The Influence of Macroeconomics Indicators to the Growth of State Islamic Bonds (Sukuk) in Indonesia

1st Cupian
Economics Department
Universitas Padjadjaran
Bandung, Indonesia
cupian@unpad.ac.id

2nd Rien Muasia
Economics Department
Universitas Padjadjaran
Bandung, Indonesia
rienmuasia@Unpad.Ac.Id

3rd Eman Suparman
Economics Department
Universitas Padjadjaran
Bandung, Indonesia
emansuparman@unpad.ac.id

Abstract—**The purpose of this study is to analyze the impact of macroeconomic on the growth of Islamic bonds (sukuk) in Indonesia. This study uses Ordinary Least Square (OLS) method with a monthly time series starting from January 2013 until December 2016. The results of this study indicate that the Production Index (IP) and Bank Indonesia Syariah Certificate (BSBIS) variables positively and significantly affect the growth of state sukuk issuance in Indonesia, then inflation negatively and significantly affects the growth of state sukuk issuance, while the Jakarta Islamic Index (JII) variable has a negative effect but not significant on the growth of Indonesian state sukuk.**

Keywords—sukuk, macroeconomic, indicators, OLS

I. INTRODUCTION

The rapid change of world economic growth has caused many changes in many sides of life. One of them is the growth in the Islamic financial system. Financial Services Authority (Otoritas Jasa Keuangan) once told that Islamic financial system has indirect contribution to Indonesia's economy. In this modern era, Islamic financial system can be source of economic power due to its traits proved during World Financial Crisis, this financial institution could avoid from bankruptcy. There are four main sectors of Islamic financial system which consists of full fledge Islamic banks, Islamic Unit Business, Islamic non-bank institutions and social and religious fund (Zakat, Waqf, Hajj Fund).

Revealed that Islamic capital market is the institution that offers capital to those who look for capital Islamic finacial based [1]. Islamic capital market in Indonesia was inisiated by the issuance of Islamic Mutual Fund by PT. Danareksa Investment Management in July 3rd 1997. Then, it was continued with the issuance of Indonesia Stock Exchange (Jakarta Stock Exchange) in July 3rd 2000 as facilitator for investors who needs to invest their fund in sharia-based. In terms of rules, there were fourteen fatwa by National Sharia Board (Dewan Syariah Nasional) Majelis Ulama Indonesia (MUI) that related to Islamic a capital market. While in terms of institutions, the development of Islamic Capital Market was signed through the formation of Sharia Capital Market Development Team in 2003.

The products of Islamic capital market are divided into three kinds, among others sharia mutual fund, sharia bond (sukuk), sharia stock. Sukuk, or mostly known as sharia bond, etymologically comes from the word shakk which means contract document or ownership proof. In its process, sukuk shows the ownership of assets, in this case, economics activities don't measure by cash (loan). Based on its type, sukuk divided into two, corporation sukuk and state sukuk

(SBSN). Stated that compared to state sukuk, corporate sukuk published by companies tend to have higher risk due to its main financing to bigger project [2]. Moreover, corporate sukuk is more susceptible in influencing economy due to its original issuance from a corporation that has the ability to pay the promised cash flow so that they will gain huge profit. However, the investors of corporate sukuk will gain more loss when the issuer company bankrupt. Here's the data that shows the growth of sukuk in Indonesia.

TABLE I. THE VALUE OF SBSN IN INDONESIA 2009-2016

Year	Corporate sukuk		SBSN	Total Emission Value (B, Rp)
	Total value (B)	*Total issuer*	*Total value (B)*	
2009	7,015		14,219	21,234
2010	7,815.40		38,500	46,315
2011	7,915.40		62,771	70,686
2012	9,790.40	54	98,818	108,608
2013	11,994.40	64	118,707	130,701
2014	12,956.40	71	143,901	156,857
2015	16,114.00	87	201,017	217,131
2016	20,425.40	100	284,990	305,415

Source: Financial Services Authority proceed

From the table I, it can be seen that since 2009 to 2016, the value of sukuk stays increasing. In 2009, the value of corporate sukuk was 7,015.00 billion rupiah and keeps increasing since then. Total of sukuk issuers until 2012 is 54 with sukuk value of 9790,4 billion rupiah and in 2016 increased two times to a total of 100 issuers with value of sukuk emissions 20425,40 billion rupiah. In line with that, State Sukuk keeps increasing each year also. State Sukuk is sukuk published by government as evidence of ownership to an asset. Until 2016 total value of 284,990 billion rupiah. Thus, in the aggregate, the total of sukuk value in Indonesia in 2016 was 305,415 billion rupiah, increased 13 times by 2009 of 21,234 billion rupiah. This shows excel potential since it's a sign that sharia-based financial system is getting more interesting to Indonesians.

Exposed that the purpose of issuance sukuk was as sources of financing of the budget of the State expenditures (APBN/Anggaran Pembiayaan Belanja Negara) and projects financing [3]. While from benefit side sukuk is asset diversification in project financing, expanding investors base, and optimizing the utilization of state's goods. Whereas it was still a few sukuk issued to cover State Budget deficits in previous years . Here's the data of sukuk's role to APBN's deficits.

TABLE II. SUKUK VALUE TO APBN'S DEFICITS 2011-2016

Year	2011	2012	2013	2014	2015	2016
APBN's deficits (T)	84.4	153.3	211.7	226.7	222.5	273.2
Sukuk value (B)	84.5	140.3	173.4	209.8	295.2	376.22

Source: Ministry of Finance RI

Table II explains the role of sukuk to APBN's deficits funding. It can be seen that APBN's deficits in 2011 was 84.4 trillion rupiah and 84.52 billion rupiah or 34% was funded by debt financing, then, in 2012, the number of APBN's deficits was 153.3 trillion rupiah and 140.34 billion rupiah was funded by debt financing, in 2013, the number of APBN's deficits was 211.17 trillion rupiah and 173.41 billion rupiah was funded by debt financing, then, in 2014, the number of APBN's deficits was 226.7 trillion rupiah and 209.83 billion rupiah was funded by debt financing, then in 2015, the number of APBN's deficits was 222.5 trillion rupiah and 295.28 billion rupiah was funded by debt financing, up to April 2016 the number of APBN's deficits was 273.2 trillion rupiah and 376.22 billion rupiah or 60% of them was funded by debt financing. But the growth of sukuk's issuance value is neither since this development is based on how good the macroeconomy condition of the nation is. Where a nation's economic growth is highly affected by macroeconomics indicators.

II. REFERENCES REVIEW AND METHODS

This research discusses the source of state's income besides tax in the form of investment product, sharia bond. Where a state's investment is highly affected by its economic condition. The better the economic condition, then, the better its investment rate.

The production index is one of the macroeconomic variables used in this research to see its effect on the growth of sukuk issuance in Indonesia. The increasing of the company's revenue which originated from the increasing Production Index is proportional to the increasing of people's income. Moreover, [4] said that the increase of GDP as part of economic indicator has positive effect to people's welfare and life standard. A research result [2] showed positive and significant correlation between PI and sukuk issuance, that PI is alternative variable for GDP, thus, the increasing of PI which means that it can be said that the increase of GDP ratio will also increase people's economic condition affected to the increasing of investment climate and next, increasing the growth of sukuk issuance.

According to the Central Bureau of Statistics (BPS/Badan Pusat Statistik), inflation is a condition where the value of goods and services' price level in economics increasing, Consumer's Price Index can be used as benchmark of the growth of goods and services and inflation also affects how big or small the produced goods are. This result is not appropriate to the theory where the higher the inflation rate, the higher people's tendency to increase their investment. But, this result is linear to researches by [5] and [6], where inflation negatively and insignificantly affects the issuance of sukuk, i.e people's tendency to invest will decrease through the increasing of inflation, vice-versa.

Bonus of Sharia Certificate Bank of Indonesia is short-term securities issued by Bank of Indonesia in form of rupiah currency, compliant with Islamic principle, (Peraturan Bank Indonesia No.10/11/PB/2008 Sertifikat Bank Indonesia Syariah) [7]. Moreover, this regulation was made as Bank Indonesia's step as a central bank in controlling the monetary through open market operation instrument. These results are consistent with research conducted namely that the influential SBIS bonus in a positive and significant in influencing the development of the issuance of sukuk [8].

JII is one of the stock indexes in Indonesia which is used to calculate the average price index of stocks suitable to Islamic criteria. JII is another product of the capital market which is used as a performance measurement tool Sharia capital market in Indonesia. Furthermore, JII created as a guarantor and guide for investors who want to invest their Fund in Shariah-compliant way without the worry of mix by ribawi fund and became a benchmark in assessing the performance of a portfolio of stocks that comply with Sharia principles [9]. However, JII variable shows negative influence and not significant to the development of the issuance of sukuk. It also implies that the JII is a product of Islamic capital market in the form of stock that serves as a direct substitution of the sukuk. Where when there's decline in the people's interest towards the stock then simultaneously will create increased people's interest in investing sukuk [10].

Methods of analysis used in this research is descriptive and empirical quantitative (Descriptive and Empirical Quantitative Method) using secondary data and conduct statistical tests. The descriptive method is based on the study of librarianship and the study of literature such as journals, paper, and related statistical analysis of this research. While quantitative empirical research was undertaken to explain that this research is based on the calculation of econometrics, statistical tests, and economics test in the model [11]. In the process of collecting, inputting, and processing data using several applications such as Stata12, and MS Excel. The data used in this research is the data coherently time (time series) monthly with a period of four years commencing from the year 2013.1-2016.12 and retrieved from several institutions such as the Economic and Financial Statistics Bank Indonesia (Indonesia SEKI-BI), The Central Bureau Of Statistics (BPS), The Financial Services Authority (OJK), The National Development Planning Board (Bappenas) [12].

This research use Ordinary Least Square method (OLS) and the model used in this study refers to a study done by Elkarim, where the model (1).

$$LnSukuk_t = \alpha + \beta 1 IP_t + \beta 2 Inflation_t + \beta 3 LnBSBIS_t + \beta 4 JII_t + u_t \quad (1)$$

Description:

Y = Developments in the issuance of Sukuk (per cent)

α = Constant

the regression Coefficient β = independent variable

IP = index of production (percent)

Inflation = inflation (per cent)

BSBIS = Certificate Bank Indonesia Sharia Bonus (per cent)

JII = Jakarta Islamic index (per cent)

u = error

This research uses some of the tests to view influence between variables such as Autocorrelation Test, Multicollinearity Test, Heteroskedasticity Test, Coefficient of Determination (R^2), T Significance Test, and F Significance Test.

III. RESULTS AND DISCUSSION

TABLE III. MULTICOLLINEARITY TEST RESULT

Variable	VIF	1/VIF
PI	4.79	0.208692
Inflation	2.18	0.459339
SBIS Bonus	4.84	0.206756
JII	2.28	0.438501
VIF Mean	3.52	

Source: author, data proceed

From the regression test results above, obtained that VIF value is less than 10 or VIF (3.52 < 10) as well as value 1/VIF is more than 0.1, then it can be said that there is no multicollinearity problem in the model.

TABLE IV. AUTOCORRELATION TEST RESULT

A	Prob>chi2
0.05	0.0144

Source: author, data proceed

From the test results obtained that value prob > chi2 is greater than alpha or 0.0144 > 0.01%. So that it can be summed up with a level of significance of 1% that there is no autocorrelation problem in the model.

TABLE V. HETEROSKEDASTICITY TEST RESULT

A	Prob>chi2
0.05	0.3177

Source: author, data proceed

From the testing that was performed to the level that the results obtained are of the significance of 5% to the value of chi2 0.3725 > Prob, it can be said that there is no heteroskedasticity problem in the model.

TABLE VI. REGRESSION ESTIMATION RESULT

Variable	Coefficient	Std Error	t-stat	P>|t|
PI	0.0273421	0.005584	4.90	0.000
Inflation	-0.0396199	0.0139778	-2.83	0.007
SBIS Bonus	0.360984	0.1340222	2.69	0.010
JII	-0.0006242	0.0005464	-1.14	0.260
R^2	0.8810			

Source: author, data proceed

Based on the test results presented in table VI above it can be seen that the value of the coefficient indicates the magnitude of the influence of variables are independent of the dependent variable. So the IP increased by 1% will boost the development of the issuance of sukuk of 2.734211%, the increase in inflation of 1% will decrease the development of sukuk issuance of 3.96199%. An increase in the amount of 1% Bonus SBIS will enhance the development of the issuance of sukuk of 0.360984%, as well as an increase in the amount of 1% JII will lower the development of the sukuk issuance of 0.06242%.

The coefficient of determination illustrates how big a variation of the variable changes when the other variables change. In table 4.5 described that value of R-square on this research is of 0.8810 or 88.10%. The results showed that variansi of the entire independent variable IP, inflation, SBIS

Bonus, JII of 88.10% able to explain the variansi of development of sukuk issuance and the rest of 11.9% is explained by variables outside of the model that is not examined.

TABLE VII. F TEST RESULT (SIMULANT)

F stat	F tab	Prob>chi2	α
79.57	2.60	0.000	0.05

Source: author, data proceed

The F-test results presented in table 7 above can be noted that the coefficient of Fstatistics has the value of 79.57 and Ftable has the value of 2.60. This indicates that if Fstatistics > Ftable, then, the Ho denied. Thus it can be concluded that the IP variable, inflation, SBIS Bonus, and JII, as independent variables had simultaneous influence on the development of the issuance of sukuk as the dependent variable.

TABLE VIII. T-TEST RESULT (PARTIAL)

Variable	Statistics	Table	P > |t|	α
IP	4.90	1.6794	0.000	0.05
Inflation	-2.83	1.6794	0.007	0.05
SBIS Bonus	2.69	1.6794	0.010	0.05
JII	-1.14	1.6794	0.260	0.05

Source: author, data proceed

Table VIII describes the T test results of this research. Where it is obtained that the value of the IP variable on t statistics is greater than t table (4.90 > 1.6794) so that it can be concluded that with the level of significance of 5%, IP variable significantly and positively impacts the development of the issuance of sukuk. The inflation variable with a level of significance of 5% negatively and significantly influenced the development of the issuance of sukuk since the value of t statistics is greater than t table (2.83 > 1.6794). Then, the SBIS Bonus variable with 5% significance level is positively and significantly influenced the development of the issuance of sukuk since the value of t statistic is greater than t table (3.47 > 1.6794). As well as the variable value of JII's t statistic smaller than t table (1.14 < 1.6794), so that it can be summed up with a level of significance of 5% are negative and JII is not significantly influenced the development of Indonesia's sukuk issuance.

IV. CONCLUSION

The purpose of this research is to analyze the influence of macroeconomic indicators that consists of the Production Index, Inflation, Bank Indonesia Sharia Certificate Bonus (BSBIS), and the Jakarta Islamic index (JII) influenced the development of sukuk issuance in Indonesia with a vulnerable time 2013.1-2016.12.

Based on the research conducted, retrieved results that economic growth in the Production Index interpreted a significantly positive effect on the development of the issuance of sukuk in Indonesia. This is due to that the better the condition of the economy will have an impact on the improvement in the condition of people's income and at the same time can create people's interest in investing.

Inflation negatively and insignificantly influences to the development of the sukuk issuance in Indonesia. This is due to when a country experiences inflation, then automatically the price of goods and services are highly increases and makes the community should provide more money to get the goods and interest for investment decreases.

SBIS Bonus positively and significantly effects on the development of the sukuk issuance in Indonesia.

JII negatively and significantly effects on the development of the sukuk issuance in Indonesia. This is due to JII as the other part of the Sharia capital market products in the form of stock that became a direct substitution for sukuk.

REFERENCES

[1]   M. S. Andri, Bank dan Lembaga Keuangan Syariah, 2009.

[2]   I. H. Ardiansyah, and D. Lubis, "The Effect of Macroeconomic Variables to Corporate Sukuk Growth in Indonesia 1," vol. 5, no. 1, pp. 51-68, 2017.

[3]   M. Abdul, Pengaruh Stabilitas Ekonomi Makro Terhadap Penerbitan Sukuk Negara di Indonesia, Malaysia, dan Brunei Darussalam (M. A. Asyifyan), Cahaya Abadi, 2016.

[4]   A. Burca, and G. Batrînca, "The Determinants of Financial Performance in the Romanian Insurance Market," vol. 4,no. 1, pp. 299-308, 2014.

[5]   G. A. B. D. Elkarim, "Factors Influence Sukuk And Conventional Bonds In Malaysia," 2012.

[6]   A. Said, "The Determinants of Sukuk Market Development : Does Macroeconomic Factors Influence the Construction of Certain Structure of Sukuk?" vol. 3, no. 5, pp. 251-267, 2013.

[7]   D. Tjiptono, Pasar Modal di Indonesia, Jakarta: Salemba Empat, 2011.

[8]   A. Echchabi, H. Aziz, and U. Idriss, "Does Sukuk Financing Promote Economic Growth? An Emphasis On The Major Issuing Countries," vol. 3, no. 2, pp. 63-73, 2016.

[9]   H. Khatimah, "Sukuk dan Kontribusinya dalam Pembiayaan Pembangunan," vol.11, no. 1, pp. 83-103, 2017.

[10] K. A. Khiyar, and A. Galfy, The Role of Sukuk (Islamic Bonds) in Economic Development, 2014.

[11] A. Latifah, "Pengaruh Sektor Perbankan Syariah Dan Pasar Modal Syariah Terhadap Financial Deepening Di Indonesia," vol. 7, pp. 107-130, 2015.

[12] R. M. Radzi, "Sustainability of Sukuk and Conventional Bond during Financial Crisis: Malaysia â€TM s Capital Market Global Economy and Finance," Journal Sustainability of Sukuk and Conventional Bond, September, 2011.