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A SECTORIAL ANALYSIS OF SUKUK MARKET BASED ON DETERMINANTS OF RISK AND RETURN PERFORMANCES

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ABSTRACT: *The present study attempted to identify different types of risks embedded in sukuk structure and to determine the impact of different types of risks on return of sukuk. Further, this study has also attempted to explore the relationship between market risk, credit risk, operational risk, liquidity risk and sukuk returns. Researcher collected data from the year 2005 to 2013. Data were collected on periodic basis for determining the impact of the diverse risks on sukuk returns daily. This study analyzed the data using line charts, descriptive statistics, correlation analysis, and regressions i.e. ordinary least square with F and t statistics. Results of this study revealed that NASDAQ sectorial basis sukuk index found to have four models which explain from 84% to 91 % of variations in returns. As such global sukuk return, sovereign sukuk return, corporate sukuk return and financial sukuk return are explained by 84%, 91%, 86% and 88% respectively. These results might also be affected by interest rate risk, inflation risk, dollar rate risk, maturity risk, credit risk & default risk, legal & Shari'ah compliance risk, liquidity risk, and reinvestment risk. These results provided support for the hypotheses and shown a relationship between total return and different type of risks. Since sukuk markets are becoming famous in globally developed countries which try to adopt Islamic sukuk for prevailing financial crisis, this study has many implications for the managerial and policy making level.*

KEYWORDS*:* Market, Performance, Return, Risk, Sukuk Structure.

INTRODUCTION

Islamic financial market is fast growing and expanding despite the financial crisis that swept through the global financial market. In the past, even Muslim countries were reluctant to accept Islamic finance, but now the situation has changed. Oakley (2009) quoted that Islamic Finance represented just 1% of global financial system. Of the 1.6 bn of Muslims in the world it is estimated only 14% used banks. According to SESRIC the 57 Muslim countries are growing at the higher rate than the rest of the countries in the world. As those countries grow and become more modern, banking and financial sector will grow as well, but in line with the Islamic principles.

Woodruff (2007) reports that, major financial centers around the world have also adopted the Islamic financial system. They are in competition among them to accommodate

Islamic finance. Some of these countries are even working on to issue their own sovereign sukuk. Literally, sukuk means Islamic bonds that are to be more accurate as an Islamic investment certificate. A bond is a contractual debt obligation which the issuer is obliged to pay the bond holder, on a specified date, interest and principle. However under sukuk structure, the sukuk holder each hold undivided ownership in the underlying assets, defines Asaria & Mohammed (2005) consequently, Sukuk holders are entitled to a share in the proceed of the realization of the sukuk assets. They are opening their financial system to Islamic finance. Not only the licensing of new financial institutions becoming common in many countries, but also converting some conventional financial institutions into Islamic financial system.

This research contributes in number of ways. First, number of opportunities is accessible in sukuk market. That is to say, after the global financial crisis in 2008-2009, conventional banking and financial system was mostly blamed due to its unsustainable nature of the system. Therefore, the need for a strong and well regulated sukuk market has been emphasized. Leaders in the financial sector-both in the government and corporate sector have realized the emerging needs and the opportunities for the sukuk market. Therefore, findings of this study will fill this gap and provide alternative opportunities and possibilities of this unique investment which may lead to a sustainable one. It also provide some insights for a well regulated sukuk market and minimize possible risks related with this type of unique investment. Second, this study might also contribute to develop the forecasting model in sukuk market as developed by other previous studies. A number of studies emphasize this point of view. For example, Rusgianto (2013) studied about the volatility behavior of sukuk market under consideration of structural breaks and put forward a risk-return forecasting model incorporating the volatility behavior of sukuk market. Third, the significance of this study can be viewed from the industry perspective as well. Sukuk market is a growing field in banking and finance. Studying this growing market is also important to industry.

Review of literature

Haral (2010) emphasized that identification of risks associated with the sukuk is the first and most important for the future development of the market concern and for managing it in a better way. Therefore, it is very important to identify the risks associated with sukuk and the significance impact of different types of risk associated with it. Al-Amine (2012) in his research expressed that, like any other financial instruments, sukuk also involves a number of risks issues that include the country risks, the sector or assets risks. In different angle, it can be point out the market risk, credit risks, operational risks, liquidity risk, legal risks, taxation risks and the liquidity risks.

It is possible to argue that sukuk are riskier than bonds, or are they in fact safer. Nanaeva (2010) emphasize that predictions that sukuk and bonds should have similar level of risk were incorrect. Sukuk is subject to a wide array of risks inherent in their structure (Firoozye, 2012). Moreover, Al-Awsat (2008) points out that sukuk risks vary according to the structure of the sak and these risks also vary depending on the underlying assets of these sukuk. People are confused which is right and which is wrong like in case of the

article of Taqi Usmani which opens a new discussion (Razaq & Cheema, 2010). "Liquidity risk is also a great problem for the investors" (Cheema, 2010). On the other hand some respondents said "Like the traditional bond the sukuk also have some market risks for example in case of fixed rate asset based sukuk the interest rate and credit risk emerges" (Haral, 2010).

Khan (2012) stated that another important risk embedded within sukuk is structure risk. Structure risk is the risk of losing investment value because of the ambiguity between the exposure to price risk of the sukuk assets as an equity stake, and the credit risk of the originator because of the expectation for performance of the investment within the maturity time of the sukuk as in a conventional bond. Tariq & Dar (2007) stated that the Shari'ah does not recognize financial options as a form of wealth, therefore, options cannot be traded (Usmani, 2002; Vogel & Hayes III, 1998). They further suggest that adequate risk management techniques will foster the growth of sukuk market that result from the satisfaction of a greater variety of investment needs. So that managers and investors in sukuk are able to protect themselves from different types of risks.

Standard & Poor's ratings services outline some of its key analytical findings in assessing the risks of corporate sukuk. The recent surge in sukuk issuance highlights both issuers' and investors' growing interest in Islamic finance. Demand is likely to be met in the Gulf Cooperation Council. As Tariq (2004) states that some of the sukuk issuances are exposed to interest rate risks since the rates are benchmarked against libor rates. The rising market rates lead to fall in the fixed income from sukuk. This also leads to investment risks, especially if the asset is not liquid as the zero non tradable sukuk. Based on the above problem identification the following research questions and objective are developed.

The above empirical evidences motivated the researcher to raise the research questions. They are: what are the different types of risks embedded in sukuk structure? and to what extent, different types of risks impact on return of sukuk?. So as to achieve the above research questions, the objectives are set. They are to identify different types of risks embedded in sukuk structure and to determine the impact of different types of risks on return of sukuk and to explore and analyze the relationship between different types of risk and sukuk returns in the sectorial sukuk market structure.

RESEARCH METHODOLOGY

Sukuk returns are dependent on many variables such as diverse risks, which are interest rate risk, inflation risk, foreign exchange risk, legal risk, Shari'ah compliance risk, credit risk, default risk, maturity risk, liquidity risk, and reinvestment risk. In order to examine these facts the following conceptual model has been developed. The following model depicts the relationships of above variables. Research framework includes market risk, operational risk, credit risk and liquidity risk. Market risk is includes interest rate risk, inflation risk and foreign exchange risk. Operational risk incorporates legal risk and shari'ah compliance risk. Credit risk includes default risk and counterparty risk, and maturity risk. Liquidity risk includes reinvestment risk. However, this conceptual model might be subject to modification. It is shown in figure 1.

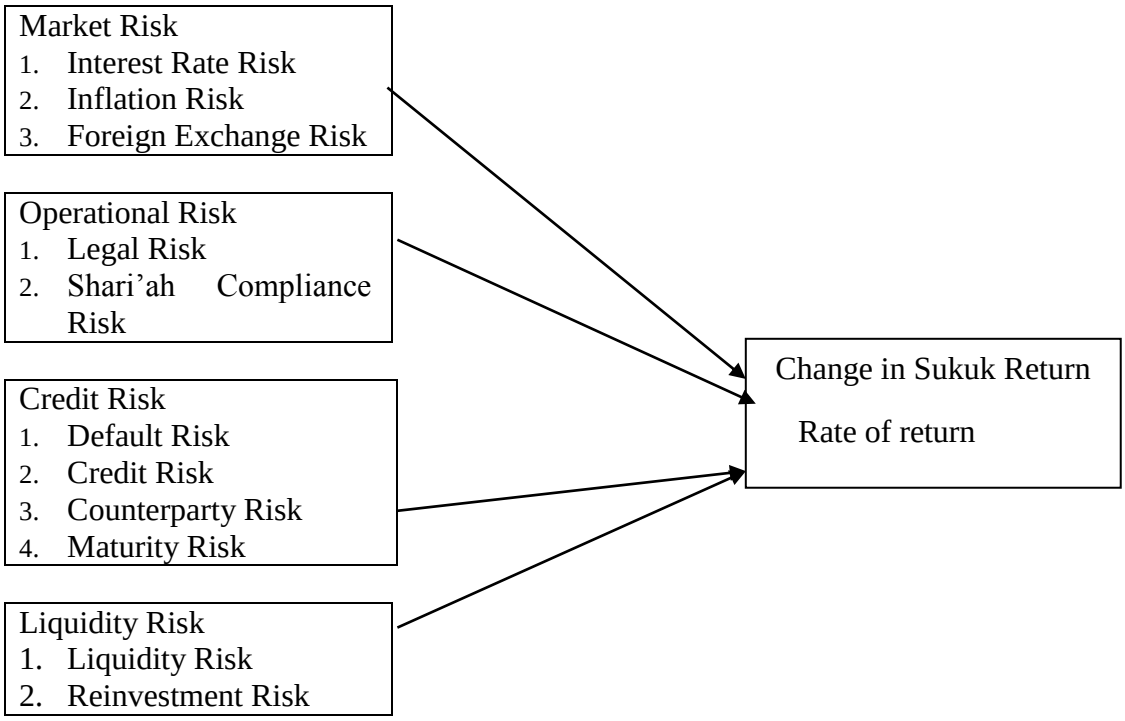

Figure 1: conceptual framework

The researcher analyze the data from the developed sukuk markets indices: HSBC/ NASDAQ Dubai sukuk indices. This research covers nine years sample period beginning from January 2005 to December 2013. The 2282 daily observations of adjusted closed values of each index downloaded from websites of respective sukuk market.

Constructs various models was used to explain variability of excess returns on sukuk with different sectors. The model is employed to determine the excess return variability of the sukuk return index. The explanatory variables are, change in 6-month certificate of deposit rate, change in consumer price index, return on U.S. dollar trade weighted index, change in consumer confidence, maturity risk, credit risk, return on reinvestment index and size risk factor (SMB). Researcher developed the following model. To test the conceptual model of this study and hypotheses the present study employs well known statistical techniques of Ordinary Least Squares (OLS) Multiple Regression Model. It is developed as follows:

$$R_s = \alpha_8 + \gamma_1 \Delta IRD_t + \gamma_2 \Delta CPI_t + \gamma_3 \Delta DOR + \gamma_4 \Delta CCI_t + \gamma_5 \Delta MPIt + \gamma_6 HQRt + \gamma_7 \Delta SMB_t + \gamma_8 \Delta RIIt + \varepsilon_t \quad \text{…… ……Model ……..(1)}$$

Many researchers have studied about different index for studying bond market. For instance. IRD_t is used to measure interest rate risk, CPI_t is used to measure inflation risk,

DOR is used to measure dollar rate risk, CCIt is used to measure consumer confidence rate risk, MPI_t is used to measure maturity risk, HQRt is used to measure operational risk, SMB_t is used to measure credit risk, and RIIt is the reinvestment risk used to measure liquidity risk. The Table 1 presents the descriptions and sources of data.

Table 1: Descriptions and Sources of Data

Variable	Description	Source	Time Horizon	# of Observation
ΔIRD	Change in interest rate	www.fedprimerate.com	2005-2013	2282
ΔCPI	Change in inflation rate	www.tradingeconomics .com	2005-2013	2282
ΔDOR	change in dollar rate	www.treasury.gov	2005-2013	2282
ΔCCI	change in consumer confidence rate	www.tradingeconomics .com	2005-2013	2282
ΔMPR	change in maturity risk	Bloomberg Ticker DJSUK10T	2005-2013	2282
ΔHQR	change in operational risk	Bloomberg Ticker DJSHKT	2005-2013	2282
Δ SMB	change in credit risk	Bloomberg Ticker DJSUK3BT	2005-2013	2282
ΔRIR	change in liquidity rate	Bloomberg Ticker DJSUKTXR	2005-2013	2282
USRf	US Risk free rate	www.treasury.gov	2005-2013	2282
GPRs	Dow Jones Sukuk Price Return Index	Bloomberg Ticker DJSUKUK	2005-2013	2282
SKBI	HSBC/ NASDAQ Dubai US Dollar Sukuk Index (SKBI)	Bloomberg Sukuk (SKBI)	2005-2013	2282
SUSI	HSBC/ NASDAQ Dubai Sovereign US Dollar Sukuk Index (SUSI)	Bloomberg Sovereign (SUSI)	2005-2013	2282
SUCI	HSBC/ NASDAQ Dubai Corporate US Dollar Sukuk (SUCI)	Bloomberg Corporates (SUCI)	2005-2013	2282
SUFI	HSBC/ NASDAQ Dubai Financial Services US Dollar Sukuk Index (SUFI)	Bloomberg Financial Services(SUFI)	2005-2013	2282

Source: Secondary data

Data Presentation and Analysis

Data are presented by line charts. Fluctuation between Nasdaq Dubai return of global sukuk (SKBI) and its related risks are shown in Figure 2. Variation and fluctuation in both dependent variable - Nasdaq Dubai return of global sukuk (SKBI) and independent

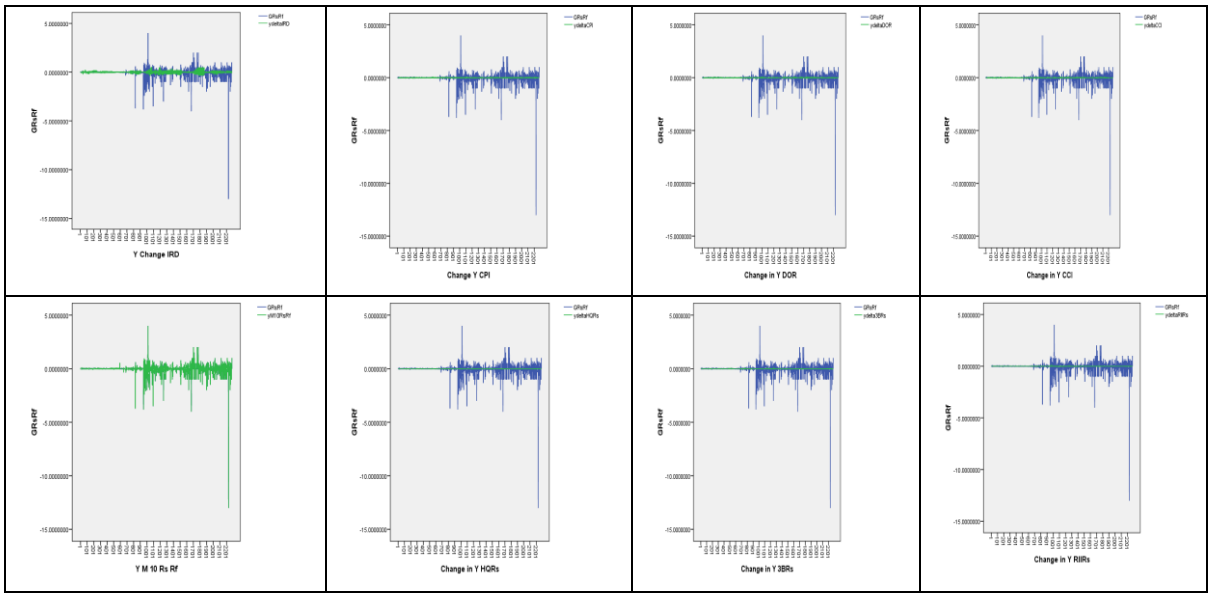

Figure 2: Fluctuation between Nasdaq Dubai return of global sukuk (SKBI) and its related risks
Source: Analysis output

Descriptive Analysis for Nasdaq Dubai Sectorial Basis of Sukuk Return

Descriptive Analyses have been conducted using descriptive statistics such as mean and standard deviation for variables. Nasdaq Dubai return of global sukuk (SKBI) abbreviated as SKBIRf, Nasdaq Dubai return of sovereign sukuk (SUSI) abbreviated as SUSIRf, Nasdaq Dubai return of corporate sukuk (SUCI) abbreviated as SUCIRf, and Nasdaq Dubai return of financial sukuk (SUFI) abbreviated as SUFIRf are considered for descriptive analysis.

Table 2: Descriptive Analysis for Nasdaq Dubai Sector Basis of Sukuk Return

Dependent Variable	Mean	Std. Deviation	Number Of Observation
Skbirf	0.0356	0.47015	2281
Susirf	0.0386	0.47039	2281
Sucirf	0.0366	0.47034	2281
Sufirf	0.0326	0.47012	2281

Source: Analysis output

Table 2 shows that mean values for SUFIRf, SUSIRf, SUCIRf and SKBIRf are 0.0356, 0.0386, 0.0366 and 0.0326. This refers to that average sukuk return for SUFIRf, SUSIRf, SUCIRf and SKBI Rf vary between 0.0326 and 0.0386. They have the range of standard deviation between 0.47012 to 0.47015. This refers to that there is higher variation among these variables.

Correlation Between Total Returns of SKBI(Global), SUSI (Sovereign), SUCI (Corporate), SUFI (Financial) and Its Related Independents

NASDAQ Dubai categorizes sukuk market on the basis of global and sectors that has categories as HSBC/ NASDAQ Dubai US Dollar sukuk index abbreviated as SKBI (Global), HSBC/ NASDAQ Dubai sovereign US Dollar sukuk index abbreviated as SUSI (Sovereign), HSBC/ NASDAQ Dubai Corporate US Dollar sukuk index abbreviated as SUCI (Corporate) and NASDAQ Dubai financial services US Dollar sukuk index abbreviated as SUFI (Financial). In all the dependents variables such as SKBI (Global), SUSI (Sovereign), SUCI (Corporate) and SUFI (Financial) have the highest correlation in maturity risk. This is due to once the maturity period goes higher and higher its influence on total return will be worst. Return rate is fixed although maturity period is longer than shorter or medium terms. SUSI (Sovereign) has the correlation values of 0.001 to 0.026. Values of consumer price index (market risk) and reinvestment rate risks are higher than all other risks. This could be due to frequent fluctuation of i.e. conditions of world financial market, inflation rate risk and interest rate risk also fluctuate drastically in macro environment. Other independents variables such as interest rate risk, dollar rate risk, consumer confidence rate risk, operational risk and credit risks are influencing at an insignificant level owing to security of the government for the sukuk that are assured by regulators.

Correlation values of total returns of SUFI (Financial) and its independents variables vary between 0.002 to 0.027. Consumer price index risk and reinvestment risk are similarly influencing higher than other variables. This may be due to the worst impacts of conventional financial market over financial sector in Islamic sukuk market. Influence of other independents variables such as interest rate risk, dollar rate risk, consumer confidence risk and credit risks are lower than the previous risks. When comparing with SUFI(Financial), there is minor variation in SUCI (Corporate) which are shown in table 3.

Table 3: Correlation between total returns of SKBI (Global), SUSI (Sovereign), SUCI (Corporate) and SUFI Financial) and its related independents

IDVs	SKBI (Global)	SUSI (Sovereign)	SUCI (Corporate)	SUFI (Financial)
ΔIRD	0.006	.006	0.008	0.007
ΔCPI	0.026	0.026	0.028	0.027
ΔDOR	0.007	0.007	0.009	0.008
ΔCCI	0.001	0.001	0.004	0.002
ΔMPR	0.099	0.088	0.099	0.089
ΔHQR	0.003	0.003	0.005	0.004
ΔSMB	0.011	0.008	0.014	0.012
ΔRIR	0.023	0.023	0.028	0.025

Source: Analysis output

Correlation for SKBI (Global) is found on total basis considering SUSI (Sovereign), SUCI (Corporate) and SUFI (Financial). In to, correlation vales vary between 0.011 to 0.026.The highest influence lies on consumer price rate risk and reinvestment risk. Reasons for this higher influence could be change in interest rate and declining conditions of financial market throughout the world stemming from the global financial crisis. Further, liquidity market also fluctuates due to the tendency of businesses and investors who have lack of confidence so that they can be to liquidity their financial market instruments for the last couple of years. Statistics are shown in the above Table 3.

Regression between Total Returns of SKBI (Global) and Its Related Independents

Results indicate that value of R, R square, and adjusted R square indicates that interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk, liquidity risk, and consumer confidence risk explain 84% to 92% of the variation on sukuk return. Unexplained variation ranges between 08% to 16%. Results are presented in model summary Table 4.

Table 4: Model Summary for total returns of SKBI (Global) and its related independents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.920[a]	.848	.841	.0198

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD

Source: analysis output

ANOVA Table 5 shows that SS Regression is 503.180 which is larger than SS residual that has a value of .898. Df for SS Regression and SS Residual are 8 and 2272 respectively. MS regression and MS Residual are 62.898 and 0.000 respectively. Value of F statistics is 1.593 that indicates that model is significant and variables taken in this study explain the model. F statistics are shown in table ANOVA 5.

Table 5: ANOVA[b] for total returns of SKBI (Global) and its related independents

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	503.180	8	62.898	1.593	.000[a]
	Residual	.898	2272	.000		
	Total	504.078	2280			

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD

b. Dependent Variable: SKBIRf

Source: analysis output

Alternative hypothesis is set as that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk,

liquidity risk, consumer confidence risk and return. Since Sig. vale is less than 0.05. Researcher rejects null and accepts alternative hypothesis. Accepting alternative hypothesis refers to that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk, liquidity risk, consumer confidence risk and return. Table 6 shows the coefficient values for developing the model. Generated model is shown in equation 2.

Table 6: Coefficients for total returns of SKBI (Global) and its related independent

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.000	0.000		-0.818	0.413
	ΔIRD	-0.002	0.004	0.000	-0.499	0.618
	ΔCPI	-0.005	0.068	0.000	-0.070	0.944
	ΔDOR	-0.021	0.034	0.000	-0.631	0.528
	ΔCCI	-0.035	0.034	0.000	-1.026	0.305
	ΔMPR	0.155	0.001	0.007	1.128	0.000
	ΔHQR	-0.170	0.309	-0.003	-3.460	0.001
	ΔSMB	-0.126	0.064	-0.006	-6.682	0.000
	ΔRIR	-0.118	0.081	-0.001	-1.456	0.146

a. Dependent Variable: SKBIRf

Source: analysis output

SKBIRf = 0.000 +(-0.002*IRD) + (-0.005*CPI) + (-0.021*DOR)+(-0.035*CCI)
+(0.155*MPR) +(-0.170*HQR) +(-0.126*SMB) +(-0.118*RIR)…Equation (2)

In the last decade, sukuk prices were mostly driven by global and regional events affecting the whole capital market. Plunge in sukuk prices in line with the drop in prices of all other assets affected by the global financial crisis. Due to this interest rate risk, liquidity rate risk, default risk and inflation risk influence on total return. Investors eventually found reputable names with good return, until the Nakeel default pushed prices down again. Prices recovered with the Abu Dahbi government bail out that slowly returned investors' confidence to Dubai.

Regression between Total Returns of SUSI (Sovereign) and Its Related Independents

Results indicate that value of R, R square, and adjusted R square indicates that interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk, liquidity risk, and operational risk explain 91% to 95% of the variation on Sukuk return. Unexplained variation ranges between 05% to 09%. Results are presented in model summary Table 5.50.

Table 7: Model Summary for total returns of SUSI (Sovereign) and its related independents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.956[a]	0.915	0.910	0.02026

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD
Source: analysis output

ANOVA Table 5.48 shows that SS Regression is 503.225 which is larger than SS residual that has a value of .932. Df for SS Regression and SS Residual are 8 and 2272 respectively. MS regression and MS Residual are 62.903 and 0.000 respectively. Value of F statistics is 1.532 that indicates that model is significant and variables taken in this study explain the model. F statistics are shown in table ANOVA 8.

Table 8: ANOVA[b] for total returns of SUSI (Sovereign) and its related independents

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	503.225	8	62.903	1.532	0.000[a]
	Residual	0.932	2271	0.000		
	Total	504.158	2279			

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD
b. Dependent Variable: SUSIRf
Source: analysis output

Alternative hypothesis is set as that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk and liquidity risk & operational risk and return. Since Sig. vale is less than 0.05. Researcher rejects null and accepts alternative hypothesis. Accepting alternative hypothesis refers to that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk and liquidity risk, consumer confidence risk and return. Table 9 shows the coefficient values for developing the model. Generated model is shown in equation 3.

Investors most prefer the sovereign sukuk to avoid the default risk. Sovereign became famous post Arab Spring. In a previous study, nearly 60 % of the investors prefer to invest in sovereign sukuk because investors prefer lower risk investment. The number of corporate sukuk issuances is higher than sovereign and quasi sovereign issuances. But, the value of corporate issuance is much lower than sovereign issuances. Form the total global aggregate sukuk issues, 56% of issuances are sovereign remaining are quasi and corporate sovereigns. Government institutions have two third of market share despite 77% of market share during the last decade.

Table 9: Coefficients[a] for total returns of SUSI (Sovereign) and its related independents

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.000	0.000		-0.771	0.441
	ΔIRD	-0.001	0.004	0.000	-0.375	.708
	ΔCPI	-0.016	0.069	0.000	-0.235	0.814
	ΔDOR	-0.027	0.034	0.000	-0.775	0.439
	ΔCCI	-0.036	0.034	0.000	-1.044	0.297
	ΔMPR	0.086	0.001	0.003	1.106	0.000
	ΔHQR	-0.160	0.315	-0.003	-3.363	0.001
	ΔSMB	-0.129	0.065	-0.006	-6.594	0.000
	ΔRIR	-0.081	0.083	0.000	-0.984	0.325

a. Dependent Variable: SUSIRf
Source: analysis output

SUSIRf = 0.000 + (-0.001*IRD) +(- 0.016*CPI) +(-0.021*DOR)+(-0.036*CCI)
+(0.086*MPR) +(-0.160*HQR)+(-0.129*SMB) +(-0.081* RIR)….Equation (3)

Regression between Total Returns of SUCI (Corporate) and its Related Independents

Results indicate that value of R, R square, and adjusted R square indicates that interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, liquidity risk, credit risk and consumer confidence risk explain 86% to 93% of the variation on sukuk return. Unexplained variation ranges between 07% to 14%. Results are presented in model summary table 10.

Table 10: Model summary for total returns of SUCI (Corporate) and its related independents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.930[a]	0.865	0.860	0.02026

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD
Source: analysis output

ANOVA table 11 shows that SS Regression is 503.225 which is larger than SS residual that has a value of .932. Df for SS Regression and SS Residual are 8 and 2272 respectively. MS regression and MS Residual

Table 11: ANOVA[b] for total returns of SUCI (Corporate) and its related independents

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	503.225	8	62.903	1.532	0.000[a]
	Residual	0.932	2271	0.000		
	Total	504.158	2279			

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD

b. Dependent Variable: SUCIRf

Source: Analysis output are 62.903 and 0.000 respectively. Value of F statistics is 1.532 that indicates that model is significant and variables taken in this study explain the model. F statistics are shown in table ANOVA 11.

Alternative hypothesis is set as that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk, liquidity risk, consumer confidence risk and return. Since Sig. value is less than 0.05. Researcher rejects null and accepts alternative hypothesis. Accepting alternative hypothesis refers to that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk, credit risk, liquidity risk, consumer confidence risk and return. Table 12 shows the coefficient values for developing the model. Generated model is shown in equation 4.

Table 12: Coefficients[a] for total returns of SUCI (Corporate) and its related independents

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.000	0.000		-0.771	0.441
	ΔIRD	-0.001	0.004	0.000	-0.375	0.708
	ΔCPI	-0.016	0.069	0.000	-0.235	0.814
	ΔDOR	-0.027	0.034	0.000	-0.775	0.439
	ΔCCI	-0.036	0.034	0.000	-1.044	0.297
	ΔMPR	0.095	0.001	0.009	1.106	0.000
	ΔHQR	-0.160	0.315	-0.003	-3.363	0.001
	ΔSMB	-0.129	0.065	-0.006	-6.594	0.000
	ΔRIR	-0.081	0.083	0.000	-0.984	0.325

a. Dependent Variable: SUCIRf

Source: Analysis output

SUCIRf = 0.000 +(-0.001*IRD) +(-0.016*CPI) +(-0.027*DOR) +(-0.036*CCI)
+(0.095*MPR) +(-0.160*HQR) +(-0.129*SMB)+(-0.081*RIR)… Equation (4)

Coefficient table shows that beta varies due to the following reasons that most of private sectors in the financial sectors were down due to financial crisis. For instance, private sectors cannot afford the expectation of the investors. Further, 29% of the sukuk are corporate sukuk issuances when comparing with government sovereign sukuk. There is a risk in adopting Shari'ah compliance. So, the investors have a lack of confidence on Shari'ah compliance.

Regression between Total Returns of SUFI (Financial) and Its Related Independents

Results indicate that value of R, R square, and adjusted R square indicates that interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk and liquidity risk, credit risk, and consumer confidence risk explain 88% to 94% of the variation on sukuk return. Unexplained variation ranges between 14% to 13%. Results are presented in model summary table 13.

Table 13: Model Summary for total returns of SUFI (Financial) and its related independents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.940[a]	0.885	0.870	0.01988

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD

Source: Analysis output

ANOVA table 14 shows that SS Regression is 503.017 which is larger than SS residual that has a value of 0.898. Df for SS Regression and SS Residual are 8 and 2272 respectively. MS regression and MS Residual are 62.877 and 0.000 respectively. Value of F statistics is 1.591 that indicates that model is significant and variables taken in this study explain the model. F statistics are shown in table ANOVA 14.

Table 14: ANOVA[b] for total returns of SUFI (Financial) and its related independents

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	503.017	8	62.877	1.591	0.000[a]
	Residual	0.898	2272	0.000		
	Total	503.914	2280			

a.Predictors: (Constant), ΔRIR, ΔCPI, ΔDOR, ΔCCI, ΔMPR, ΔSMB , ΔHQR, ΔIRD

b. Dependent Variable: SUFIRf

Source: Analysis output

This study sets alternative hypothesis as that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk and liquidity risk & operational risk and return. Since Sig. value is less than 0.05. Researcher rejects

null and accepts alternative hypothesis. Accepting alternative hypothesis refers to that there is relationship between interest rate risk, consumer price rate risk, dollar rate risk, maturity risk, high quality risk , liquidity risk credit risk, and consumer confidence risk and return. Table 15 shows the coefficient values for developing the model. Generated model is shown in equation 5.

Table 15:Coefficients[a] for total returns of SUFI (Financial) and its related independents

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.000	0.000		-0.697	0.486
	ΔIRD	-0.002	0.004	0.000	-0.635	0.525
	ΔCPI	0.000	0.068	0.000	-0.013	0.990
	ΔDOR	-0.018	0.034	0.000	-0.546	0.585
	ΔCCI	-0.031	0.034	0.000	-0.932	0.351
	ΔMPR	0.108	0.001	0.009	1.127	0.000
	ΔHQR	-0.149	0.309	-0.003	-3.392	0.001
	ΔSMB	-0.100	0.064	-0.006	-6.273	0.000
	ΔRIR	-0.116	0.081	-0.001	-1.433	0.152

a. Dependent Variable: SUFIRf

Source: analysis output

SUFIRf = 0.000 + (-0.002*IRD)+(0.000*CPI)+(-0.018*DOR)+(- 0.031*CCI)
+ (0.108*MPR) +(-0.149*HQR)+(-0.100*SMB)+(-0.116*RIR)…Equation (5)

Once observing the beta values as indicated in coefficient table, values vary in varying ranges. 12.5% of sukuk market represents the financial sector. Nearly 300 issues account for financial service sector. Most of the leading financial institutions and other banks such as bank Nagra Malaysia, CIMB, HSBC, Maybank, etc, issued. During the last decade, this was in boom. After the financial crisis, financial sector has been affected a lot.

Summary Table for Regression Model of NASDAQ Sukuk Index Incorporates Global Sectorial Basis

Table 16 summarizes four regression models. Four models explain 84% to 91 % of variation such as global sukuk return is 84%, sovereign sukuk return is 91%, corporate sukuk return is 86% and financial sukuk return is 88%. F statistics shows that models are significant and all are models are acceptable.

Table 16: Regression model of NASDAQ sukuk index incorporates global sectorial basis

Regression Model	R	R Square	Adjusted R Square	F	Sig.	Model accepted
Regression between total returns of SKBI (Global) and its related independents	0.920	0.848	0.841	1.592	0.000	√
Regression between total returns of SUSI (Sovereign) and its related independents	0.956	0.915	0.910	1.532	0.000	√
Regression between total returns of SUCI (Corporate) and its related independents	0.930	0.865	0.860	1.532	0.000	√
Regression between total returns of SUFI (Financial) and its related independents	0.940	0.885	0.870	1.591	0.000	√

Source: analysis output

CONCLUSIONS AND RECOMMENDATIONS

NASDAQ sectorial basis sukuk index found to have four models which explain from 84% to 91 % of variations in returns. As such global sukuk return, sovereign sukuk return, corporate sukuk return and financial sukuk return are explained by 84%, 91%, 86% and 88% respectively. Explanatory power focused more on credit risk i.e. maturity risk. The present findings are consistent with previous findings. Profit or return payment risk is another important factor which needs to understand, sukuk holders might not receive any thing as return during the maturity period of sukuk (Haral, 2010). There is no predetermined fixed return which may lead to some risk for the sukuk holders regarding his financial planning especially in case of big investments (Cheema & Hashmi, 2010). Face value realization risk sukuk structure is equity based and the face value of certificate represents the value and performance of the underlying assets or service (Ullah & Kokab, 2010). All three research findings of Haral (2010); Cheema & Hashmi (2010) and Ullah & Kokab (2010) confirm motives of interest rate risk.

This study focuses recommendation on the bases of research findings. NASDAQ index sectoral basis sukuk index found that four models explain 84% to 91 % of variation such as global sukuk return is 84%, sovereign sukuk return is 91%, corporate sukuk return is 86% and financial sukuk return is 88%. Credit risk i.e. maturity risk is the reason for this achievement of result. Investors prefer short- term maturity period to avoid maturity risk. But, issuers prefer long term maturity risk. Thus, it is recommended that there must be a balance between investors and issuers for the purpose of survival of sukuk market and confidence of investor. Thus, investors and issuers should maintain strategic investment for the benefit of both parties. To avoid such risk, risk depends on success of project.

This study also has few limitations. First, although there are different risks and returns in the sukuk structure in Islamic financial market very few risk categories such as market risk, operational risk, credit risk and liquidity risk. Second, this study did not consider non-traded and unlisted sukuk. this study considered only well- known and widely used sukuk indices such as Nasdaq Dubai Sukuk Indices. Fifth, this study covered only period from 2005 to 2013 on daily basis because of data availability in the data stream. Sixth, structural sukuk index have not been included in this study due to unavailability of information at market. Thus, researcher of this study allows himself or other researchers to further investigate this study by removing these limitations. This study has several important implications for the managerial and policy making level. Since sukuk markets are becoming famous globally developed countries try to adopt Islamic sukuk for prevailing financial crisis.

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