTION: MOTIVATIONS FOR THE ESSAY

Nowadays, the most wicked Shylocks have ascended to dominate the world economies whereas the merchants, being from Venice or any other dwelling, have become their subjects as could be clearly seen in the recent financial crisis (Shakespeare, W., & Mahood, M. (2003). *The merchant of Venice* (Updated ed.). Cambridge, UK: Cambridge University Press.) This is a perfect example that illustrates the point of reference is determinant.

Most of the existing literature on Corporate Social Responsibility (Bosch-Badia, M., Montllor-Serrats, J., & Tarrazon, M. (2013). “Corporate Social Responsibility from Friedman to Porter and Kramer”. *Theoretical Economics Letters*, 11-15.) is based on Western morality. Morality is defined by the Oxford English Dictionary (Definition of morality in English: (n.d.). Retrieved May 1, 2015, from <http://www.oxforddictionaries.com/definition/english/morality>) as “*Principles concerning the distinction between right and wrong or good and bad behaviour*”. Western morality, in other words, what is right or wrong for a corporation to accomplish is vaguely defined. There has been numerous philosophic theories discussing the matter and there is no general consensus but rather an individualized point of view. This creates a significant challenge when analysing Corporate Social Responsibility. Furthermore, the literature around the subject has been focused on the application of those broadly defined principles and the stakeholders that should be included in the analysis rather than on the principles themselves. Western morality principles can be challenged by no less than two different morality arrays: The Islamic and the Buddhist. (Rosmizi Bin Abd Rahman M. 2007. *The concept of morality in Islam and Buddhism: A comparative analysis on the personal code of ethics*. Unpublished Master Dissertation, Kuliyyah of Islamic Revealed Knowledge and Human Sciences International Islamic University Malaysia). Buddhism has perhaps a similar matter as the Western: it depends on the individual interpretation. Islamic morality, on the other hand, has rather clearly defined principles on what is acceptable not only on the quotidian life but also on the business and finance world. It shall be remained that Islamic societies were among the first to deeply develop trade and as such the need to create partnerships to share the risks likewise the necessity to connect individuals with excess recourses with people that needed additional capital to fund new enterprises and further expand commerce. Feasibly, that could be an explanation about the

thorough definition about what is acceptable or not according to the Islamic law to do in business. In other words, it could be an enlightenment of the existence of a proper definition of Islamic Corporate Social Responsibility.

Additionally, as pointed out by Professor Ariss (Ariss, R. (2010). “Competitive conditions in Islamic and conventional banking: A global perspective”. *Review of Financial Economics*, 101-108.) there has been a rapid development of the Islamic Financial Markets since 1975 with Kuala Lumpur and Bahrain becoming regional hubs for Islamic Finance and London stating and, in fact, establishing the proper institutions to become the first global Hub for Islamic Compliance Finance Markets. A significant signal that indeed this new form of financial markets is heading for larger relevance is the recent emission (Hale, T., & Moore, E. (2014). “UK sukuk bond sale attracts £2bn in orders”. *Financial Times*. Retrieved March 10, 2015, from <http://www.ft.com/intl/cms/s/0/7c89467e-fc4e-11e3-98b800144feab7de.html#axzz3cONVk5xY>) by Western governments of sovereign debt using Islamic Instruments and Lloyds Banking Group, one of the Top 3 Retail Banks in the United Kingdom, offering as a mainstream product an Islamic Checking Account (Sandra, H. (2006). “Lloyds launches Islamic portfolio”. *The Guardian*. Retrieved March 10, 2015, from <http://www.theguardian.com/money/2006/jun/14/religion.islamicfinance>).

Thus, one could state that nowadays there are two different Corporate Social Responsibility approaches in the financial markets, the Western and the Islamic.

The main goal of this essay is to research on the technical singularities of the Islamic Finance Instruments and to investigate whether participants in the market assign different valuations to assets that comply with it.

## **2. SHARI'AH LAW: PRINCIPLES AND ISLAMIC MORALITY**

In this section, one would try to describe why morality is relevant and the basic characteristics of Islamic ideology from an economic perspective. As pointed out by professors Iqbal and Mirakhor (Iqbal, Z., & Mirakhor, A. (2011). Chapter 2. *The Economic System. In An Introduction to Islamic Finance Theory and Practice* (2nd ed.). Singapore: John Wiley & Sons (Asia)) the more defined and practiced an ideology is in a social system, the more efficient it is. In other words, the clearer the rules of the game are and the fewer tricksters we encounter in the system, the more precise any model can be. The Western morality has a lag of common understanding of what precisely is the set of principles governing the aim of corporate social reasonability. On the other hand, the Islamic Morality offers a clear set of principles of what is acceptable or not.

The first relevant concept to discuss is the concept of Justice. Westerners judge the morality of an issue with respect of the consequences to other participants in the action and the externalities it produces. Islam, however, offers a more holistic approach to the concept of justice. That is, there is no distinction between the justice for oneself and the justice for the other. If an action is harmful for any of the participants, it is considered unmoral for the individual as well because there is a strong believe in reciprocity as opposed to the punishment approach of Western morality where an action is immoral only if it is judged by another person.

There are three main text governing Islam, but the one that is relevant to this analysis is the *Shari'ah Law*. It includes a transformation from the theoretical principles of Islamic faith into the daily set of accepted and non-accepted activities.

### **2.1. *Shari'ah* and the Economic System Guidelines**

The following principles are explicitly included in the *Shari'ah* (Iqbal, Z., & Mirakhor, A. (2011). Chapter 1. "Introduction". In *An Introduction to Islamic Finance Theory and Practice* (2<sup>nd</sup> ed.). Singapore: John Wiley & Sons (Asia)) (Hasan, Z. (2012). Chapter 4. "Islamic Finance - The Basics". In *Islamic Banking and Finance. An Integrative Approach* (1<sup>st</sup> ed.). Kuala Lumpur: Oxford University Press.)

The first, and most discussed in the literature is the prohibition of *Riba*. It can be translated as "any unjustifiable mark up in a transaction regardless of the nature". That is, in money transactions any interest is prohibit, while in the goods market any mark up must be justified. More concisely, scholars identify the prohibition of the *Riba* as "any positive, fixed, predetermined rate tied to the maturity and the amount of principal" which is the basis of the debt markets in the Western world. The fundamental reason for that is that Islam encourages partnerships and entrepreneurship as a basis for enterprise success. As such, any *ex ante* predetermination of the amount of money to be earned in a transition (i.e. a coupon rate) is totally forbidden. Let us put an example to illustrate that. When British Airways launches a request for proposal of financing for a new aircraft to its investment banks, the follow solutions may arise. The first one, and perhaps the most traditional, is issuing bounds. These bonds will pay a fix payoff regardless of the profitability of the Airline. Islam strictly forbids this instrument because the bank will assume no risk on the venture (The only risk assumed is the default risk). In other words, the risk of the financial entity is binary and not tight to the result of the enterprise.

Secondly, and very related to the first principle, is that any commercial enterprise that involves two or more parties must be based in the risk sharing principle. The implication for the bringer of funds is very well defined: they become investors rather than creditors. Furthermore, in the good market, this axiom implies that suppliers also must be accountable even after the transaction is completed and any further loses shall be split among the different parties involved in the transaction. This could be seen as a diversification of the risk in the goods market.

Thirdly, the *Shari'ah* specifies that any transaction should be back with a real asset. This offers a great contrast with the current trend on modern finance where a large number of transactions are not based on real assets but rather on hedging uncertainty. Some scholars may argue that at the end of the chain there is always a real asset. This, however, could be challenged at least. In a



Synthetic Collateral Debt Obligation type of asset, the connection between real asset and the performance of the derivate is very difficult to be established as its performance depends on a collection of Credit Default Swaps, which in turn depend on the performance of its associated debts. Moreover, these types of assets could be written without the control of any of the underlying assets and multiple times for the same type of asset suggesting that the connection between real and financial asset was lost.

Fourthly, the *Shari'ah* establishes the way to quantify wealth. This principle may be quite challenging for western scholars and practitioners. Money itself is not considered part of the wealth. That is, liquid cash is not a source of wealth. Only when this money is combined with further recourses such as human capital, other tangible or intangible goods or land becomes capital or wealth. In other words, in a theoretical balance sheet according to the Islam morality, cash should not be included. A very indicative of this principle can be seen in the Middle East nowadays. (Sorenson, D. (2008). Chapter 6. "The Persian Gulf Emirates". In *An Introduction to the Modern Middle East: History, Religion, Political Economy*, Politics. Boulder, CO: Westview Press.) Dubai, Qatar, Abu Dhabi have emerged as colossal cities due to the undertaking of large real estate projects some such as the Buj Al Arab Hotel that will never turn into profit due to the large fix costs because of this principle. Cash shall never be kept as a source of wealth but only as a medium of exchange.

Fifthly, Islam strictly forbids speculative behavior. Whichever it to be undertaken, it must be carefully planned before being undertaken, assessing potential risks. Any project that offers extreme uncertainty or risk must not be engaged regardless of the potential profits.

Lastly, *Shari'ah* strictly enforces the publicity of the entirely contractual arrangements on a transaction to reduce information asymmetry among the different parties. Additionally, it also established a strong importance of the individual, societal and state rights. In other words, it clearly states that no transaction shall go against any of the rights that the Islam grants to an individual, the society as a whole and the state as a gatekeeper. These rights include but not limited to property rights and capital gain sharing.

Furthermore, and implicit through the analysis, it should be mentioned that the corporate governance of any company shall be done accordingly to the principles, rights and duties established in the *Shari'a*.

## 2.2. Interest and *Riba*. Semantic or Technical differences?

As mentioned before, one of the main features of the Islamic Finance is the prohibition of the *Riba* (Iqbal, Z., & Mirakhor, A. (2011). Chapter 1. “Introduction”. In *An Introduction to Islamic Finance Theory and Practice* (2nd ed.). Singapore: John Wiley & Sons (Asia)). It can be translated into English as *interest* but it has some distinctions that shall be discussed to gather a further insight of the Islamic Corporate Social Responsibility. *Riba* can be defined as “*The action to increase, to augment, swellings, forbidden ‘addition’, to make more than what is given, the practicing or taking of usury or the like, an excess or an addition, or an addition over and above the principal sum that is lent or expended.*” However, scholars have tried to modernize this definition and to accommodate it to the nowadays literature in order to study differences between mainstream finance and Islamic finance.

*Per se*, *Riba* can be redrafted as “the exercise of charging financial interest or a premium in surplus of the principal amount of a credit that has been determined *ex ante*.”

More concretely, *Shari’a* bans unambiguously two manners of *Riba*: (*Shari’ah* (Iqbal, Z., & Mirakhor, A. (2011). Chapter 3. “*Riba* vs Rate of Return”. In *An Introduction to Islamic Finance Theory and Practice* (2nd ed.). Singapore: John Wiley & Sons (Asia)):

The first kind is the *Riba al-nasiah*. It states that any deferral, delay or split of payments shall not incur on an additional charge whether this further burden is fix, variable or absolute before during or after the payment has been made.

The second type of *Riba* discussed is of less relevance on the modern days yet it is worth to be mentioned. It is labelled as *Riba al-fadl* and at risk to be too concise it forbids the exchange of goods among individuals or enterprises. In other words, any transaction should be settled using cash rather than the real good to avoid any unfair or unforeseen change on the price.

Let one further discuss the concept of premium on an Islamic framework. The distinction between a payment as a reward for entrepreneurship and the payment merely for capital injection in a venture is sometime demanding to distinguish. Nonetheless, there are certain characteristics that should allow a clearer dissimilarity.

The first one is when a positive and secured *ex ante* payment is settled. Namely, there is a strict rejection to any positive imbursement that is fixed before the enterprise starts. As, bonds whose coupon determined before a project is undertaken or bank liabilities whose interest is also determined beforehand whether fix or variable are not *Shari’a* complaint.

Furthermore, it is also illicit to bond any compensation to a particular amount of capital or to a particular calendar time. In other words, payments have to be tied to the proceeds of the business and to the date those proceeds are realised. For example, when Islamic debt is issued to finance a skyscraper, payments should be made to the capital funders when the units are sold or leased even if there is a delay on the construction site and based on the rent or sale price of the units.

Moreover, payments cannot be ensured regardless of the fortune of the venture. As stated previously, debt holders have a preferential right to the claim of a venture asset in case it is not successful because their profits are limited and not tight to the actual results. On the contrary, in Islamic Finance this distinction is not made and as a matter of fact is not allowed.

Lastly, the state or its institutions such as Laws or court shall not enforce any payments but rather it is trust that enforces them. Opposing, debt payments are guaranteed by law and a judge has the power to impose sale of assets or even bankruptcy to guarantee interest and principal repayment in the conventional financial system.

### 3. ISLAMIC FINANCIAL INSTRUMENTS

The prohibition of the *Riba* does not imply that Islam bans financial assets or arrangements. In fact, Islam does promote business ventures as a way to promote society wellbeing. Hence, it recognises the need to dispose of different instruments to help fund different projects . (Hasan, Z. (2012). Chapter 7. “Investment Sukuk – Islamic Bonds”. In *Islamic Banking and Finance. An Integrative Approach* (1st ed.). Kuala Lumpur: Oxford University Press.)

These products are specially crafted to comply with two of the above discussed principles: the prohibition of the *Riba* and the basis of risk sharing. Many scholars (Chong, B., & Liu, M. (2009). “Islamic Banking: Interest-Free or Interest-Based?” SSRN Journal SSRN Electronic Journal.) defend that using risk sharing rather than risk transferring financial instruments reduces the moral hazard problems created in a principal-agent relationship.

As discussed by Adams and Thomas, there are important differences between shares, bonds and the Islamic Financing Instruments:

These are commonly referred as *Sukuks*. They are unbroken ownership share in a specific asset. This asset can be a good (i.e an Airplane), a project (I.e. a road) a company or service provided (I.e. construction and operation of an airport). Nonetheless, at least 51% of the Sukuk’s value must be backed by tangible assets. This implies that the owner of a Sukuk has a claim on the specific asset it backs rather than the amount it has been issued. In other words, if the asset that backbones the Sukuk changes its worth, it effects the valuation of the Sukuk. Due to its nature, it grants the holder with the claim on the specific asset that it backs rather than its value in cash. However, Sukuks allow the inclusion of collateral assets as a guarantee to be issued but similarly, the claim rights on the assets not, its cash value. A consequence of the whole design is that principals and returns are not guaranteed by the issuer company. The purpose of the undertaking for which a Sukuk is issued must be compliance with the Halal (Islamic Law). Lastly, Sukuk holders have ownership duties and rights over the assets it is tight limited to their share. Yet, they can choose to transfer them to the issuing company and practitioners argue that this is the general case.

Additionally, (Dubai International Financial Centre (DIFC) and Clifford Chance. 2009. Sukuk Guidebook. Dubai. Retrieved from

<https://www.difc.ae/sites/default/files/attached/5712/6707/6429/islamic.pdf>) the AAOIFI, the body that regulates Islamic finance has given an updating on the accepted applications of the Sukuks in the contemporary world. These are:

- Sukuks shall only be issued for new ventures. If the undertaking is already established it must be guaranteed that Sukuk holders will have complete ownership of the assets
- Profits shall be returned to the Sukuk holders at the agreed share regardless of their level. In other words, if the venture generates larger than expected profits, they must be shared with the Sukuk holders as agreed
- It is not allowed to repurchase assets at a face value. Instead they should be fairly valued.

Bonds are issue of debt. As such, normally they do not require asset backing. Creditors or debt holders have the right on the whole borrowing entity assets limited by the value of the reaming payments to be made. Most of the debt issue is unsecured debt with some exceptions such as Mortgages (in some jurisdictions), Equipment certificates ... The principal and interest are guaranteed by the issuer and enforced by law. There are no restrictions as for the purpose (I.e. they can be used to finance immoral yet legal activities). The responsibility of the debt holders is inexistent with respect to the issuer.

Lastly, shares represent an ownership in an enterprise. Its claims are limited to the residual assets when the company is liquidated and the profits once all obligations have been fulfilled. The responsibility is either limited to the capital invested (in the case of corporations) or unlimited with present and future assets (partnerships and sole-ownership).

Hence, we can conclude that Islamic Debt instruments are mixture between the bond-type and share-type instruments that are commonly used in the western world. The most distinctive fetures between the mainstream debt and the Islamic debt is the transfer of the ownership and all the rights, duties ad risks that it poses.

Now that we have a greater insight on the differences between Vanilla and Islamic debt, let one discuss the different instruments available and the differences with its conventional counterparts.

(Omar, A., & Abduh, M. (2013). Chapter 5: “An Overview of Sukuk”. In *Fundamentals of Islamic Money and Capital Markets*. Singapore: John Wiley.)

### **3.1. *Sukuk al-Ijarah***

The first of the vehicles discussed are the *Sukuk al-Ijarah*. They are the simplest form of Sukuks. *Al-Ijarah* can be translated, without danger of losing connotation or significance, as leasing. The procedure is as follows: the enterprise wishing to carry out an investment launches a request of proposal for the particular asset the company desires. After, a Islamic Bank or a consortium of them will acquire the good and rent it to the company for an agreed period of time. The rent can be fixed or a share of the profits generated. At the end of the *al-Ijarah*, the enterprise may or may not buy the asset back from the bank. There are some considerations that shall be made. First, the asset must be approved by the *Sharia*. Another contemplation that should be mentioned is that the price at which the asset can be bought back cannot be determined beforehand. Lastly, and perhaps more significant for this analysis, is that the banks cannot claim any due rents. That is, if the company has no profits on that particular asset, they have no obligations or collaterals tight to the leasing which moderates the risk for the overall company.

### **3.2. *Sukuk al-Musharakah***

This type of *Sukuks* is the closest instrument to a joint venture in the mainstream world. *Al-Musharakah* can be translated as partnership. That is, if a company desires to commence a certain project but it requires external financing may wish to join forces with another company or bank. The system is similar to the previous one: First, the originator enterprise launches a request of financing for a certain project. There are two kind of *Al-Musharakahs*. The least common of them resembles the traditional joint venture where two companies share capital, management, labour and know-how. The second type, and most common are partnerships where one associate provides financing and the issuing company the management, labour and know-how. This type is quite similar to the mainstream bonds. However, the risk for the issuing company is significantly lower: instead of receiving a percentage of the capital as interest, the share is tight to the profits of the project. Additionally, the liability of the issuing company is bond to the project instead to the amount of capital. That is, in the event of large losses in the project, the assets shall be sold and the proceeds shall be allocated between the issuing and holding companies and no further compensation can be persuaded. The share of profits can be a fix amount. In this circumstance, any deviation from the real share of profits should be compensated at maturity. The entrepreneur partner may or may not decide to exercise an option to buy the rest of the project at the maturity.

Nonetheless, the common practice is to exercise the option due to the risk it may pose a possible sale by the capital partner to an unknown partner.

### **3.3. *Sukuk al-Mudarabah***

The al-Mudarabahs are the closest form that can be found in the Islamic Finance to the conventional bonds. There are two clear defined parties: the entrepreneur that wishes to risk its time and know-how and the financing part that contributes with the capital. Any loss of capital in the venture are only borne by the capital provider and limited to the object of the *Sukuk*. The originator company is entitled to a fix part in addition to the share of profit in order to recompense for the entrepreneurship. The issuing company is allowed to carry out fix payments and make the necessary adjustments at the maturity. The *Sukuk* holders shall sell back the participation to the issuing company if they wish to do so.

### **3.4. *Sukuk al-Salam***

They are the simplest form of financing in the Islamic Finance Framework. They are used to finance very specific projects or assets. That is, specifications of the assets that are going to be financed, cannot lead to any ambiguity. If that condition is satisfied, the originator company issue an obligation to deliver a certain asset at a certain date. The *Sukuk* holder must make effective the payment at the moment of the issuing. It can be seen as a reverse forward contract. The main advantage compared to the mainstream derivative contract is that any default risk is eliminated as the payment is done beforehand instead of in the maturity date.

### **3.5. *Sukuk al-Istisna***

*Al-Istisnas* are tailor-made for large projects that require substantial amounts of capital and customer customization, such as infrastructure projects or capital goods. The issuing company launches a request for proposal of an investment it will manufacture. The buyer of this type of *Sukuk* becomes the owner of the manufactured asset and a lease contract is signed with the issuer. Any payments prior to the delivery of the good are considered advance payments. At the maturity date, and prior payment of the dissolution price, the ownership reverts back to the issuer. Similarly as with other contracts, any default risk is borne by the holder. It does allow for

fix payments that will be normalized at maturity but they are not allowed to be traded in the secondary market.

### **3.6. *Sukuk al-Murabahah***

They were conceived to trade highly standardized goods such as commodities. When a company wishes to acquire this type of goods, it issues a request of proposal to the Islamic Banks. They agree to buy these goods on behalf of their customer, the originator of the *sukuk*. Then, it sells back to the company the goods with an ex ante agreed fix mark up. The price the bank pays for the goods must be disclosed. The price and delivery can be fragmented in different instalments. The closest mainstream financial instruments are the bank loans. Yet, the use of *Sukuk al-Murabahah* reduces the risk as the liability is limited to the asset financed and not its capital and it can induce in a reduction of the cost of the good itself due to the economies of scale the bank may have when combining different purchase for different originators as the goods are highly standardized.

### **3.7. Non Financing *Sukuks***

#### **3.7.1. *Sukuk al-Istithmar***

This type of *Sukuk* can perhaps be considered the first securitization instrument. They are simple a combination of different *Sukuks*. An agent buys different contracts paying the principal amount. Then, it packages them up and sells the newly created asset to investors. They will receive their share of income given their share in the *al-Istithmar*. As such, they do not represent new capital for the originators. Their mainstream counterparts are the Collateralized Debt Obligations (CDO).

#### **3.7.2. *Sukuk al-Wakala***

The al-Wakala contracts were designed to govern a Principal-Agent relationship. It establishes the share of profits between them of a particular venture as well as the coefficient for the labour of the agent. Similarly to the previous one, there is not any capital injection and they can be resembled as a labour contract of a Chief Executive Officer.



#### 4. ***SUKUKS*: RISKS AND COST OF CAPITAL**

The main goal of the study, as previously stated, is to analyse the effect of Islamic Corporate Social Responsibility in the capital markets. After an analysis of the financial instruments, one could state that there is a fundamental difference between conventional and Islamic bonds: the risk sharing between debt holders and issuers. In the case of conventional finance, the risk of the debt holders is limited to the default. That is, they can claim the liquidation of the assets of a company in the event of arrears. As such, it is considered that the debt holders have their profit limited to the interest but their risk is lower given the claim right. On the other hand, equity holders have an unlimited profit potential but their risks are potentially larger as they can lose all their investment.

In Islamic Finance, however, the *Sukuk* holders risk losing all its investment whereas the company and by extension its shareholders, can only lose the financed asset as discussed in Section 3.

Assuming markets are efficient, which is a widely used assumption in the literature, this characteristic will have no effect in the proposed analysis as any risk difference will be adjusted using the cost of capital they require or equivalent to the percentage of profits they require to enter a *Sukuk* contract.

## 5. ASSESSING THE MARKET PERCEPTION ABOUT ISLAMIC CORPORATE SOCIAL RESPONSIBILITY

### 5.1. The hypothesis

Given that we cannot state any significant differences between plain vanilla and *Sharia* compliance financing instruments and the efficient market hypothesis points out that the dissimilarities will be adjusted through the required profitability rate, the main hypothesis would be the following:

**(H1) Islamic Corporate Social Responsibility shall not affect value creation.**

### 5.2. The model

In order to determine whether the Islamic Corporate Social Responsibility is being valued by the market or not we propose the following model:

Given that in an efficient market one could assume that asset's expected profitability equals its required profitability return on a stock can be explained by the standard deviation of each share. We would like to test for the market value of the *Sharia* precepts being followed by the companies. Because of that, our model incorporates a dummy variable according to the company complying with the Islamic Customs Law.

We run a regression for all the stocks forming the S&P 500 index:

$$R_{i,J} = S(\sigma_{i,J}) + Sharia(Dummy_i) + C \quad (1)$$

where  $R_{i,J}$  is the return of the asset  $i$  in the period  $J$ ,  $S$  is the estimator for the risk,  $\sigma_{i,J}$  is the standard deviation of  $i$ 's return in moment  $J$ ,  $Sharia$  is the regressor for *Sharia* compliance. The dummy variable takes value of 1, if the company fulfils the *Sharia*, and 0, if not.

### 5.3. The Sample

We have obtained the daily closing price of the constituents of the S&P 500 from January 2012 to December 2014 from Wharton Research Data Services (WRDS) (Center for Research in Security Prices (CRSP) Database. (n.d.). Retrieved March, April, May, 2015, from <http://www.whartonwrds.com/>). Then, the average monthly returns were calculated. After that, the Standard Deviation of the returns was obtained.

The data for the *Sharia compliance* was obtained from the S&P 500 *Sharia* Index. This index was specially created to disclose to investors which companies from the main S&P 500 index were *Sharia* compliance. The criterion used by Standard and Poor's are discussed in the following section.

The constituents of the S&P *Sharia* Index were obtained following an interview with a practitioner, who wishes not to be mentioned, at the Deutsche Bank office in Hong Kong SAR (Deutsche Bank. (2015, April 24). Islamic Compliance Investments [Personal interview]).

### 5.4. S&P 500 *Shari'ah* Index Criterion

Following the rise of the Islamic Finance and institutional investors requiring more disclose about *Sharia* Compliance, Standard and Poor's decided to create different indexes for different markets with full disclose about this information. However, *Sharia* compliance is always subject to discussion among scholars. To resolve this Issue, a partnership with the Shariah Supervisory Board was enforced. The fellows are: Dr. Muhammad Ali Elgari , Dr. Abdul Sattar Abu Ghuddah, Dr. Nazih, Dr. Mohammad Amin Ali-Qattan and Dr. Mohd Daud Bakar.

This committee performs regular audits of the public companies and determine if there are compliant with the *Sharia* given a set of criterion (S&P Shariah Indices. Methodology. (2015, June 1). Retrieved June 1, 2015, from <http://eu.spindices.com/indices/equity/sp-500-shariah-index>)

#### 5.4.1. Activity Based Criterion

The following activities are banned in the Islamic Law: Advertising and Media (with the exception of Media and advertising companies generating revenues in excess of 65% of total income from the GCC countries, News Channels, Newspapers and Sports Channels), Alcohol, Cloning, Financials (with the exception of Islamic Banks, Islamic Financial Institutions, Islamic Insurance Companies having Shariah Committee to supervise all activities, all products are Islamic, all investments of the company are Islamic and with accounting based screens), Gambling, Pork, Pornography, Tobacco and Trading of gold and silver as cash on deferred basis.

#### 5.4.2. Accounting Based Criterion

There are certain accounting conditions that are established mainly to control for usury. Those are:

- 1) Leverage Ratio:

$$\frac{Debt}{Market\ Capitalization} < 33\% \text{ (36 month average) } (2)$$

- 2) Cash Compliance

- a. Accounts Receivable

$$\frac{Accounts\ Receivable}{Market\ Capitalization} < 49\% \text{ (36 month average) } (3)$$

- b. Liquidity

$$\frac{Cash + Interest\ Bearing\ Securities}{Market\ Capitalization} < 33\% \text{ (36 month average) } (4)$$

- 3) Revenue Share from Non-Compliant Activities

$$\frac{Non - Permissible\ Income\ other\ than\ Interest\ Income}{Revenue} < 5\% \text{ (5)}$$

- 4) Dividend Purification Ratio

$$Dividend * \frac{Non - Permissible\ Income\ other\ than\ Interest\ Income}{Revenue} < 5\% \text{ (6)}$$

Overall, one could conclude that the Shariah Supervisory Board establishes subjective yet measurable criterion to evaluate if companies comply with the aim of the *Sharia* rather than checking for the specifics of the *Sharia*.

## 5.5. The results

The results for the 36 OLS models can be found in the annex 1. The *Shari'ah* estimators are the succeeding (Table 1):

<b>Jan-12</b>	0.000699	1.532081	0.1261
<b>Feb-12</b>	0.000539	1.403365	0.1611
<b>Mar-12</b>	-0.000677	-1.99021	0.0471
<b>Apr-12</b>	-0.0000828	-0.23749	0.8124
<b>May-12</b>	-0.000167	-0.40581	0.6851
<b>Jun-12</b>	-0.000319	-0.90992	0.3633
<b>Jul-12</b>	0.001036	1.750339	0.0807
<b>Aug-12</b>	0.0000858	0.250421	0.8024
<b>Sep-12</b>	0.0000863	0.316995	0.7514
<b>Oct-12</b>	-0.000522	-1.20148	0.2301
<b>Nov-12</b>	0.000568	1.603364	0.1095
<b>Dec-12</b>	0.000176	0.516617	0.6057
<b>Jan-13</b>	-0.000324	-0.76614	0.444
<b>Feb-13</b>	0.0000509	0.142401	0.8868
<b>Mar-13</b>	-0.000608	-2.21949	0.0269
<b>Apr-13</b>	-0.000311	-0.88171	0.3784
<b>May-13</b>	0.000295	0.756742	0.4496
<b>Jun-13</b>	-0.00016	-0.52144	0.6023
<b>Jul-13</b>	0.000354	1.170601	0.2423
<b>Aug-13</b>	0.0000981	0.317348	0.7511
<b>Sep-13</b>	0.000435	1.441217	0.1502
<b>Oct-13</b>	-0.000143	-0.49537	0.6206
<b>Nov-13</b>	0.00029	0.946048	0.3446
<b>Dec-13</b>	0.0000791	0.242896	0.8082
<b>Jan-14</b>	0.000113	0.272546	0.7853
<b>Feb-14</b>	-0.0000567	-0.16012	0.8729
<b>Mar-14</b>	-0.000358	-1.24468	0.2138
<b>Apr-14</b>	-0.000194	-0.6026	0.5471
<b>May-14</b>	0.0000389	0.145413	0.8844
<b>Jun-14</b>	-0.00073	-2.20459	0.0279
<b>Jul-14</b>	0.000172	0.558705	0.5766
<b>Aug-14</b>	0.000234	0.658245	0.5107
<b>Sep-14</b>	0.000471	1.429	0.1536
<b>Oct-14</b>	-0.000161	-0.49209	0.6229
<b>Nov-14</b>	0.000183	0.513313	0.608
<b>Dec-14</b>	-0.0000969	-0.35216	0.7249
Table 1: <i>Shari'ah</i> Estimator. Source: Own creation			

The following graph represents the *Shari'ah* estimator for the 36-month period:

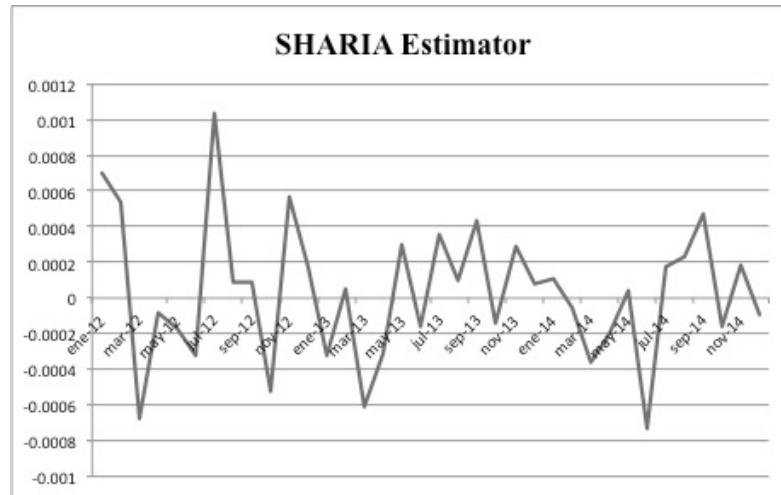


Figure 1: Shari'ah Estimator. *Source: Own creation*

It can unmistakably be seen that the estimator is inconsistent. More precisely, the results are very close to 0 and its significance tested with a T-test does not allow us to reject the main hypothesis that Islamic Corporate Social Responsibility does not create value in the financial markets.

On the other hand, consistent with previous literature including Modern Portfolio Theory, the regressor of the risk is consistent and significant for all the samples.

Additionally, the constant variable resembles the behaviour of the risk-free rate further enhancing the consistency with the mainstream literature.

Hence, we cannot reject the hypothesis that Islamic Corporate Soicial Resposablity does not create value in the financial markets.

## 6. CONCLUSIONS

The main goal of this analysis is to provide an insight about Islamic Corporate Social Responsibility, the financing instruments, and the value creation in the financial markets of complying enterprises.

Islamic morality, and by corollary its Corporate Social Responsibility, is clearly defined. This offers a great contrast with Western morality where the standards are loosely outlined. The first relevant concept is Justice. In the Islamic Morality, it is perceived as integral concept rather than a sequence in which the result yields the correction of the act. Actions have intrinsic rather than extrinsic morality. As such, the Islam provides a fundamental law, the *Sharia* that includes a transition from the theoretical precepts to the crisp acceptable and unacceptable behaviours of the religion.

The other relevant principles for this analysis can be found in the *Sharia*. The most discussed principle inside the Islamic customary is the prohibition of the *Riba*. Sometimes translated as *interests*, any unjustifiable mark-up is strictly forbidden. That is, the mere contribution of funding is not accepted as justifiable. There has to be a stronger sense of partnership, which leads to the second principle: any commercial relation should share risks. That is, in a venture both the funder shall share the risks of venture without prejudice of other assets the entrepreneur may have. The third axiom says any transaction must involve a direct transaction with a real asset. The fourth principle states that wealth shall be computed on the basis of real assets. More concretely, cash is not conceived as wealth and has to be invested without compromising liquidity. The fifth, speculative behaviour is strictly forbidden. Risks should be carefully assessed and contingency plans have to be detailed. Last yet not least, contractual arrangements shall be carefully drafted in order to reduce asymmetric information. Besides, the *sharia* does not state that the business purpose must be Islamic compliance yet it is widely understood by both academics and practitioners that this is an implied assumption derived from the main law.

A more profound discussion of the concept of *Riba* must be made. The prohibition of interests denotes that any deferral, delay or split of payments must not incur in additional charges. Moreover, in order to guarantee the enforcement of the principle all transactions shall be satisfied in cash rather than bartering. Any positive certain compensation that is beforehand set is not allowed. Furthermore, payments should be profit bound rather than the capital. Funding payments cannot compromise the entrepreneur wealth besides the transaction. Lastly, laws and

institutions cannot be used to enforce the cash flows derived from the transaction and should be based on trust. It can be stated that the main feature that differentiates vanilla debt from Islamic instruments is that the ownership of the financed asset is transferred to the debt holder with the risks and duties it carries out.

In this essay, one has tried to find the equivalent instruments between the mainstream finance and the Islamic world.

The first financing instrument discussed is the ***Sukuk al-Ijarah***. It is the Islamic equivalent to the **leasing**. The ownership remains with the financing entity which sales the usufruct ownership in exchange of a share of the generated proceeds.

The second is named ***Sukuk al-Musharak***. It resembles a **joint venture** where two or more parties joint forces to undertake a project. The profits should be shared in a fix ex ante agreed percentage. At the end, the entrepreneur may buy back the remainder part from the funding side at the maturity.

***Sukuk al-Mudarabah*** are used to finance a minor enterprise where the **funder** contributes with the **capital** and the entrepreneur supplies labour and **know-how**.

***Sukuk al-Salams*** are used the finance very specific products and customized can be assimilated to a **forward contract in revers order**: first the payment is made and then, at a future date, the good is delivered.

When there are **large very customized projects** that require large amounts of capital and are lengthy in time, ***Sukuk al-Istisna***.

Lastly, when there is the need for financing **of highly standardized commodities**, ***Sukuk al-Murabah*** offer the best solution.

***Sukuk al-Istithmar*** and ***Sukuk al-Wakala*** are used to regulate non-financing relationships in the business environment.

Hence, one can conclude that for every Islamic instrument available a mainstream counterpart can be found. Nonetheless, it is clear the risks structure of products from both streams slightly differs, particularly when observing credit risk matters. However, the efficient market hypothesis led on to conclude that any credit risk difference shall be naturalized through a cost of capital adjustment.

Now that we have a better insight of the difference between vanilla and Islamic finance, we can perform a *ceteris paribus* comparison in order to analyse whether the Islamic Corporate Social



Responsibility is being valued by the market or not. This is assessed using a cross-sectional OLS model with the monthly average returns of the whole S&P 500 for a period of 36 months. The Islamic compliance has been identified using the S&P 500 Sharia index.

We can conclude that our main hypothesis cannot be rejected. Hence, *Sharia* compliance has no effect on value creation. In other words, we can continue to eat jam in our free lunch.

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## 8. ANNEX 1: REGRESSION MODELS

### 8.1. January 2012

Dependent Variable: AV  
Method: Least Squares  
Date: 05/23/15 Time: 09:19  
Sample: 1 507  
Included observations: 507

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SD	-0.045250	0.018195	-2.487007	0.0132
<i>SHARI'AH</i>	0.000699	0.000456	1.532081	0.1261
C	0.002470	0.000367	6.734088	0.0000
R-squared	0.016662	Mean dependent var		0.001932
Adjusted R-squared	0.012760	S.D. dependent var		0.004481
S.E. of regression	0.004452	Akaike info criterion		-7.985032
Sum squared resid	0.009989	Schwarz criterion		-7.960011
Log likelihood	2027.206	Hannan-Quinn criter.		-7.975219
F-statistic	4.270026	Durbin-Watson stat		1.928477
Prob(F-statistic)	0.014491			

### 8.2. February 2012

Dependent Variable: AV  
Method: Least Squares  
Date: 05/23/15 Time: 09:20  
Sample: 1 507  
Included observations: 507

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SD	0.017863	0.019237	0.928566	0.3536
<i>SHARI'AH</i>	0.000539	0.000384	1.403365	0.1611
C	0.001348	0.000337	3.998756	0.0001
R-squared	0.005288	Mean dependent var		0.001735
Adjusted R-squared	0.001341	S.D. dependent var		0.003739
S.E. of regression	0.003737	Akaike info criterion		-8.335405
Sum squared resid	0.007037	Schwarz criterion		-8.310384
Log likelihood	2116.025	Hannan-Quinn criter.		-8.325592
F-statistic	1.339632	Durbin-Watson stat		1.983800
Prob(F-statistic)	0.262873			

### 8.3. March 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:22  
Sample (adjusted): 1 506  
Included observations: 506 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.108008	0.022775	-4.742288	0.0000
<i>SHARI'AH</i>	-0.000677	0.000340	-1.990211	0.0471
C	0.002328	0.000360	6.467566	0.0000
R-squared	0.048381	Mean dependent var		0.000674
Adjusted R-squared	0.044598	S.D. dependent var		0.003391
S.E. of regression	0.003315	Akaike info criterion		-8.574820
Sum squared resid	0.005528	Schwarz criterion		-8.549761
Log likelihood	2172.429	Hannan-Quinn criter.		-8.564992
F-statistic	12.78653	Durbin-Watson stat		1.921285
Prob(F-statistic)	0.000004			

### 8.4. April 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:23  
Sample (adjusted): 1 505  
Included observations: 505 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.052492	0.018002	-2.915977	0.0037
<i>SHARI'AH</i>	-8.28E-05	0.000349	-0.237485	0.8124
C	-2.14E-05	0.000341	-0.062606	0.9501
R-squared	0.016847	Mean dependent var		-0.000902
Adjusted R-squared	0.012930	S.D. dependent var		0.003428
S.E. of regression	0.003406	Akaike info criterion		-8.520811
Sum squared resid	0.005823	Schwarz criterion		-8.495715
Log likelihood	2154.505	Hannan-Quinn criter.		-8.510968
F-statistic	4.301064	Durbin-Watson stat		2.150104
Prob(F-statistic)	0.014057			

## 8.5. May 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:25  
Sample (adjusted): 1 503  
Included observations: 503 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.178437	0.018569	-9.609381	0.0000
<i>SHARI'AH</i>	-0.000167	0.000411	-0.405813	0.6851
C	-0.001100	0.000364	-3.024213	0.0026
R-squared	0.155909	Mean dependent var		-0.003961
Adjusted R-squared	0.152533	S.D. dependent var		0.004351
S.E. of regression	0.004006	Akaike info criterion		-8.196268
Sum squared resid	0.008023	Schwarz criterion		-8.171096
Log likelihood	2064.362	Hannan-Quinn criter.		-8.186393
F-statistic	46.17660	Durbin-Watson stat		1.937258
Prob(F-statistic)	0.000000			

## 8.6. June 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:26  
Sample (adjusted): 1 502  
Included observations: 502 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.032861	0.016490	1.992808	0.0468
<i>SHARI'AH</i>	-0.000319	0.000351	-0.909923	0.3633
C	0.002774	0.000349	7.952331	0.0000
R-squared	0.009441	Mean dependent var		0.003294
Adjusted R-squared	0.005471	S.D. dependent var		0.003435
S.E. of regression	0.003426	Akaike info criterion		-8.509117
Sum squared resid	0.005856	Schwarz criterion		-8.483906
Log likelihood	2138.788	Hannan-Quinn criter.		-8.499226
F-statistic	2.378062	Durbin-Watson stat		2.013538
Prob(F-statistic)	0.093780			

## 8.7. July 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:30  
Sample (adjusted): 1 500  
Included observations: 500 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.111204	0.011542	9.634864	0.0000
<i>SHARI'AH</i>	0.001036	0.000592	1.750339	0.0807
C	-0.002448	0.000375	-6.524252	0.0000
R-squared	0.161027	Mean dependent var		-2.86E-05
Adjusted R-squared	0.157651	S.D. dependent var		0.006294
S.E. of regression	0.005777	Akaike info criterion		-7.463954
Sum squared resid	0.016586	Schwarz criterion		-7.438666
Log likelihood	1868.988	Hannan-Quinn criter.		-7.454031
F-statistic	47.69543	Durbin-Watson stat		1.938007
Prob(F-statistic)	0.000000			

## 8.8. August 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:33  
Sample (adjusted): 1 500  
Included observations: 500 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.046466	0.015289	3.039151	0.0025
<i>SHARI'AH</i>	8.58E-05	0.000343	0.250421	0.8024
C	0.000836	0.000277	3.022858	0.0026
R-squared	0.018253	Mean dependent var		0.001497
Adjusted R-squared	0.014302	S.D. dependent var		0.003363
S.E. of regression	0.003339	Akaike info criterion		-8.560462
Sum squared resid	0.005540	Schwarz criterion		-8.535174
Log likelihood	2143.115	Hannan-Quinn criter.		-8.550539
F-statistic	4.620124	Durbin-Watson stat		1.873882
Prob(F-statistic)	0.010279			

## 8.9. September 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:38  
Sample (adjusted): 1 501  
Included observations: 501 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.084967	0.016507	5.147425	0.0000
<i>SHARI'AH</i>	8.63E-05	0.000272	0.316995	0.7514
C	9.47E-05	0.000271	0.349419	0.7269
R-squared	0.050614	Mean dependent var		0.001313
Adjusted R-squared	0.046801	S.D. dependent var		0.002723
S.E. of regression	0.002658	Akaike info criterion		-9.016458
Sum squared resid	0.003519	Schwarz criterion		-8.991209
Log likelihood	2261.623	Hannan-Quinn criter.		-9.006551
F-statistic	13.27483	Durbin-Watson stat		1.991042
Prob(F-statistic)	0.000002			

## 8.10. October 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:39  
Sample (adjusted): 1 500  
Included observations: 500 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.205117	0.006216	32.99584	0.0000
<i>SHARI'AH</i>	-0.000522	0.000435	-1.201483	0.2301
C	-0.003398	0.000244	-13.90349	0.0000
R-squared	0.687639	Mean dependent var		-0.000126
Adjusted R-squared	0.686382	S.D. dependent var		0.007567
S.E. of regression	0.004238	Akaike info criterion		-8.083558
Sum squared resid	0.008926	Schwarz criterion		-8.058270
Log likelihood	2023.889	Hannan-Quinn criter.		-8.073635
F-statistic	547.0548	Durbin-Watson stat		2.095389
Prob(F-statistic)	0.000000			



## 8.11. November 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:40  
Sample (adjusted): 1 500  
Included observations: 500 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.004020	0.018772	0.214144	0.8305
<i>SHARI'AH</i>	0.000568	0.000354	1.603364	0.1095
C	-0.000449	0.000347	-1.292522	0.1968
R-squared	0.005160	Mean dependent var		-0.000241
Adjusted R-squared	0.001157	S.D. dependent var		0.003449
S.E. of regression	0.003447	Akaike info criterion		-8.496834
Sum squared resid	0.005904	Schwarz criterion		-8.471546
Log likelihood	2127.208	Hannan-Quinn criter.		-8.486911
F-statistic	1.288948	Durbin-Watson stat		1.955121
Prob(F-statistic)	0.276480			

## 8.12. December 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:42  
Sample (adjusted): 1 500  
Included observations: 500 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.018505	0.017725	-1.044018	0.2970
<i>SHARI'AH</i>	0.000176	0.000340	0.516617	0.6057
C	0.001494	0.000295	5.071027	0.0000
R-squared	0.002923	Mean dependent var		0.001297
Adjusted R-squared	-0.001089	S.D. dependent var		0.003311
S.E. of regression	0.003312	Akaike info criterion		-8.576327
Sum squared resid	0.005453	Schwarz criterion		-8.551039
Log likelihood	2147.082	Hannan-Quinn criter.		-8.566404
F-statistic	0.728545	Durbin-Watson stat		1.925389
Prob(F-statistic)	0.483125			

### 8.13. January 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:43  
Sample (adjusted): 1 499  
Included observations: 499 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.008546	0.016189	-0.527861	0.5978
<i>SHARI'AH</i>	-0.000324	0.000423	-0.766144	0.4440
C	0.002164	0.000307	7.055708	0.0000
R-squared	0.001697	Mean dependent var		0.001966
Adjusted R-squared	-0.002328	S.D. dependent var		0.004135
S.E. of regression	0.004140	Akaike info criterion		-8.130204
Sum squared resid	0.008502	Schwarz criterion		-8.104878
Log likelihood	2031.486	Hannan-Quinn criter.		-8.120265
F-statistic	0.421601	Durbin-Watson stat		2.306249
Prob(F-statistic)	0.656231			

### 8.14. February 2012

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:46  
Sample (adjusted): 1 498  
Included observations: 498 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.022983	0.018070	1.271868	0.2040
<i>SHARI'AH</i>	5.09E-05	0.000357	0.142401	0.8868
C	-0.000242	0.000330	-0.732607	0.4641
R-squared	0.003268	Mean dependent var		0.000115
Adjusted R-squared	-0.000759	S.D. dependent var		0.003488
S.E. of regression	0.003490	Akaike info criterion		-8.472000
Sum squared resid	0.006028	Schwarz criterion		-8.446635
Log likelihood	2112.528	Hannan-Quinn criter.		-8.462045
F-statistic	0.811590	Durbin-Watson stat		1.941452
Prob(F-statistic)	0.444741			

## 8.15. March 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:47  
Sample (adjusted): 1 498  
Included observations: 498 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.007303	0.022500	-0.324568	0.7456
<i>SHARI'AH</i>	-0.000608	0.000274	-2.219493	0.0269
C	0.002362	0.000286	8.245730	0.0000
R-squared	0.010082	Mean dependent var		0.002122
Adjusted R-squared	0.006082	S.D. dependent var		0.002691
S.E. of regression	0.002683	Akaike info criterion		-8.997864
Sum squared resid	0.003563	Schwarz criterion		-8.972499
Log likelihood	2243.468	Hannan-Quinn criter.		-8.987909
F-statistic	2.520664	Durbin-Watson stat		1.760604
Prob(F-statistic)	0.081438			

## 8.16. April 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:48  
Sample (adjusted): 1 498  
Included observations: 498 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.072674	0.014737	-4.931476	0.0000
<i>SHARI'AH</i>	-0.000311	0.000353	-0.881710	0.3784
C	0.002331	0.000304	7.665169	0.0000
R-squared	0.048449	Mean dependent var		0.001036
Adjusted R-squared	0.044605	S.D. dependent var		0.003537
S.E. of regression	0.003457	Akaike info criterion		-8.490810
Sum squared resid	0.005916	Schwarz criterion		-8.465445
Log likelihood	2117.212	Hannan-Quinn criter.		-8.480855
F-statistic	12.60179	Durbin-Watson stat		1.904565
Prob(F-statistic)	0.000005			

## 8.17. May 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:49  
Sample (adjusted): 1 497  
Included observations: 497 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.091882	0.016809	-5.466359	0.0000
<i>SHARI'AH</i>	0.000295	0.000390	0.756742	0.4496
C	0.002839	0.000314	9.033489	0.0000
R-squared	0.058149	Mean dependent var		0.001596
Adjusted R-squared	0.054336	S.D. dependent var		0.003942
S.E. of regression	0.003834	Akaike info criterion		-8.283932
Sum squared resid	0.007261	Schwarz criterion		-8.258528
Log likelihood	2061.557	Hannan-Quinn criter.		-8.273961
F-statistic	15.24946	Durbin-Watson stat		1.865731
Prob(F-statistic)	0.000000			

## 8.18. June 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 09:58  
Sample (adjusted): 1 496  
Included observations: 496 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.157989	0.016023	-9.860429	0.0000
<i>SHARI'AH</i>	-0.000160	0.000306	-0.521443	0.6023
C	0.001723	0.000303	5.686177	0.0000
R-squared	0.164955	Mean dependent var		-0.000862
Adjusted R-squared	0.161567	S.D. dependent var		0.003284
S.E. of regression	0.003007	Akaike info criterion		-8.769631
Sum squared resid	0.004458	Schwarz criterion		-8.744188
Log likelihood	2177.868	Hannan-Quinn criter.		-8.759644
F-statistic	48.69353	Durbin-Watson stat		1.809834
Prob(F-statistic)	0.000000			

## 8.19. July 13

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:01  
Sample (adjusted): 1 497  
Included observations: 497 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.120452	0.014753	-8.164492	0.0000
<i>SHARI'AH</i>	0.000354	0.000302	1.170601	0.2423
C	0.003702	0.000250	14.82621	0.0000
R-squared	0.121895	Mean dependent var		0.002216
Adjusted R-squared	0.118340	S.D. dependent var		0.003162
S.E. of regression	0.002969	Akaike info criterion		-8.794955
Sum squared resid	0.004356	Schwarz criterion		-8.769551
Log likelihood	2188.546	Hannan-Quinn criter.		-8.784984
F-statistic	34.28748	Durbin-Watson stat		2.067519
Prob(F-statistic)	0.000000			

## 8.20. August 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:03  
Sample (adjusted): 1 497  
Included observations: 497 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.088604	0.011726	7.556311	0.0000
<i>SHARI'AH</i>	9.81E-05	0.000309	0.317348	0.7511
C	-0.003325	0.000221	-15.02336	0.0000
R-squared	0.103611	Mean dependent var		-0.002155
Adjusted R-squared	0.099982	S.D. dependent var		0.003199
S.E. of regression	0.003035	Akaike info criterion		-8.751520
Sum squared resid	0.004549	Schwarz criterion		-8.726116
Log likelihood	2177.753	Hannan-Quinn criter.		-8.741549
F-statistic	28.55012	Durbin-Watson stat		1.978938
Prob(F-statistic)	0.000000			

## 8.21. September 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:04  
Sample (adjusted): 1 496  
Included observations: 496 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.049797	0.017996	-2.767122	0.0059
<i>SHARI'AH</i>	0.000435	0.000302	1.441217	0.1502
C	0.002164	0.000271	7.987027	0.0000
R-squared	0.021028	Mean dependent var		0.001685
Adjusted R-squared	0.017057	S.D. dependent var		0.002979
S.E. of regression	0.002953	Akaike info criterion		-8.805894
Sum squared resid	0.004299	Schwarz criterion		-8.780451
Log likelihood	2186.862	Hannan-Quinn criter.		-8.795907
F-statistic	5.294815	Durbin-Watson stat		1.982731
Prob(F-statistic)	0.005307			

## 8.22. October 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:05  
Sample (adjusted): 1 496  
Included observations: 496 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.024351	0.018717	-1.301034	0.1939
<i>SHARI'AH</i>	-0.000143	0.000288	-0.495366	0.6206
C	0.001937	0.000312	6.207769	0.0000
R-squared	0.003989	Mean dependent var		0.001539
Adjusted R-squared	-0.000052	S.D. dependent var		0.002825
S.E. of regression	0.002825	Akaike info criterion		-8.894240
Sum squared resid	0.003936	Schwarz criterion		-8.868797
Log likelihood	2208.772	Hannan-Quinn criter.		-8.884253
F-statistic	0.987236	Durbin-Watson stat		1.981642
Prob(F-statistic)	0.373341			

### 8.23. November 13

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:05  
Sample (adjusted): 1 495  
Included observations: 495 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.051334	0.022879	2.243673	0.0253
<i>SHARI'AH</i>	0.000290	0.000306	0.946048	0.3446
C	0.000370	0.000325	1.140002	0.2548
R-squared	0.011450	Mean dependent var		0.001073
Adjusted R-squared	0.007431	S.D. dependent var		0.003012
S.E. of regression	0.003001	Akaike info criterion		-8.773791
Sum squared resid	0.004431	Schwarz criterion		-8.748309
Log likelihood	2174.513	Hannan-Quinn criter.		-8.763788
F-statistic	2.849304	Durbin-Watson stat		2.148956
Prob(F-statistic)	0.058840			

### 8.24. December 2013

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:06  
Sample (adjusted): 1 493  
Included observations: 493 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.100952	0.013878	-7.274115	0.0000
<i>SHARI'AH</i>	7.91E-05	0.000326	0.242896	0.8082
C	0.002713	0.000242	11.21701	0.0000
R-squared	0.097713	Mean dependent var		0.001480
Adjusted R-squared	0.094030	S.D. dependent var		0.003356
S.E. of regression	0.003194	Akaike info criterion		-8.648778
Sum squared resid	0.005000	Schwarz criterion		-8.623217
Log likelihood	2134.924	Hannan-Quinn criter.		-8.638742
F-statistic	26.53210	Durbin-Watson stat		2.015765
Prob(F-statistic)	0.000000			

## 8.25. January 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:09  
Sample (adjusted): 1 493  
Included observations: 493 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.167135	0.016603	-10.06631	0.0000
<i>SHARI'AH</i>	0.000113	0.000413	0.272546	0.7853
C	0.001312	0.000337	3.894936	0.0001
R-squared	0.172379	Mean dependent var	-0.001223	
Adjusted R-squared	0.169001	S.D. dependent var	0.004440	
S.E. of regression	0.004048	Akaike info criterion	-8.175281	
Sum squared resid	0.008028	Schwarz criterion	-8.149720	
Log likelihood	2018.207	Hannan-Quinn criter.	-8.165245	
F-statistic	51.02921	Durbin-Watson stat	1.931944	
Prob(F-statistic)	0.000000			

## 8.26. February 14

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:10  
Sample (adjusted): 1 492  
Included observations: 492 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.054174	0.018072	2.997763	0.0029
<i>SHARI'AH</i>	-5.67E-05	0.000354	-0.160123	0.8729
C	0.003516	0.000295	11.91958	0.0000
R-squared	0.018073	Mean dependent var	0.004199	
Adjusted R-squared	0.014056	S.D. dependent var	0.003493	
S.E. of regression	0.003468	Akaike info criterion	-8.484121	
Sum squared resid	0.005883	Schwarz criterion	-8.458520	
Log likelihood	2090.094	Hannan-Quinn criter.	-8.474068	
F-statistic	4.500069	Durbin-Watson stat	1.789446	
Prob(F-statistic)	0.011572			



## 8.27. March 14

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:11  
Sample (adjusted): 1 492  
Included observations: 492 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.130595	0.017734	-7.363896	0.0000
<i>SHARI'AH</i>	-0.000358	0.000287	-1.244682	0.2138
C	0.002403	0.000268	8.969386	0.0000
R-squared	0.101268	Mean dependent var		0.000688
Adjusted R-squared	0.097593	S.D. dependent var		0.002963
S.E. of regression	0.002815	Akaike info criterion		-8.901753
Sum squared resid	0.003874	Schwarz criterion		-8.876153
Log likelihood	2192.831	Hannan-Quinn criter.		-8.891701
F-statistic	27.55009	Durbin-Watson stat		2.005083
Prob(F-statistic)	0.000000			

## 8.28. April 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:12  
Sample (adjusted): 1 493  
Included observations: 493 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.127138	0.016832	-7.553412	0.0000
<i>SHARI'AH</i>	-0.000194	0.000322	-0.602602	0.5471
C	0.001537	0.000297	5.173901	0.0000
R-squared	0.105346	Mean dependent var		-0.000394
Adjusted R-squared	0.101694	S.D. dependent var		0.003327
S.E. of regression	0.003153	Akaike info criterion		-8.674854
Sum squared resid	0.004871	Schwarz criterion		-8.649293
Log likelihood	2141.351	Hannan-Quinn criter.		-8.664818
F-statistic	28.84878	Durbin-Watson stat		1.940663
Prob(F-statistic)	0.000000			

## 8.29. May 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:13  
Sample (adjusted): 1 491  
Included observations: 491 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.049539	0.018459	2.683700	0.0075
<i>SHARI'AH</i>	3.89E-05	0.000268	0.145413	0.8844
C	0.000409	0.000265	1.545909	0.1228
R-squared	0.014580	Mean dependent var		0.001006
Adjusted R-squared	0.010541	S.D. dependent var		0.002623
S.E. of regression	0.002610	Akaike info criterion		-9.053207
Sum squared resid	0.003323	Schwarz criterion		-9.027567
Log likelihood	2225.562	Hannan-Quinn criter.		-9.043138
F-statistic	3.610130	Durbin-Watson stat		1.994284
Prob(F-statistic)	0.027773			

## 8.30. June 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:14  
Sample (adjusted): 1 491  
Included observations: 491 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.143003	0.012428	-11.50684	0.0000
<i>SHARI'AH</i>	-0.000730	0.000331	-2.204585	0.0279
C	0.002953	0.000216	13.66400	0.0000
R-squared	0.224634	Mean dependent var		0.001163
Adjusted R-squared	0.221456	S.D. dependent var		0.003670
S.E. of regression	0.003238	Akaike info criterion		-8.621755
Sum squared resid	0.005116	Schwarz criterion		-8.596115
Log likelihood	2119.641	Hannan-Quinn criter.		-8.611686
F-statistic	70.69002	Durbin-Watson stat		1.974346
Prob(F-statistic)	0.000000			

### 8.31. July 14

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:16  
Sample (adjusted): 1 490  
Included observations: 490 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.011633	0.020314	-0.572640	0.5672
<i>SHARI'AH</i>	0.000172	0.000307	0.558705	0.5766
C	-0.001301	0.000304	-4.279859	0.0000
R-squared	0.001323	Mean dependent var		-0.001403
Adjusted R-squared	-0.002778	S.D. dependent var		0.003004
S.E. of regression	0.003008	Akaike info criterion		-8.768973
Sum squared resid	0.004406	Schwarz criterion		-8.743293
Log likelihood	2151.398	Hannan-Quinn criter.		-8.758887
F-statistic	0.322596	Durbin-Watson stat		2.072290
Prob(F-statistic)	0.724421			

### 8.32. August 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:16  
Sample (adjusted): 1 491  
Included observations: 491 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	0.072052	0.019251	3.742740	0.0002
<i>SHARI'AH</i>	0.000234	0.000355	0.658245	0.5107
C	0.001223	0.000277	4.407811	0.0000
R-squared	0.028170	Mean dependent var		0.002038
Adjusted R-squared	0.024187	S.D. dependent var		0.003514
S.E. of regression	0.003471	Akaike info criterion		-8.482699
Sum squared resid	0.005879	Schwarz criterion		-8.457058
Log likelihood	2085.502	Hannan-Quinn criter.		-8.472630
F-statistic	7.072707	Durbin-Watson stat		2.109769
Prob(F-statistic)	0.000938			

### 8.33. September 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:17  
Sample (adjusted): 1 490  
Included observations: 490 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.025758	0.018075	-1.425066	0.1548
<i>SHARI'AH</i>	0.000471	0.000330	1.429000	0.1536
C	-0.001380	0.000272	-5.064591	0.0000
R-squared	0.008999	Mean dependent var		-0.001547
Adjusted R-squared	0.004930	S.D. dependent var		0.003228
S.E. of regression	0.003220	Akaike info criterion		-8.632887
Sum squared resid	0.005049	Schwarz criterion		-8.607207
Log likelihood	2118.057	Hannan-Quinn criter.		-8.622802
F-statistic	2.211276	Durbin-Watson stat		1.839193
Prob(F-statistic)	0.110660			

### 8.34. October 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:18  
Sample (adjusted): 1 490  
Included observations: 490 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.074880	0.013542	-5.529384	0.0000
<i>SHARI'AH</i>	-0.000161	0.000328	-0.492090	0.6229
C	0.003254	0.000303	10.74555	0.0000
R-squared	0.059431	Mean dependent var		0.001828
Adjusted R-squared	0.055569	S.D. dependent var		0.003304
S.E. of regression	0.003211	Akaike info criterion		-8.638443
Sum squared resid	0.005021	Schwarz criterion		-8.612763
Log likelihood	2119.418	Hannan-Quinn criter.		-8.628357
F-statistic	15.38597	Durbin-Watson stat		1.956158
Prob(F-statistic)	0.000000			

### 8.35. November 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:19  
Sample (adjusted): 1 490  
Included observations: 490 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.134093	0.014210	-9.436410	0.0000
<i>SHARI'AH</i>	0.000183	0.000357	0.513313	0.6080
C	0.002871	0.000266	10.79114	0.0000
R-squared	0.155561	Mean dependent var		0.001141
Adjusted R-squared	0.152093	S.D. dependent var		0.003799
S.E. of regression	0.003498	Akaike info criterion		-8.467049
Sum squared resid	0.005960	Schwarz criterion		-8.441369
Log likelihood	2077.427	Hannan-Quinn criter.		-8.456964
F-statistic	44.85722	Durbin-Watson stat		1.865326
Prob(F-statistic)	0.000000			

### 8.36. December 2014

Dependent Variable: A  
Method: Least Squares  
Date: 05/23/15 Time: 10:20  
Sample (adjusted): 1 489  
Included observations: 489 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
S	-0.108509	0.014767	-7.347928	0.0000
<i>SHARI'AH</i>	-9.69E-05	0.000275	-0.352155	0.7249
C	0.002179	0.000270	8.057947	0.0000
R-squared	0.100083	Mean dependent var		0.000472
Adjusted R-squared	0.096379	S.D. dependent var		0.002833
S.E. of regression	0.002693	Akaike info criterion		-8.989891
Sum squared resid	0.003526	Schwarz criterion		-8.964171
Log likelihood	2201.028	Hannan-Quinn criter.		-8.979789
F-statistic	27.02485	Durbin-Watson stat		1.895314
Prob(F-statistic)	0.000000			