Determinant of Sukuk Market Development
(2009-2018)

Tasnim Insyirah Zanudin, Noor Hafizha Muhamad Yusuf, Wan Mohd Yaseer Mohd Abdoh,
Rozihanim Shekh Zain and Norhisam Bulot
Faculty of Business and Management, Universiti Teknologi MARA, Perlis Branch, Arau
Campus, 02600 Arau, Perlis, Malaysia

Abstract: The purpose of this study is to examine the determinants of Sukuk (Islamic bond) market development for selected countries. For this purpose, a sample of 17 countries was selected and the factors affecting Sukuk market development with four measurements of economic growth, inflation, trade openness and institutional quality were examined by applying Panel Regression Fixed Effect (FE) Model for a period 10 years from 2009 to 2018. The scope of the study covers the most Sukuk issuers' countries namely: Bahrain, France, Germany, Indonesia, Japan, Kuwait, Malaysia, Nigeria, Oman, Qatar, Saudi Arabia, Singapore, South Africa, Turkey, United Arab Emirates, United Kingdom and United States. This study is using Sukuk market development for dependent variable while independent variables that have been selected were economic growth, inflation, trade openness and institutional quality proxy by control corruption. The findings showed that only institutional quality recorded negative relationship with Sukuk market development while inflation, economic growth and trade openness recorded positive relationship. However, only economic growth shows a positive significant relationship with Sukuk market development and mostly influences the development of Sukuk market.

Key words: *Sukuk, Market Development, Economic Growth, Inflation, Trade Openness, Institutional Quality*

INTRODUCTION

In recent years, Malaysia has been the world largest Sukuk market. According to International Islamic Financial Market (IIFM) Report in year 2018, Malaysia leads Sukuk market with US$612 billion or around RM2.41 billion of both domestic and international Sukuk market. Malaysia also maintaining its reputation in the world's largest Sukuk issuer in 2017 due to strong capital market performance. In that year, Malaysia's Sukuk market lead amounting to US$52.14 billion in both domestic and international sectors. Based on good market reputation, Malaysia is expected to maintain the rank as Sukuk issuance in 2018 because it reinforced by increase interest in green Sukuk and higher issuance of corporate Sukuk which is equivalent to Labuan IBFC's projection for Malaysia in becoming a major issuer in the international market.

Moreover, the Islamic capital market in Malaysia also emerged as a significant area of growth. It full complements of product, infrastructure, institutions, intermediaries and investors that contributing to the development of capital market. Basically, the growth of Sukuk market by increasing volume of Sukuk issuance has one of the resource fund for corporation to support its capital raising.

Sukuk is defining as an Islamic financial certificate which is similar to a bond in conventional that obeys with Shariah or Islamic religious law. As known, in conventional bond it's involve with interest structure which is not permissible in Islam. In practice for conventional, the issuer has a contractual obligation to pay to bond holders on the specified dates certain amount of interest plus with a principal. On the contrary, under a Sukuk structure the respective Sukuk holders have the ownership in their underlying asset where the Sukuk issuer sells the group certificate of investor and then uses the proceeds to purchase an asset in which the investor

Corresponding Author: Noor Hafizha Muhamad Yusuf, Faculty of Business and Management, Universiti Teknologi MARA, Perlis Branch, Arau Campus, 02600 Arau, Perlis, Malaysia, 017-4069556

group has partial ownership. The issuer also should make a contract appointment to repurchase the bond at a future date at par value.

Therefore, Sukuk holders are allowed to a share the revenues generated by the Sukuk assets. Since the early of 2000, Sukuk have become one of the important Islamic financial instruments in increasing funds for long-term financing project. The first Sukuk was issued by Malaysia in 2000, followed by Bahrain in 2001. Since then, Sukuk have been used by both the corporate sector and states government as the alternative to increase financing for operation. Although the Sukuk issuance has been affected by the global financial crisis, Sukuk has become more popular since 2011 [1].

According to Thomas [2], there are three basic feature of Sukuk. Firstly, Sukuk are certificates that indicated as individual shares in ownership of certain project which commonly issues for the business financing purposes. Second features are the Sukuk must not contain any promise of Sukuk capital according to Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) recommendations and lastly Sukuk must not contain any guarantee of fixed profit and profit based on a percentage of the capital. However, Houcem [3] mentioned several important considerations about Sukuk that need to be understand as Islamic bond. Firstly, the ownership of the underlying assets of the contract should be transferred to the Sukuk holders which the issuer cannot continue to own the assets once the Sukuk is issued. Secondly, Sukuk must represent assets that are free of any obligations such cannot represent receivables or debts. Finally, at the time of the issuance, there cannot be an undertaking that permits the issuer to buy back the underlying assets at nominal price but must buyback at the market value.

According to RAM Rating Services in year 2011, Islamic finance is gaining popularity universal for more than three decades and demand for Islamic financial tools is also rising quickly. Between the Islamic financial instruments, Sukuk has come to be the most attractive among banks, corporations and customers. Because Sukuk is not interest bearing financial instruments but slightly Sukuk holders have a right of ownership in the assets of the corporation, it's become the main reason for highly demand of Sukuk [4]. As known, interest is prohibited in Islam so Sukuk does not allow interest to the holders but they have a right to the profit made by the company. Losses are also have to be shared

between the Sukuk holders and the issuer agreeing to the contract between them.

Sometimes, most of Muslim are afraid to engage in conventional financial systems. It's because the conventional financial system practices some of the principles that Shariah law prohibits. So by providing more Islamic financial product will encourage more investor and create effective investment activities. Due to the factor, the development of Sukuk increase over year because the demand of Islamic financial instrument. However, increasing the demand of Sukuk has significant macroeconomic impact towards the country performance.

There are several factors that can contribute to the Sukuk market development. For example, lack of understanding from investor and lack of knowledge of the issuer also one of the main problems accrued in order to increase the Sukuk market development. Thus, this study will focus its attention in two major factors that influence the Sukuk market development. The factors are economic factors and institutional quality. Those factors motivated to this studies to examines the most factor that influence Sukuk market development for year 2009 until 2018 on 17 selected countries. As the economy grows, an opportunities for Sukuk development also expected to be high. Therefore, the objectives of this study are as follow:-

i. To choose the optimal model.
ii. To determine the relationship between economic growth, inflation, trade openness and institutional quality with Sukuk market development.
iii. To identify the most significant variable that influence Sukuk market development.

LITERATURE REVIEWS

Economic growth is a growth in the competence of an economy to produce more goods and services. It's compared from one period of time to another. It can be measured in nominal or real terms. Usually, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP). Ali [5] found economic that measured by GDP per capita has significant effect toward the development of the Sukuk market in GCC countries. The data used are collected in 10 GCC countries including Saudi Arabia, Kuwait, UAE, Bahrain, Qatar, Indonesia, Malaysia, Brunei, Pakistan and Gambia. Macroeconomic factor is the most important role to determine bond market

development over the year and major researchers found that this factor are significant and positive associated among stage of economic development in bond market [6], [7], [8]. Meanwhile, Arafat 92] said that the economies that fall at the higher levels of economic development have a tendency to be a better institutions and unstable economic conditions, which can enhance the progress of comprehensive Sukuk markets. They also expect that higher stages of economic development will lead to improving the development of Sukuk market. Besides that, Houcem [3] believed that when the size of economy is small, it would not attract multinational firms and foreign investor to invest in the country. So, there would be no reasons to issue Sukuk in the market.

Inflation measures the rate at which the average price level of the selected goods and services in an economy growth over a period of time. It is the constant increment in the general level of prices where a unit of currency buys less than in previous periods. According to [5], macroeconomic volatility measure by inflation as an indicator may be an important reason for the expansion of Sukuk financial development. A stable economic environment is good to development of Sukuk and bond market where inflation rate is considered to have a significant impact on the general price level of goods and services in a particular economy which may also include the Sukuk price. Based on the theory, inflation able to increase interest rates, which makes price of the bond will be increase. Thus, there is a negative significant relationship between inflation and bond market [10]. Interestingly, Shariah-compliant instruments are exposed to inflation but not as much as conventional bonds because inflation increases the market price of the underlying assets positively. This argument supported by [5] who found that inflation does not have a strong effect on the development of Sukuk market.

Trade openness is define as the degree to non-domestic transactions which is imports and exports take place and affect the size and growth of a national economy. The amount of openness is measured by the actual size of registered imports and exports within a national economy where Sukuk market development also depends on the economic openness of a country [5]. The trade openness variables have been used by a large number of studies [11], [12]. These studies have found a

significant positive impact on trade openness in bond market development in developed and Asian markets. In the other hand, Houcem [3] believed that when the economy is improved of foreign competitor thru international trade, banks may not be able to overcome competing source of supply. Hence, Sukuk market may develop faster in more in open economies. Openness is measure as the ratio of exports to GDP. Companies in the open economy need more resources to remain competitive. When there is a higher level of trade openness, it is easier to access to external financing from foreign investors. It will also increase Sukuk's market development. Meanwhile, Bhattacharyay [6] shown a positive relationship between trade openness with the Sukuk market. This is due to openness that allows developing countries especially easy access to savings or foreign funds. It also enhances international capital flows, increasing the liquidity of the domestic capital market and reducing capital costs for industrial projects. The result also supported by [13] that found a positive relationship between trade openness and the development of the Sukuk market.

Institutional quality is a comprehensive concept that arrests law, individual rights and high quality government regulation and services. Institutional quality and economic development strengthen each other over the longer term. Essentially, institutional development opens up growth opportunities and does not intrinsically experience from falling returns. Theoretically show that countries with high institutional quality is more successful in adopting technology and productivity. Hence, institutional quality will be one of the influences of Sukuk market development in each country. Institutional quality is now well established in the empirical literature that development governance institutions matter for financial and economic development because as they shape the structure of economic encouragements in society, facilitate investment in physical and human capital, and contribute to the efficient allocation of economic resources [14], [15]. According to Houcem [3], they conclude that the developed institutions of governance should lead the development of Sukuk market. They measure the quality of institutions using four indexes from the International Country Risk Guide (ICRG), which is Investment Profile (IP) is an assessment of factors influencing the risk to investment, which the proxy by a risk rating using the sum of three subcomponents, namely: contract viability or

expropriation, profits repatriation and payment delays. Secondly, the Law and Order (LO) is an assessment of the strength and impartiality of the legal system and the popular observance of the law. Thirdly, Control of Corruption (CC) is an assessment of corruption within the political system and lastly, Bureaucratic Quality (BQ) is a valuation of institutional strength and bureaucracy. The higher value of a given ICRG index is connected with a lower value of the associated risk. For example, a higher value of the Control of Corruption index means a lower level of corruption. In the other article by [5], they measures the institutional quality with three variables such as rule of law, control of corruption and regulation quality. Rule of law is the degree to which agents have confidence in and comply with the rules of society including the quality of agreement enforcement and property rights, the police and the course, as well as the possibility of crime and violence. The subcomponent of law is an assessment of strength and fairness of the legal system while order assesses popular observance of the law. Besides that, control of corruption is the extent to which public power is exercised for private again including both small and large forms of corruptions, as well as capture of the public by elites and private interests. A high level of corruption that affected the law implementation will be negatively related to Sukuk market development. From the findings, Ali [5] found a negative relationship between Sukuk market development and institutional quality. The proxy used to measure institutional quality in this study is control corruption.

METHODOLOGY

This paper aims to determine the relationship between economic factors and institutional quality with Sukuk market development. The sample consists of 17 selected countries that actively issued Sukuk for 10 years period from 2009 until 2018. This study is a causal study as it refers to testing cause and effect between independent variables and dependent variables whether one variable causes another to change or not. The unbalanced panel data comprises of 107 observations of 17 selected countries are collected. The selected countries are Bahrain, France, Germany, Indonesia, Japan, Kuwait, Malaysia, Nigeria, Oman, Qatar, Saudi Arabia, Singapore, South Africa, Turkey,

United Arab Emirates, United State and United Kingdom.

The dependent variable is Sukuk market development while the independent variable consists of economic growth, inflation, trade openness and institutional quality. The data used in this study was collected from various sources. All independent variables were collected from World Bank Development Indicator while dependent variable was collected from Bloomberg database and it is measured in percentage from year 2009 to 2018. Table 1 shows a list of dependent and independent variables together with their proxy, explanation and sources of data used in this study.

This study used Panel Specification Test, F-Test, Breusch and Pagan Lagrange Multiplier (BP-LM) Test, Diagnostic Test, Multicollinearity Test, Serial Corellation and Heteroscedasticity Test by using Statistic/Data Analysis (STATA) software application version 14. The study employs a Fixed Effect (FE) model as the best fit model. The panel data estimation with interaction effect presented in Eq. (1).

$$SUKUK_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 TRO_{it} + \beta_4 COC_{it} + \varepsilon_{it} \qquad (1)$$

Where, Sukuk market development (SUKUK) is the dependent variable while GDP, INF, TRO and COC representing the gross domestic product, inflation, trade openness and control corruption acts as independent variables. The aim of this study is to determine the relationship between economic growth, inflation, trade openness and institutional quality with Sukuk market development.

Table 1: List of Variables

Variables	Proxy	Explanation	Source of Data
Dependent Sukuk Market Development	Volume of Global Sukuk Market	Includes Islamic bonds and exclude bonds with warrants or structured. Volume of Sukuk is measure in USD.	Bloomberg database
Independent Economic Growth	GDP	GDP per capita is gross domestic product divided by midyear population. It is the sum of gross value added by all producers in the economy plus any product taxes and minus any subsidies.	World Bank Development Indicator
Inflation	Inflation	Inflation as measured by the consumer price index reproduces the annual percentage change in the cost to the average consumer of purchasing a basket of goods and services.	World Bank Development Indicator
Trade Openness	Trade Openness	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	World Bank Development Indicator
Institutional Quality	Control of Corruption	Measures perceptions of corruption, usually defined as the exercise of public power for private gain. Range from -2.5 to 2.5. Lower score is the better outcome.	World Bank Group Indicator

FINDINGS AND ANALSIS

Panel Specification Test

The first step is to choose which static panel approach to apply. The three accessible alternative are pooled ordinary least squares (POLS), fixed effects (FE) and random effects (RE) models. In this study, the decision of an appropriate model among POLS or FE or RE depends on the three sorts of test. The tests are F-test, Breusch-Pagan Lagrange multiplier (BP-LM) test, and Hausman test.

Table 2: Panel Specification Test

F-Test	BP-LM Test	Hausman	Appropriate Model
p-value	p-value	p-value	Fixed Effect (FE)
0.0000	0.0000	0.0273	

As displayed in Table 2 above, the result of the F-test (p-value < 0.05), BP-LM test (p-value < 0.05), and Hausman test (p-value < 0.05) propose that FE is the most appropriate model estimator. Consequently, for the subsequent section, the analysis and discussion on the factors affecting Volume of Sukuk depends on the results of FE model.

Diagnostic Test (FE Model)

Diagnostic tests have been conducted in order to investigate the existence of severe multicollinearity, heteroscedasticity and serial correlation problem. Since fixed effect is the model of this study, the result in these tests is based on the model (FE). Since the appropriate model was resolved (FE Model), the last step in the data analysis process is to perform diagnostic tests to decide for the presence of serious multicollinearity serial correlation issues.

Table 3: Multicollinearity Test (Variance Inflation Factors – VIF)

Variable	VIF	1/VIF
Control Corruption	3.47	0.288347
Loggdp	3.17	0.315216
Inflation	1.92	0.521604
Trade Openess	1.12	0.888917
Mean VIF	2.42	

Based on the table 3, value of variance inflation factor (VIF) is 2.42 which mean that there is no multicollinearity problem because VIF is less than 10. This means that multicollinearity does not appear to be a severe problem in this study.

Table 4: Heteroscedasticity Test

chi2 (17)	Prob>chi2
0.000022	0.0000

The model (FE) additionally show present of heterocedasticity (p-value < 0.05) problems in Table 4. By using Wald test, the probability value is at 0.0000. Thus, the null hypothesis at 1% significant level is rejected and the sample demonstrates that the error term is heteroskedasticity. This means that there is a problem occurred. To rectify this problem, fixed-effects (within) regression with robus option test has been carried out.

Table 5: Serial Correlation Test

F(1, 12)	Prob > F
88.523	0.0000

The diagnostic checks on the baseline model (FE) show the presence of serial correlation (p-value < 0.05) which because of the data used as a part of the period of this study corresponded with past and future value was explained in Table 5. Since the serial correlation is 0.0000 by using Woolridge test which is less than 0.05, serial correlation problem is exists in this study.

Multiple Linear Regression Analysis
Multiple linear regressions is used to forecast the vaue of dependent variable based on the value of two or more independent variable. Multiple regression also allow determining the overall fit of the model and relative contribution of each of independent variables to the total variance explained. The result under Fixed Effect (FE) model estimation is shown in Table 6.

Table 6: Regression Analysis (FE) Model

	Coefficient	*P-value*
Loggdp	9647.40*	0.031
	(2.00)	
Inflation	233.74	0.254
	(0.74)	
Trade Openness	3.68	0.872
	(-0.12)	
Control Corruption	-2045.79	0.274
	(0.85)	
Constant	-97087.93*	0.032
	(-1.95)	
N	107	
r2	0.8762	
F	1.0226	

Notes: Number in parenthesis represents the p-value for the coefficient ***p-value is significant at 1%, **p-value is significant at 5% and * p-value is significant at 10%

As appeared in Table 6, the regression result proposes that the model fits the data well at the 5% significance level. As the p-value of the model is less than 0.05 which is 0.031, it shows that economic growth is statistically positive significant with Sukuk market development. Economic growth is also the most significant variable for Sukuk market development. In every percent increase in economic growth, there is an increasing of 9647.39% in Sukuk market development.

As for the fixed effect models, the overall R-squared was accounted for and used. R-squared value of the model is 87.62% which means 87.62% of variability in the Sukuk market development can be explained by the variables in the four independent variables while another 12.38% are remains unexplained due to the other determinants that are not included in this model. Based on the result above, the regression equation can be written in Eq. (2) as below:

$$SUKUK_{it} = -97087.93 + 9647.40GDP_{it} + 233.74INF_{it} + 3.68TRO_{it} - 2045.79COC_{it} \quad (2)$$

CONCLUSIONS

This study examines the relationship between macroeconomics variables and institutional quality with Sukuk market development for a period of 2009 until 2018. The unbalance panel data set employed in this study comprises the annually data of economic growth, inflation, trade openness and institutional quality. From the regression result, it shows that institutional quality proxy by control corruption have negative impact on Sukuk market development while other variables such economic growth, inflation and trade openness positively influence towards Sukuk market development. A positive correlation between inflation and Sukuk market development means that any increase in inflation will leads the Sukuk market increase too. Thus, it will attract more investor to invest in the country that have higher price value and gain more profit [5]**.** Meanwhile, a positive relationship between trade openness and Sukuk market development represents countries in the open

economy need more resources to remain competitive. Therefore, the countries with higher level of economic openness are easier to access to external financing from foreign investors and finally will also increase Sukuk market development [13]. On the other hand, a negative relationship between institutional quality represented by control corruption and Sukuk market development explained that countries with a lower corruption rate will leads to higher Sukuk market development. Investor usually more interested with a country that have little issues of corruption. This result was supported by [5], a high level of corruption that ruin the law enforcement will be negatively related to Sukuk market development because control corruption measured by perception of corruption in one country where the higher score of corruption will give bad impact to Sukuk market.

However, only economic growth is significantly have a positive relationship with Sukuk market development. The finding also shows that economic growth proxy by gross domestic product is the major and important factor that contribute more to the development of Sukuk market. Therefore, macroeconomic factor is the most important role to determine Sukuk market development over the year and major researchers found that this factor are significant association among stage of economic development in Sukuk market. Most of the results tend to be significant and positive [6], [7], [8].
.
With the finding revealed in this paper, its gives proof and recommendation to the policy maker to apply and create new policy regarding to Sukuk market development and also Sukuk issuance. For example, economic factors such economic growth, inflation, monetary policy, borrowing rate and exchange rate can be consider. Moreover, the outcome of this study could be used by policy maker to overcome macroeconomic problem in the countries.

REFERENCES

[1] International Islamic Financial Market. (2014). IIFM sukuk report: A Comprehensive Study of the Global Sukuk Market (4th. ed.). Manama: International Islamic Financial Market.

[2] Thomas, A. (2007). Malaysia's Importance to the Sukuk Market. American Journal of Islamic Finance, Vol. 1, No.2, pp. 10-15.

[3] Houcem, S. & Mohsin, K. (2015). The Determinants of Sukuk Market Development. Islamic Bonds: Your Guide to Issuing, Structuring and Investing in Sukuk, Euromoney Books, London.

[4] Vishwanath, S. R. & Azmi, S. (2009). An Overview of Islamic Sukuk Bonds. Journal of Structured Finance, Vol. 14, No. 4, pp. 58-67.

[5] Ali, S. & Rihab, G. (2013). The Determinants of Sukuk Market Development: Does Macroeconomic Factors Influence the Construction of Certain Structure of Sukuk?. Journal of Applied Finance & Bankin, Vol. 3, No.5, pp. 251-267.

[6] Bhattacharyay, B. N. (2013). Determinants of Bond Market Development in Asia. Journal of Asian Economics, Vol. 24, pp. 124-137.

[7] Garcia, V. & Liu, L. (1999). Macroeconomic Determinants of Stock Market Development. Journal of Applied Economics, Vol. 2, No. 1, pp. 29-59.

[8] Yartey, C.A. (2010). The Institutional and Macroeconomic Determinants of Stock Market Development in Emerging Economies. Applied Financial Economics Journal, Vol. 20, No. 21, pp. 1615-1625.

[9] Arafat, M.A., Zairy, Z. & Ahmad, K. A. (2018). The Role of Macroeconomic Factors on Sukuk Market Development of Gulf Cooperation Council (GCC) Countries. International Journal of Economic and Financial Issues, Vol. 8, No. 3, pp. 333-339.

[10] Ahmad, N., Daud, S. N. M. & Kefeli, Z. (2012). Economic Forces and the Sukuk Market. Proceeding of Social and Behavioral Sciences (ICIBSoS), Vol. 65, pp. 127-133.

[11] Eichengreen, B. & Luengnaruemitchai, P. (2004). Why Doesn't Asia have Bigger Bond Market?. NBER Working Paper No. 10576, Cambridge, Massachusetts: National Bureau of Economic Research.

[12] Rajan, R. G. & Zingales, L. (2003). The Great Reversals: The Politics of Financial Development in the Twentieth Century. Journal of Financial Economics, Vol. 69, No. 1, pp. 5–50.

[13] Smaoui, H. & Khawaja, M. (2017). The Determinants of Sukuk Market Development. Emerging Markets Finance and Trade, Vol. 53, pp. 1501-1518.

[14] Dollar, D. & Kraay, A. (2003). Institutions, Trade, and Growth: Revisiting the Evidence. The World Bank Policy Research Working Paper Series, No. 3004.

[15] Knack, S. & Keefer, K (1995). Institutions and Economic Performance: Cross-country Tests using Alternative Institutional Measures. Journal of Economics and Politics, Vol. 7, pp. 207-227.