WHAT DRIVES RETURN OF SUKUK IN THE LONG AND SHORT TERMS: EVIDENCE FROM INDONESIAN SOVEREIGN RETAIL SUKUK

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Abstrak: Penelitian ini bertujuan untuk mengetahui pengaruh likuiditas, inflasi, dan Suku Bunga terhadap return Sukuk Ritel Negara (SUKRI) baik dalam jangka waktu pendek maupun dalam jangka waktu panjang. Pengambilan sample dalam penelitian ini menggunakan metode purposive sampling dengan pertimbangan bahwa jatuh tempo seri tersebut menjadi yang paling terbaru dan dapat diperdagangkan di pasar sekunder dan sumber data diperoleh dari laporan statistik bulanan Indonesia Stock Exchange (idx.go.id), website resmi Bank Indonesia (bi.go.id), serta melalui permintaan khusus kepada The Indonesia Capital Market Institute (TICMI). Analisis data yang digunakan dalam penelitian ini adalah time series yaitu penelitian yang diukur selama kurun waktu tertentu. Adapun periode data yang digunakan dimulai pada Maret 2017 dengan alasan bahwa Sukuk Ritel Seri 009 sebagai objek penelitian ini diterbitkan pada bulan tersebut dan berakhir pada Maret 2020. Metode yang digunakan dalam penelitian ini yaitu ARDL-ECM setelah melalui pertimbangan tahap uji stasioneritas dan uji kointegrasi. Hasil penelitian menunjukkan bahwa dalam jangka

panjang hanya variabel BI rate yang berpengaruh positif signifikan terhadap Return Sukuk, sedangkan dalam jangka pendek hanya variabel Likuiditas yang memiliki pengaruh signifikan terhadap Return Sukuk. Sebaliknya, variabel Inflasi diketahui tidak berpengaruh signifikan terhadap Return Sukuk dalam jangka panjang maupun dalam jangka pendek. Penelitian ini dapat menjadi referensi bagi investor untuk mengambil keputusan dalam memilih SUKRI sebagai portofolio investasinya, serta menjadi pertimbangan bagi pemerintah dalam mengatur kebijakan manajemen risiko dan penetapan yield yang ditawarkan pada SUKRI yang akan diterbitkan untuk seri-seri selanjutnya

Kata Kunci: Yield Sukuk, Likuiditas, Inflasi, BI rate, ARDL-ECM

Abstract: This study aims to determine the effect of liquidity, inflation, and interest rates on the return of State Retail Sukuk (SUKRI) both in the short term and in the long term. Sampling in this study used a purposive sampling method by considering that the maturity of the series is the most recent and can be obtained in the secondary market and the data sources obtained from the monthly statistical reports of the Indonesia Stock Exchange (idx.go.id), the official website of Bank Indonesia (bi.go.id), as well as through a special request to The Indonesia Capital Market Institute (TICMI). Analysis of the data used in this study is a time series, namely research that is measured over a certain period of time. The period data used was in March 2017 on the grounds that the 009 Retail Sukuk as the object of this study were published in that month and ended in March 2020. The method used in this study is ARDL-ECM after going through the stationarity test and cointegration test. The results show that in the long term only the BI rate variable has a significant positive effect on Sukuk Returns, while in the short term only the Liquidity variable has a significant effect on Sukuk Returns. On the other hand, the inflation variable is known to have no significant effect on the Sukuk Returns in the long and short term. This research can be a reference for investors to make decisions in choosing SUKRI as their investment portfolio, as well as a consideration for the government in regulating risk management policies and determining the results offered to SUKRI which will be issued for subsequent series.

Keywords: Yield Sukuk, Liquidity, Inflation, BI rate, ARDL-ECM

Introduction

Sovereign Sharia Securities (SBSN) or so-called *Sukuk* are Sharia investments issued by the government as an alternative to finance the state budget deficit. In contrast to conventional bonds which are valued as debt securities, sukuk are valued as certificates of ownership or purchase of assets. Therefore, it requires the existence of an underlying asset as proof of investor ownership of investment activities, while conventional bonds do not require an underlying asset in their issuance.

Indonesia is one of the countries with a large and potentially more liquid sukuk market along with Malaysia, Turkey, and Hong Kong [1]. One type of sovereign sukuk in Indonesia is Retail Sukuk (SUKRI). SUKRI consists of several series which applied an *ijarah* contract with a sale and leaseback scheme, issued by the government of the Republic of Indonesia through the issuing company as a sukuk selling agent. SUKRI is a unique type of sukuk since its issuance is specifically intended for individual investors, Indonesian citizens (WNI). Retail Sukuk Series 009 (SR-009) is a sovereign retail sukuk with the latest maturity date, which was issued on March 22nd 2017 and valid until March 10th 2020 and applied an *ijarah* asset to be leased contract with a yield of 6,9 percent per year applicable for 3 years [2].

The main goals for investors investing in sukuk is to get a return (profit) which in retail sukuk is called yield, moreover, by investing in

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[1] Nienhaus, Volker; Karatas, A. (2016). Market Perceptions of Liquid Sovereign Sukuk: A New Asset Class? *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(1), 87–108.

[2] DJPR, "Masa Penawaran Sukuk Negara Ritel Seri SR-009 Resmi Dibuka," last modified 2021, accessed March 14, 2021.

SUKRI investors can contribute to the development of the country. High yields are the main consideration for investors to invest in sukuk. As an investment instrument, apart from offering returns, it is undeniable that SUKRI also has risks attached to it. Investors who are interested in investing their funds in sukuk must be well-informed on the benefits and risks of it. Liquidity risk, inflation risk, and market risk are important in determining the yield that investors will receive.

Various studies on yields on investment have been carried out previously, such as the research by [3] which shows that inflation has a significant negative effect on sukuk yields. On the other hand, [4] concludes that inflation has no significant effect on sukuk yields. [5] implies that the BI-rate has a significant positive effect on corporate bond yields, in contrast to [6] research which reveals that the BI-rate has no significant effect on government bond yields. The existence of these contradictory findings is a supporting factor for researchers to conduct further studies. In addition, to the best of the author's knowledge and according to [7] there are limited research which examine yields on sovereign retail sukuk, because the majority of existing studies examine

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[3] Puspa, M., & Duasa, J. (2017). Sovereign Sukuk Pricing Analysis: Do Macroeconomic Variables Matter? *International Journal of Economics, Management and Accounting*, *25*(3), 513–528

[4] Laili Fitriyah, N. dan N. M. (2019). Determinan Terhadap Yield Sukuk Ritel Negara. *Jurnal Ekonomi Syariah Teori Dan Terapan Vol. 6 No.*, *53*(9), 1741–1755.

[5] Saputra, Tiyas Ardian; Prasetiyono, P. (2014). Analisis Faktor-Faktor yang Mempengaruhi Yield Obligasi Konvensional di Indonesia. *Jurnal Studi Manajemen Organisasi*, *11*(1), 67–77.

[6] Sundoro, H. S. (2018). Pengaruh Faktor Makro Ekonomi, Faktor Likuiditas Dan Faktor Eksternal Terhadap Yield Obligasi Pemerintah Indonesia. *Journal of Business & Applied Management*, *11*(1), 102–115.

[7] Sukmana, R. (2020). A critical assessment of retail sovereign sukuk in Indonesia. *Qualitative Research in Financial Markets*, *12*(2), 243–262

bonds and corporate sukuk. Whereas domestic sources of funding must be increased so that the national debt does not swell as a result of rising interest rates and the weakening of the Rupiah against foreign currencies.

Therefore, according to the research gap, further research is required to provide empirical evidence on how long and short-term effects of liquidity, inflation, and the BI rate on SUKRI returns. The novelty in this research is in the focus of research, namely the rate of return (yield) as a proxy for return SR009, moreover, this research utilized time series analysis techniques to determine the long-term and short-term effects between liquidity, inflation, and BI rate on SR009's return. Thus, the results of this study can be benefited as a reference for investors to make decisions in choosing SUKRI as their investment portfolio because yields can reflect the performance of sukuk which can be important information for investors [8]. In addition, the results of this study can be used as a consideration for the government in regulating risk management policies and determining the yield offered on SUKRI which will be issued for subsequent series.

Literature Review

Yield to Maturity (YTM)

Yield is the rate of return on a bond investment expressed as a percentage. There are several yield calculation methods, namely

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[8] Melzatia, Shinta; Doktoralina, C. M. M. (2018). Yield Sukuk: Maturity, Rating and Value of Emmision. *Research Journal of Finance and Accounting*, *9*(12), 106–112.

nominal yield, current yield, yield to maturity, and yield to call [9]. Yield to maturity is most widely used as a benchmark for yields because it can reflect returns with compound interest rates than investors expect if the two assumptions needed can be fulfilled. [10] mentioned that the first assumption is that investors will hold the bonds until maturity. The second assumption is that investors reinvest the income earned from bonds at the rate of yield to maturity. If both of these assumptions are met, the expected yield to maturity will equal the realized yield. The formula for calculating yield to maturity using the Equation Approximation method is written as follows [11].

$$YTM = \frac{C_1 + \frac{P_p - P}{n}}{\frac{P_p + P}{2}}$$

Where:

YTM = Yield to maturity

P = Current bond price

N = Number of years until maturity of bonds/sukuk

Ci = Coupon payments for each year of the bond

Pp = nominal value of bonds / sukuk

Research by [12] concludes that bond yields and sukuk in Indonesia experience up and down movements in parallel at the same time, so it

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[9] Khaiririah Ulfah, H., . K., Aprilliani, S., & Adirestuty, F. (2019). Influence of Micro Economic and Macro Economic on Yield to Maturity of Ijarah Sukuk Corporation Year 2014-2017. *KnE Social Sciences*, *3*(13), 126.

[10] Ibid

[11] Tandelilin, E. (2017). *Pasar Modal Manajemen Portofolio dan Investasi*. Kanisius, hlm 104

[12] Nienhaus, Volker; Karatas, A. (2016). Market Perceptions of Liquid Sovereign Sukuk: A New Asset Class? *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(1), 87–108.

can be concluded that both are influenced by the same factors. Therefore, several references used in this study do not only refer to the yield of sukuk, but also the yield of bonds in general.

Liquidity Risk

Liquidity is a broad concept and has various meanings. [13] states that liquidity is the ability of investors to convert securities into cash at the same price as the previous price assuming no new information since the first trade. [14] defines liquidity as a market condition in which there is convenience in large-scale transactions without or with a low impact on market prices.

Trading Volume is used by researchers as a proxy for liquidity because the level of demand for state retail sukuk can be seen from the number (volume) of sukuk sold, namely the sukuk requested and offered by investors in the secondary market. Moreover, according to Suharto (2015) in [15] trading volume can describe the strength between buying and selling interest in market transactions. Liquidity measurement based on trading volume is suitable for measuring the width and depth dimensions of liquidity [16]. Thus, an increase in trading volume indicates that the sukuk are more liquid. Trading volume is illustrated as follows:

$$V = \sum Pi \times Qi$$

[13] Sharpe, W. F. (2005). *Investasi* (Edisi Keenam). Indeks Kelompok Gramedia, hlm 83

[14] Borio, C. (2000). Special feature: Market liquidity and stress: selected issues and policy implications. *BIS Quarterly Review*, *November*, 38–51.

[15] Ni'mah, L. F., & Pratomo, A. S. (2019). Analisis Determinan Volume Perdagangan Sukuk Negara Ritel Seri Sr-007. *El Dinar*, *7*(2), 119.

[16] Ariyana, F. R., Arundina, T., & Kasri, R. A. (2020). Sukuk market liquidity determinants: A case study on Sovereign Sukuk in Indonesia. *Institutions and Economies*, *12*(3), 65–89.

Where:

V = trading volume

Pi = Price of the *i*-year instrument traded in a certain period

Qi = Number of instruments traded

Inflation Risk

Inflation risk in retail sukuk occurs due to the nature of its fixed income, investors bear the risk that inflation can be higher than the payment of yields, which causes the real value of investment to shrink [17]. Inflation itself is an increase in the prices of goods and services in general and continuously within a certain period [18]. The indicator used to measure inflation is the CPI (Consumer Price Index) with the following formula [19].

$$CPI = \frac{Price\ Level_t - Price\ Level_{t-1}}{Price\ Level_{t-1}} 100\%$$

Market Risk

Market risk is the potential loss for investors in the event of an increase in interest rates which causes a decrease in Retail Sukuk prices in the secondary market [20]. Losses (capital loss) can occur if investors sell Retail Sukuk on the secondary market before maturity at a lower selling price than the purchase price. Market risk consists of exchange rate risk and interest rate risk. In this study, the researcher only takes the interest rate risk using the BI rate as a proxy because that SUKRI is only

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[17] Al-Sayed, O. (2013). Sukuk Risk: Analysis and Management. *European Journal of Applied Social Science Research*, *1*(3), 67–76

[18] Bank Indonesia, "Inflasi," last modified 2021, accessed March 13, 2021.

[19] Ni'mah, L. F., & Pratomo, A. S. (2019). Analisis Determinan Volume Perdagangan Sukuk Negara Ritel Seri Sr-007. *El Dinar*, *7*(2), 119.

[20] Al-Sayed, O. (2013). Sukuk Risk: Analysis and Management. *European Journal of Applied Social Science Research*, *1*(3), 67–76

intended for individual Indonesian citizens so that the foreign exchange rate will not have an impact on the receipt of SUKRI returns. The BI rate is one of the macroeconomic variables that affect the YTM of sukuk and bonds with a fixed return [21].

The BI rate is the reference interest rate issued by Bank Indonesia to determine monetary policy. Bank Indonesia has strengthened the monetary operating framework by implementing a new benchmark interest rate or policy rate, namely the BI-7 Day Reverse Repo Rate (BI7DRR), which has been effective since August 19, 2016, replacing the BI Rate. The BI 7-Day (Reverse) Repo Rate instrument is used as the new policy interest rate because it can quickly affect the money market, banking, and real sector [22]). Although there is already BI7DRR, the term BI Rate is still used today, which means BI7DRR.

Relationship Between Variables

Liquidity to Sukuk Return

Trading Volume is used as a proxy of Liquidity. If liquidity increases, yields will respond negatively, this is because the risk borne by investors will be low, resulting in low yields. This formulation is in line with the research of [23] which states that sukuk liquidity has a significant negative effect on the sukuk spread. To sum up, it can be hypothesized that:

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[21] Khaririah Ulfah, H., . K., Aprilliani, S., & Adirestuty, F. (2019). Influence of Micro Economic and Macro Economic on Yield to Maturity of Ijarah Sukuk Corporation Year 2014-2017. *KnE Social Sciences*, *3*(13), 126.

[22] Bank Indonesia, "BI-7 Day Reverse Repo Rate (BI7DRR)," last modified 2021, accessed March 13, 2021.

[23] Balli, F., Billah, M., Balli, H. O., & Gregory-Allen, R. (2020). Economic uncertainties, macroeconomic announcements and sukuk spreads. *Applied Economics*, *52*(35), 3748–3769.

H1: Liquidity has a negative effect on Sukuk Return

Inflation on Sukuk Return

If inflation is high, the sukuk yield will rise. Inflation causes money circulating in the community to increase so that the intrinsic (real) value of money will decrease and also result in a decrease in investment value. Investment risk will have an impact on the decrease in purchasing power or real income of investors. Responding to this, investors will expect higher profits so that yields will move up. This is in line with [24] which states that inflation has a significant positive effect on sukuk yields. Therefore, it can be hypothesized that:

H2: Inflation has a positive effect on Sukuk Return

Interest Rate to Return Sukuk

If the BI Rate, as a proxy for interest rates, increases, the yield on sukuk will also increase. Because the increase in the BI Rate will reduce the yields received by investors, this is due to the fixed rate SUKRI yields, so investors will demand higher yields. This is in line with [25] which states that the BI rate has a significant positive effect on bond yields. To conclude, it can be taken the hypothesis that:

H3: Interest Rates have a positive effect on Sukuk Return

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[24] Puspa, M., & Duasa, J. (2017). Sovereign Sukuk Pricing Analysis: Do Macroeconomic Variables Matter? *International Journal of Economics, Management and Accounting*, *25*(3), 513–528.

[25] Saputra, Tiyas Ardian; Prasetiyono, P. (2014). Analisis Faktor-Faktor yang Mempengaruhi Yield Obligasi Konvensional di Indonesia. *Jurnal Studi Manajemen Organisasi*, *11*(1), 67–77.

Methods

This study applied a quantitative approach with a time series data regression model and uses secondary data on a monthly scale for three years sourced from the monthly statistical reports of the Indonesia Stock Exchange (idx.go.id), the official website of Bank Indonesia (bi.go.id), as well as from a special request to The Indonesia Capital Market Institute (TICMI). Through a purposive sampling technique, namely a sampling technique with certain considerations from researchers [26], Retail Sukuk was chosen with the consideration that this type was issued for the first time in Indonesia and is the only retail state bond in the world [27].

On the other hand, the report on the Global Islamic Economy Indicator 2019/2020 shows Indonesia's ranking in the halal finance category which is in 5th position, experiencing a very significant increase from 10th in the previous year. Retail Sukuk Series 009 (SR 009) is a retail sukuk series that has the most recent maturity compared to other series and can be traded on the secondary market. The data period used began in March 2017 since the 009 Retail Sukuk as the object of this research was published in that month and ended in March 2020.

Researchers adopted a quantitative approach with the Auto-Regressive Distributed Lag (ARDL) analysis method introduced by[28] and continued with the Error Correction Model (ECM) method.

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[26] Sugiyono. (2018). *Metode Penelitian Bisnis*. Alfabeta, hlm 150.

[27] Sukmana, R. (2020). A critical assessment of retail sovereign sukuk in Indonesia. *Qualitative Research in Financial Markets*, *12*(2), 243–262.

[28] Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289–326.

According to [29] the ARDL method is an econometric method that assumes that a variable is influenced by the variable itself but in a previous time. The ARDL approach has advantages over other methods, namely 1) It can be used in research with small samples, such as studies related to new phenomena. Retail Sukuk is a new study in Indonesia because it was only published in 2009. 2) Estimate the long-term and short-term components of the model simultaneously, and eliminate problems such as autocorrelation. 3) This method can distinguish between exogenous and endogenous variables [30]. Meanwhile, the ECM method can be useful for overcoming non-stationary time series data and eliminating trends from the variables used in the analysis, so that the problem of spurious regressions will be resolved.

The variable used in this study is yield (YIELD) SR 009 as an endogenous variable, while the exogenous variable consists of sukuk liquidity (LIQ) as measured by trading volume in the secondary market [31], inflation (INF) which measured through the Consumer Price Index (CPI), and Interest Rates (BIRATE). Due to the difference in units between the variables studied, the LIQ and BIRATE variables have been transformed into the natural logarithm (ln).

The factors that affect the return of Sukuk can be described with the following function:

[29] Ekananda, M. (2016). *Analisis Ekonometrika Time Series* (2nd ed.). Mitra Wacana Media, hlm 135

[30] Narayan, P. K. (2004). *Reformulating critical values for the bounds F-statistics approach to cointegration: an application to the tourism demand model for Fiji* (Discussion Papers).

[31] Rosetika, A., El Ayyubi, S., & Widyastutik, W. (2020). Analisis Faktor-Faktor Internal Yang Memengaruhi Likuiditas Sukuk Negara Di Indonesia. *Jurnal Ekonomi Syariah Teori Dan Terapan*, *7*(2), 234.

$$YIELD = f(\ln(LIQ), INF, \ln(BIRATE))$$
$$YIELD_t = f(\beta_0 + \beta_1 \ln(LIQ)_t + \beta_2 INF_t + \beta_3 \ln(BIRATE)_t + \mu_t$$

Result and Discussion

Descriptive statistics

Table 1
Result of Descriptive Statistics

Variable	N	Min	Max	Mean	Std Dev
YIELD (Y)	37	3.20	8.49	6.09	0.95
LIQ (X1)	37	0.00	8.97	6.76	1.42
INF (X2)	37	2.48	6.00	5.09	0.66
BIRATE (X3)	37	4.25	6.00	5.09	0.66

Source: Processed Data

The results of the descriptive statistical test above show that the sample data (N) used and analyzed in this study amounted to 37 data consisting of four research variables, namely sukuk yield (YIELD), liquidity (LIQ), inflation (INF), and interest rates (BIRATE). In addition, the standard deviation value which is smaller than the mean indicates that there is no large enough gap between the lowest and highest values for each variable. The yield rate is measured through historical data of SR009 with the lowest yield of 3.20% in March 2018, while the highest yield reached 8.49% in February 2020. The mean yield value is 6.09%, which means that the average yield obtained by investors through SR009 is fairly high.

Liquidity (LIQ) is measured through the trading volume of SR009 in the secondary market, as an illustration of market activity and sukuk liquidity. The lowest transaction amount occurred in March 2017 at Rp 1 billion, while the highest trade was in April 2017 which reached almost Rp8 trillion. The overall average transaction for 3 years is IDR 1.3 trillion. Inflation (INF) is measured through the Consumer Price

Index (CPI) which describes the increase in the level of goods and services in an economy. Moreover, the data also depicted that during the study period, the lowest inflation was in March 2019 at 2.48% while the highest inflation rate reached 4.37%, namely in June 2017. The benchmark interest rate in Indonesia is the BI Rate, as shown in the table above that the minimum interest rate is 4.25% with a maximum value of 6%. The average BI Rate is 5.09%.

Bringing up the research objective, which is to see the short-term and long-term effect between LNLIQ, INF, and LNBIRATE on YIELD, therefore, the Auto Regressive Distributed Lag (ARDL) method was selected as a technique in analyzing the data in this study. In the first stage, the stationarity test or unit root test will be carried out using the Augmented Dickey-Fuller (ADF) test. Table 2 display the results of unit root testing using the ADF test. The critical value for rejecting the hypothesis of a unit root is presented in table 3. The test results show that the YIELD and LNLIQ variables are stationary at the level or I(0), while the INF and BIRATE variables are stationary at the 1st difference or I(1). After passing the stationarity test stage, it can be concluded that all of the variables in this study do not contain unit-roots. Due to the difference in order between the two variables, the Auto Regressive Distributed Lag (ARDL) technique is most suitable to be utilized.

Table 2
Stationarity Test using ADF Test

Variable	Level/I(0)	1st Difference/I(1)
YIELD	-3.176145	
LNLIQ	-10.73594	
INF		
	-2.471198	-4.836069
LNBIRATE	-1.292985	-2.957340

Source: Processed Data

Table 3
Critical Value for Unit Root Test

Significance Level	Level	1st Difference
10%	-2.611531	-2.614300
5%	-2.945842	-2.951125
1%	-3.626784	-3.639407

Source: Processed Data

After making sure that all variables are stationary, the next step is to do the Lag Length test. The test results as listed in table 4 using the LR, FPE, AIC, and HQ criteria indicate that the optimal lag chosen is lag 1.

Table 4
Lag Length Test Result

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-114.1465	NA	0.015131	7.160397	7.341792	7.221431
1	-43.74797	119.4642*	0.000565*	3.863514*	4.770488*	4.168683*
2	-28.67315	21.92702	0.000627	3.919585	5.552139	4.468889
3	-15.86388	15.52639	0.00086	4.112962	6.471095	4.906402
4	-4.545783	10.97512	0.001476	4.396714	7.480427	5.43429

Source: Processed Data

Table 5
ARDL/ Bound Cointegration Test Result

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.581556	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Source: Processed Data

Referring to [32] if the F statistic is greater than the critical value I(1) then reject H0, meaning that there is a cointegration or long-term relationship between variables. Table 5 shows the results of the cointegration test with the Bound test, where the F-statistic value is greater than the critical value I(1) for 5% (4.581556 > 3.67), meaning that in the long run there is a cointegration relationship. Therefore, the analysis will be continued by testing the long-term relationship using the Error Correction Model (ECM) method.

Table 6
Result of Long & Short-Term Estimate

Long Run			
Variable	**Coefficient**	**t-statistic**	**Prob**
YIELD (-1)	0.290822	1.593288	0.1212
LNLIQ (-1)	0.082996	0.836827	0.4091
INF (-1)	-0.153887	-0.468425	0.6428
LNBIRATE (-1)	0.619893	2.273628	0.0301
Short Run			
Variable	**Coefficient**	**t- statistic**	**Prob**

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[32] Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289–326.

D(LNLIQ (-1))	-0.201055	-2.226169	0.0332
D(INF (-1))	0.811232	1.267792	0.214
D(LNBIRATE (-1))	0.603928	0.738086	0.4658

Source: Processed Data

Table 6 provides an overview of the influence between variables in the long and short term partially. It can be seen that in the long term, YIELD is only significantly positively affected by BIRATE at lag 1 with a probability value of 0.0301 which is smaller than the critical value of 5% (0.0301 < 0.05), while in the short term it is significantly negatively affected by LIQ with probability 0.0332 < 0.05. On the other hand, the INF variable has no significant effect on YIELD both in the long and short term. After going through a diagnostic test consisting of a serial correlation test, a CUSUM test, and a CUSUM Q test. Therefore, it can be concluded that the model in this study can be declared stable and free from structural breaks.

Liquidity to Sukuk Return

Liquidity (LIQ) in this research is measured by trading volume SR-009 in the secondary market. In the long term, it can be seen in table 6 that the probability of LNLIQ at lag-1 is greater than the critical value of 0.05 (0.4091 > 0.05), it can be interpreted that LNLIQ has no significant effect on YIELD in the long term. The reason behind this finding can be explained that the investment characteristics of retail sukuk are aimed at investing in the medium term with an average tenor of retail sukuk for 36 months or 3 years. Where investor profits will be obtained regularly every month from the fixed coupon given. Thus, liquidity in the long term will not affect the return of sukuk obtained by investors.

On the other hand, in the short term, it can be seen that LNLIQ at lag 1 has a significant negative effect on YIELD. Investors tend to see the level of sukuk liquidity by referring to the high or low level of sales transactions in the secondary market, the more liquid an investment is, the greater the tendency of investors to invest their capital. Specifically referring to the coefficient value, it can be seen that an increase of 1% in liquidity will have an impact on a decrease in YIELD of 20.1%. This means that when the liquidity of sukuk increases, the risk that must be borne by investors will tend to below.

Hence, following with investment theory which states that risk will follow the return, low investment risk in SR-009 will result in lower yields obtained by investors. Thus, it can be concluded that liquidity and return have a negative relationship. The results of this study are also supported by the research of [33] which mentioned that financial factors (including liquidity) are the main determinants of yield spreads and are specifically supported by [34] who state that liquidity and yield have a significant negative relationship.

[35] argue that the high volume of sukuk trading means that sukuk are chosen by investors because they are safer investment instruments

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[33] Balli, F., Billah, M., Balli, H. O., & Gregory-Allen, R. (2020). Economic uncertainties, macroeconomic announcements and sukuk spreads. *Applied Economics*, *52*(35), 3748–3769.

[34] Amihud, Yakov; Mendelson, H. (1991). Liquidity, Maturity, and the Yields on U.S. Treasury Securities. *The Journal of Finance*, *46*(4), 1411–1425

[35] Rusgianto, S., & Ahmad, N. (2013). Volatility behavior of sukuk market: An empirical analysis of the dow jones citigroup sukuk index. *Middle East Journal of Scientific Research*, *13*, 93–97.

than other instruments. However, the results of this study contradict [36] who stated in their research that the higher the trading volume of an investment instrument (including sukuk), the higher the yield that investors will get. Finally, hypothesis 1 (H1) which states that liquidity has a negative effect on sukuk returns is accepted.

Inflation on Sukuk Return

Inflation (INF) in this study was measured through the Consumer Price Index (CPI). Through the ARDL and ECM tests in table 6, it is known that inflation does not affect YIELD in the long and short term. This indicates that inflation that occurred in Indonesia during the period March 2017 to March 2020 did not have an impact on the profits that investors get from investing or trading the 009 Retail Sukuk. Changes in the highly volatile inflation rate will increase the risk of investing in securities. When inflation increases, market conditions are experiencing an overall price increase, so that industry players face greater uncertainty in running their industry. In general, a high and/or unstable inflation rate will cause investors to be worried about investing in state bonds/sukuk [37].

On the other hand, the inflation trend in this research period tends to decrease with an average of 3.29% so that the movement of inflation tends to have no significant impact on the yield of SR009. In

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[36] Al Aziz, M. F., Beik, I. S., & Firdaus, A. (2019). Factors Influencing the Price of Indonesia Sovereign Sukuk in Secondary Market. *Share: Jurnal Ekonomi Dan Keuangan Islam*, *8*(1), 31–44.

[37] Ahwireng-Obeng, A. S., & Ahwireng-Obeng, F. (2019). Macroeconomic determinants of sovereign bond market development in African emerging economies. *International Journal of Emerging Markets*, *15*(4), 651–669.

addition, [38] stated that investors do not view inflation as consideration for investing, but rather on other factors beyond that. The results of this study are also in line with research conducted by [39], [40], [41], and [42] which argued that inflation had no significant effect on bond yields. Viewed from the direction of the coefficients, the results of this study are in line with [43] and [44] which state that inflation has a negative impact on the development of the state bond market. He further explained that the insignificance of the inflation variable reflects the development of a less developed financial market in a country.

To sum up, it is noticeable that hypothesis 2 (H2) which mentioned that inflation has a positive effect on sukuk returns is rejected. This means that inflation does not have a significant effect in the long term and short term on the return of sukuk. However, it is

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[38] Sukmaningrum, P. S., Rani, L. N., Hasib, F. F., & Rusmita, S. A. (2020). Impact of Macroeconomics on Corporate Sukuk Yield in Indonesia. *Elementary Education Online*, *19*(4), 693–701.

[39] Nurfauziah, N., & Setyarini, A. F. (2004). Analisis Faktor-Faktor yang Mempengaruhi Yield Obligasi Perusahaan. *Jurnal Siasat Bisnis*, *2*(9), 241–256.

[40] de Haan, L., Hessel, J., & van den End, J. W. (2014). Are European sovereign bonds fairly priced? The role of modelling uncertainty. *Journal of International Money and Finance*, *47*, 239–267.

[41] Listiawati, L. N., & Paramita, V. S. (2018). Pengaruh Tingkat Suku Bunga , Inflasi , Debt To Equity Ratio , Dan Ukuran Perusahaan Terhadap Yield Obligasi Pada. *Jurnal Manajemen*, *15*(1), 33–51.

[42] Fitriyah, N. L., & Ryandono, M. N. H. (2019). Determinan Terhadap Yield Sukuk Ritel Negara (Studi Tahun 2009 – 2017). *Jurnal Ekonomi Syariah Teori Dan Terapan*, *6*(9), 1741–1755.

[43] Ahwireng-Obeng, A. S., & Ahwireng-Obeng, F. (2019). Macroeconomic determinants of sovereign bond market development in African emerging economies. *International Journal of Emerging Markets*, *15*(4), 651–669.

[44] Khaiririah Ulfah, H., . K., Aprilliani, S., & Adirestuty, F. (2019). Influence of Micro Economic and Macro Economic on Yield to Maturity of Ijarah Sukuk Corporation Year 2014-2017. *KnE Social Sciences*, *3*(13), 126.

possible that the results of research on the object of study and other sukuk series state different things.

Interest Rate to Return Sukuk

Referring to the test results in the long term and short term, it appears that BIRATE has a significant positive effect on YIELD in the long term, but has no effect in the short term. In the long term, a 1% increase in BIRATE will be responded to by YIELD with an increase of 61.98%. The increase in interest rates will be responded to by the eroding value of investment because the yield of Retail Sukuk is fixed, so investors will require high yields, then the returns obtained will increase because bond/sukuk issuers have to add funds to pay investors' returns [45].

This is also emphasized by Raymond James, a Financial Advisor, who stated that an increase in interest rates set by the Fed will have an impact on increasing bond yields. This positive response occurs because bond issuers have to pay competitive interest rates to attract investors to buy their bonds. Conversely, when interest rates decline, bonds tend to pay lower interest than bonds issued when interest rates are in a high position. However, he emphasized that changes in inflation and interest rates do not have an equal impact on all bonds [46]

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[45] Sukmaningrum, P. S., Rani, L. N., Hasib, F. F., & Rusmita, S. A. (2020). Impact of Macroeconomics on Corporate Sukuk Yield in Indonesia. *Elementary Education Online*, *19*(4), 693–701

[46] James, R. (2020). *Bonds, Interest Rates, and the Impact of Inflation*. Broadridge Investor Communication Solutions.

The results of this study are in line with the findings of [47], [48], [49], and [50] which said that the Interest Rate (BI Rate) has a significant positive effect on bond yields. In different investment instruments, namely stocks, it was also found that interest rates have a positive influence on returns on stock portfolios [51]. Although many previous studies have used bonds as the object of study, the presence of several characteristics in common between bonds and sukuk makes the references used valid. So, it can be concluded that accepting hypothesis 3 (H3) means that interest rates have a positive effect on Sukuk Yield.

Conclusion

One of the goals of investors investing in Islamic bonds is to get a return (profit) which in retail sukuk is called yield (yield). High yields will attract investors to invest in sukuk. As an investment instrument, the State Retail Sukuk, apart from offering returns in the form of returns, also carries risks such as liquidity

[47] Saputra, Tiyas Ardian; Prasetiyono, P. (2014). Analisis Faktor-Faktor yang Mempengaruhi Yield Obligasi Konvensional di Indonesia. *Jurnal Studi Manajemen Organisasi*, *11*(1), 67–77.

[48] Situmorang, B. (2017). Pengaruh Peringkat Obligasi, Debt to Equity Ratio dan Ukuran Perusahaan Terhadap Yield to Maturity Obligasi Korporasi dengan Tingkat Suku Bunga SBI Sebagai Variabel Moderating. *Jurnal Terapan Manajemen Dan Bisnis*, *3*(1), 42–58.

[49] Listiawati, L. N., & Paramita, V. S. (2018). Pengaruh Tingkat Suku Bunga , Inflasi , Debt To Equity Ratio , Dan Ukuran Perusahaan Terhadap Yield Obligasi Pada. *Jurnal Manajemen*, *15*(1), 33–51.

[50] Khaiririah Ulfah, H., . K., Aprilliani, S., & Adirestuty, F. (2019). Influence of Micro Economic and Macro Economic on Yield to Maturity of Ijarah Sukuk Corporation Year 2014-2017. *KnE Social Sciences*, *3*(13), 126.

[51] Rjoub, H., Türsoy, T., & Günsel, N. (2009). The effects of macroeconomic factors on stock returns: Istanbul stock market. *Studies in Economics and Finance*, *26*(1), 36–45.

risk, market risk, and inflation risk. Based on the results of data analysis and discussion in the study, it was found that in the long term only the Interest Rate variable had a significant positive effect on the Sukuk Return, while in the short term only the Liquidity variable had a significant effect on the Sukuk Return. In contrast, the inflation variable is known to have no significant effect on Sukuk Return in the long term and the short term.

The results of this study can be considered for investors to make decisions in choosing SUKRI as their investment portfolio, and for the government in regulating risk management policies and determining the yield offered to SUKRI in the next series issuance. This study has several limitations that can be considered for future research, namely the Retail Sukuk Series used only SR009 in Indonesia, further researchers can examine cross-country or add several other Sukuk series, and additional other variables are needed in future research.

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