Sukuk Return and Risk: A Comparison between Ijarah and Mudharabah-based Contracts

Septi Adi Jaelani Bachtiar, Handi Risza, and Prima Naomi
Magister Manajemen Faculty Economics and Business, Universitas Paramadina, Indonesia
jaelanibachtiar04@gmail.com, {handi.risza, prima.naomi}@paramadina.ac.id

Keywords: Sukuk, Mudharabah, Ijarah, Risk, Return.

Abstract: Sukuk's value and the amount of Sukuk's emissions in Indonesia continue to increase, although the options are still limited to Mudharabah and Ijarah contracts only. Sukuk's issuers also prefer to issue Sukuk with an Ijarah agreement. There are several opinions as to why Sukuk Ijarah is more popular in Indonesia, one of which is its risk consideration of the agreement. In addition, a few previous studies have also mentioned that Mudharabah Sukuk has a better yield than that of Ijarah Sukuk, while other research has highlighted the relationship between the performance of Sukuk and its risk for both Ijarah and Mudharabah. This study aims to examine the difference between Ijarah and Mudharabah Sukuk in terms of their performance and risk using reasonable price data and a maturity period. The Sukuk's return and risk is obtained by calculating the amount of Holding Period Yield (HPY), Yield to Maturity (YTM), Risk Adjusted Return (RAR), and the HPY deviation standar. We found that in terms of return and risk, the Ijarah-based Sukuk differs significantly from the Mudharabah-based Sukuk. The Ijarah-based Sukuk shows higher return performance than Mudharabah-based Sukuk. In terms of risk, the Ijarah-based Sukuk also shows higher risk than the Mudharabah-based Sukuk.

1 INTRODUCTION

The Islamic capital market complies with the Shariah Islamic law. One common Shariah investment instrument is Sukuk. The Sukuk market has emerged during the past decade, and Sukuk is one of the products whose growth has been remarkable along with Islamic Finance development (Raur, 2014). Literally, Sukuk refers to certificates and technically it refers to securities, notes, papers, or certificates, with features of liquidity and tradeability (Dusuki, 2015). Sukuk is allowed under Shariah law because it is backed up by real assets such as land, buildings, or equipment. Therefore, when Sukuk is purchased and sold by the investor, they engage directly in real assets and are not simply trading paper (Wilson, 2008)

Sukuk has various structures based on its underlying assets. There are three main clusters of Sukuk structure, which are: (1) sale-based Sukuk, which consists of *ba'i bithamin ajil*, *murabahah*, *salam* (*Bay' al salam*), and *Istisna*'; (2) leased-based Sukuk (*ijarah*); and (3) equity-based Sukuk, which includes *Mudharabah*, *musharakah*, and *wakala*. Based on the standards of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), all Islamic Sukuk (syariah) instruments have been qualified as secured and save instruments that comply with Islamic Law that are free from *usury*, *gharar*, and *maysir*.

In its development, Sukuk has become one of the most important Islamic financial instruments since the infamous Islamic banking system spread widely around the world. Sukuk has become an innovative financial solution for those who need financing or investment alternatives. Currently, Sukuk is mostly issued by non-Muslim majority countries, such as the United Kingdom, Saxony Anhalt (Germany), Japan, and others. The Islamic financial market volume reached US $2.29 trillion by the end of 2016, with Islamic banking accounting for 80% followed by Sukuk at 14%, and the rest is other Islamic financial instruments (Edbiz, 2017).

In Indonesia, since the first Sukuk was issued in 2002, there have been only two types of Sukuk that exist: *Ijarah*-based and *Mudharabah*-based Sukuk. A typical process of issuing *Ijarah* Sukuk is illustrated in Figure 1.

First, the emiten issues a certificate of participation and the investor is provided with cash.

Bachtiar, S., Risza, H. and Naomi, P.
Sukuk Return and Risk: A Comparison between Ijarah and Mudharabah-based Contracts.
In *Proceedings of the 1st International Conference on Islamic Economics, Business, and Philanthropy (ICIEBP 2017) - Transforming Islamic Economy and Societies*, pages 163-168
ISBN: 978-989-758-315-5

Under an *Ijarah* contract, the use of a particular property is transferred from the owner to another person in exchange for a rental payment. It is a leasing agreement with the lessor (referred as the *mujir*), the lesse (called the *mustajir*), and the rent is paid to a lessor called *ujrah*.

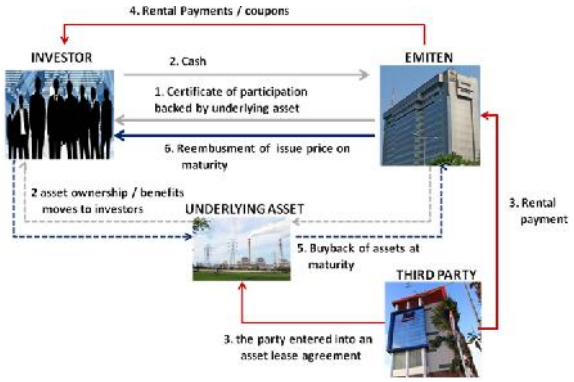


Figure 1: *Ijarah*-Based Sukuk Structure.

An *Ijarah* contract is predetermined for a certain period, and the rent provides regular income either monthly, quarterly, or annually.Therefore, the *Ijarah*-based Sukuk fulfills the requirement to be characterized as a bond. It is important to denote that *Ijarah*-based Sukuk represents a proportiaonate ownership claim over a leased asset, and therefore those who hold the Sukuk certificate will have ownership responsibilites that only terminate either when the securities reach maturity or if they are sold to another party who then takes over the responsilities (Usmani, 2002).

On the other hand, a *Mudharabah*-based Sukuk has a slightly different structure than the *Ijarah* Sukuk. The complete structure is illustrated in Figure 2. Unlike the *Ijarah*-based Sukuk, the *Mudharabah*-based Sukuk is issued under a *Mudharabah* contract. According to this contract, one party provides the capital (*rab-al-maal*/*shahibul maal*) while the other provides manpower and expertise (*mudharib*). Profits gained from this cooperation will be divided based on the proportion of the agreed (*nisbah*) ratio. However, the losses incurred from the cooperation will be borne entirely by the party that provides capital as long as there is no indication of intended purpose by the party that provided the expertise (moral hazard of the *mudharib*).

In Indonesia's Shariah capital market, the *Ijarah*-based Sukuk issuing trend is currently greater than the interest in *Mudharabah*-based Sukuk. To date, based on the Financial Services Authority of Indonesia (OJK) data, the number of outstanding corporate Sukuk as of 21 April, 2017 is 55 series, which consist of 37 Sukuk using *Ijarah*-based contracts (67.27%) and 18 Sukuk using *Mudharabah*-based contracts (32.73%). The value of *Ijarah*-based Sukuk has reached Rp 5.79 trillion (47.75%), while *Mudharabah*-based Sukuk is slightly greater at Rp 6.34 trillion (52.25%) (Masyrafina, 2017).

In terms of risk, both *Ijarah*-based and *Mudharabah*-based Sukuk have important risks that must be considered, just as with other standard financial instruments (Amine, 2012). These risks include country risk, sectoral risk, and assets risk. Risks also include structure risk, market risk, credit risk, operational risk, and taxation risk.

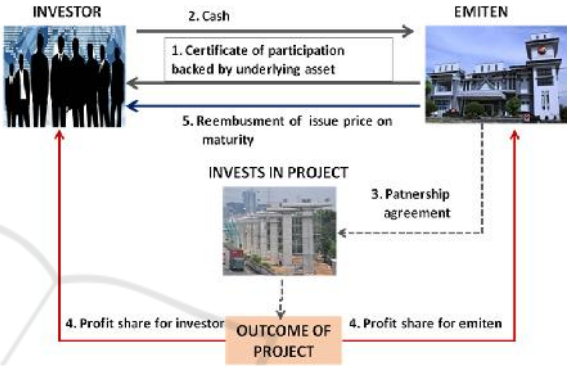


Figure 2: Mudharabah-Based Sukuk Structure.

However, *Ijarah*-based Sukuk is considered less risky, since it has the advantage of a fixed rate of return, which is suitable for investors who seek a certain amount of return as well as those who want to avoid exposure to risk. On the other hand, *Mudharabah*-based Sukuk also has the advantage of much greater opportunity to obtain a higher rate of return, despite its volatile nature. From those contrasting characteristics, it would be interesting to analyse further on both types of Sukuk, as each of them has an advantage in terms of return and risk. To our knowledge, there are not many studies that explore both *Ijarah*-based as well as *Mudharabah*-based Sukuk in terms of their risk and return, in particular for the Indonesian market. Therefore, it is important gap in the literature that needs to be filled. This study focuses on comparing the risk and return between the *Ijarah*-based and the *Mudharabah*-based Sukuk. In addition, we are also interested in evaluating whether Sukuk, with longer time to maturity, has a higher return and risk as highlighted in the investment basic rule.

Understanding the return and risk of Sukuk in Indonesia's capital market would be necessary for both investors and company as issuers. Firstly, investors need to consider the risk and return of

Sukuk in order to optimize their portfolio. They will need information on which types of Sukuk they should choose according to their risk and return preference as well as the length of the investment to balance their portfolios. Secondly, the Sukuk's issuer should be interested in knowing what their return would be compared to the average Sukuk market return. Understanding the risks of each type of Sukuk contract will be important for their future knowledge. Thirdly, it is also important for the regulator to understand the risk and return of each type of Sukuk contract in order to design the future market development for Sukuk instruments in Indonesia as well as the capital market itself. Lastly, this research also provides information for the National Sharia Council (DSN) in Indonesia. As the authority that holds an important role in issuing Islamic *fatwa* (regulation), the DSN requires accurate and detailed information so that all Shariah financial products, particularly Sukuk that is issued in the Indonesia capital market, can be protected and withheld from *gharar*, *maiysir*, and *riba* practices.

2 METHODS

Variables used in this study consist of yield and risk of Sukuk. We use two indicators of return: Holding Period Yield (HPY) and Yield To Maturity (YTM), and two indicators of risk: Risk of HPY and Risk of YTM, which are calculated as Risk Adjusted Return (RAR).

HPY (Holding Period Yield) is the total return received from holding the Sukuk over a period of time and is expressed as a percetage. HPY is calculted using equation (1), where *C* is coupon, *F* is redemption value, and *P* is fair price.

$$HPY = HPR - 1$$

$$H = \left(\frac{P_{t+1}+C_t}{P}\right) - 1 \quad (1)$$

YTM (Yield To Maturity) is the expected rate of return based on the assumption that the Sukuk is held until the maturity date and not be called. YTM includes the coupon rate within its calculation. We use this as a proxy, since investors are more likely to make investment decisions based on an instrument's YTM than its coupon rate. We use equation (2) to calculate YTM, where *C* is coupon, *F* is redemption value, *P* is fair price, and *n* is maturity time.

$$YT = \left(\frac{C+\frac{F-P}{n}}{\frac{F+P}{2}}\right) \quad (2)$$

Risk of HPY is calculated as the standard deviation of HPY. The standard deviation of HPY is calculated using equation (3), where *xi* HPY is the holding period yield; $\overline{H}$ is the average of HPY, and n is the number of Sukuk.

$$S \quad D \quad o \; H = \sqrt{\frac{\sum_{i=1}^{n}(H_i - \overline{H})^2}{n-1}} \quad (3)$$

RAR (Risk Adjusted Return) is a measure to find how much return is provided by an investment given the level of risk associated with it. It enables the investor to make a comparison between the high-risk and the low-risk return investment. By calculating risk-adjusted return, investors can judge whether he/she is extracting the highest possible gains with minimal risk involved and thereby the return on investment. Some of the popular risk-adjusted return measures are the Sharpe Index, the Treynor Index, and the Jensen's Alpha Index. In this research, we used the Sharpe Index, and calculated it using equation (4) where R_i is the return of Sukuk calculated using YTM; R_f is the risk-free return, which is proxied by the SBIS (Sertifikat Bank Indonesia Shariah); and σ_p is the standard deviation of return.

$$R = \frac{(R - R)}{\sigma} \quad (4)$$

The data used in this study are the monthly data of corporate Sukuk in Indonesia in 2015. Purposive sampling is applied in order to acquire the intended data. Criteria used for selecting the corporate Sukuk are as follows:

1. The Sukuk is evaluated by IBPA (Price Indonesia Securities Appraiser Corporation);
2. The Sukuk is denominated in Rupiah;
3. Sukuk does not include Sukuk's amortization;
4. Sukuk has a minimum rating of BBB+ during the observation period, which is based on the relevant rating issued from standards agency (Pefindo, Moody's, or Fitch); and
5. Sukuk has never defaulted.

Based on the sample selection criteria, the number of Sukuk eligible for this study 46 Sukuk, which includes 31 *Ijarah*-based Sukuk and 15 *Mudharabah*-based Sukuk.

The design of the research is described in the figure 3.

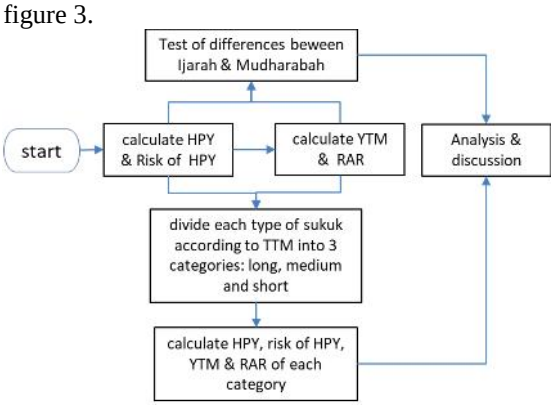
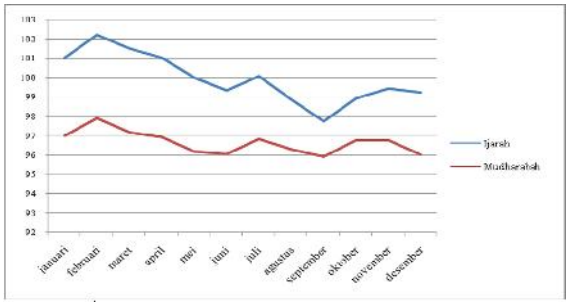


Figure 3. Research Desaign.

First, we calculate HPY and risk of HPY for each type of sukuk. Namely ijara and mudaraba. We also calculate YTM and RAR. Secondly, we conducted a different test between the two types of sukuk for each variable. Third, to analyze deeper, regarding whether TMT impacts risk and return on each sukuk, we divide each sukuk into three categories based on TMT, ie long term, medium and short. Lastly, we calculate each of these variables in each category.

3 RESULTS

The Sukuk data employed in this study is based on its fair market price. The monthly market price of *Ijarah*-based and *Mudharabah*-based Sukuk in Indonesia experienced downward and upward trend during the year of 2015. The complete fluctuation can be seen in Figure 4.



Source: analyzed from IBPA (2016).

Figure 4: Fair-price Trend ofIjarah and Mudharabah Sukuk for the year 2015.

From Figure 4, it can be seen that both *Ijarah*-based and *Mudharabah*-based Sukuk experienced approximately similar trends. Early in the year, during January and February, both Sukuk increased. However, their market price slowly decreased until the first lowest point on June and then increased again. Both Sukuk had their lowest prices in September 2015, while in overall the market price *Ijarah*-based Sukuk was higher than the *Mudharabah*-based Sukuk.

The risk and return profile of both *Ijarah*-based and *Mudharabah*-based Sukuk are presented in Table 1. It can be seen that in terms of return, the average monthly HPY and YTM of *Ijarah*-based is higher than the *Mudharabah*-based Sukuk. Meanwhile, the risk of Sukuk proxied by RISK of HPY and RAR also indicated the same pattern, in which *Ijarah*-based is higher than the *Mudharabah*-based Sukuk. This result is consistent with the notion of investment in which a high return is accompanied by high risk. Overall, the *Ijarah*-based Sukuk has better performance than the *Mudharabah*-based Sukuk.

Table 1: Risk and Returnof *Ijarah*-based and *Mudharabah*-based Sukuk in 2015.

	RETURN			
	HPY		**YTM**	
	Ijarah	**Mudharabah**	**Ijarah**	**Mudharabah**
Mean	10.2424	9.9814	10.1040	9.9814
	RISK			
	RISK of HPY		**RAR**	
	Ijarah	**Mudharabah**	**Ijarah**	**Mudharabah**
Mean	0.3740	0.2580	0.0767	0.0646

Source: Analyzed from IBPA (2016)

Table 2: Result for Mean Difference Test of returns and risks.

Test	**HPY**	**RISK of HPY**	**YTM**	**RAR**
Mann-Whitney U	4.2833	5153.5700	7.4331	5.2110
Wilcoxon W	9.1395	10009.8560	12289464.0000	10.0673
Z	-38.4520	-30.5350	-9.5640	-29.8940
Asymp. Sig. (2-tailed)	0.0010	0.0000	0.0030	0.0000

Source: Data analysed using Mann-Whitney Test.

To complete the analysis, we ran the test of normality and similarity of variance for both return and risk of Sukuk (the full profile is available and can be provided upon request). From both tests conducted, the results show that both return and risk data of *Ijarah*-based and *Mudharabah*-based Sukuk are not normally distributed and the variance is dissimilar. Therefore, the hypothesis testing in the

next stage of the analysis was conducted by using the non-parametric statistics method. The Mann Whitney for mean difference was chosen because the data are not normally distributed. The summary of the test results is shown in Table 2.

From Table 2, it can be seen that the Mann-Whitney U statistics indicates significant values for overall variables, which are 0.01, 0.00, 0.003, and 0.001 for HPY, RISK of HPY, YTM, and RAR, respectively. Overall, those variables have *p-value* less than 0.05, and thus the average return and risk calculated are significantly different. In other words, both return and risk of *Ijarah*-based and *Mudharabah*-based Sukuk were proven to be statistically different. The difference between *Ijarah*-based and *Mudharabah*-based Sukuk is significant at the 5% level.

In order to gain a deeper understanding of these results, we also conducted a separate test for each type of Sukuk. Specifically, we tested whether the maturity of Sukuk (TMT) affects risk and return. To run this analysis, we classified the overall Sukuk data into three time maturity categories: *Short Term* (0-1 years), *Medium Term* (1-3 years), and *Long Term* (more than 3 years). We then measured the risk and return for each group, which are represented by four variables, as in the full sample. The results of the test are described in Table 3.

From Table 3 it can be seen that the return of *Ijarah*-based Sukuk measured by HPY decreased along with the increase of time to maturity; however, the risk increased. That is not the case if we measure by YTM, however.

Table 3: Average Return and Risk of Ijarah-based and Mudharabah-based Sukuk are based on TMT.

	Return			**Risk**		
Ijarah	**TTM Short**	**TTM Medium**	**TTM Long**	**TTM Short**	**TTM Medium**	**TTM Long**
HPY	10.2552	10.2353	10.1742	0.2926	0.4792	0.5189
YTM	10.0097	10.2039	10.3767	0.0723	0.0823	0.0848
Mudharabah	**TTM Short**	**TTM Medium**	**TTM Long**	**TTM Short**	**TTM Medium**	**TTM Long**
HPY	9.2916	-	10.3209	0.18935	-	0.58144
YTM	9.6741	-	11.8404	0.0650	-	0.0616

Source: Analyzed from IBPA (2016).

The return of *Mudharabah*-based Sukuk increased along with the time of maturity, measured both by HPY and Meanwhile, for *Mudharabah* it was slightly different RTM. Nevertheless, the risk of *Mudharabah*-based Sukuk resulting from both measurements was not consistent.

The results presented in the previous section show that *Ijarah*-based and *Mudharabah*-based Sukuk have different return and risk. One of the important explanations of this issue might be attributable towards their characteristics. *Mudharabah*-based Sukuk has characteristics that are similar to equity-based investment instruments. The yield of the *Mudharabah* Sukuk is derived from the revenue share or profit received by the issuer based on the agreed-upon *nisbah* level at the outset. Meanwhile, *Ijarah*-based Sukuk has the characteristic that is approximately the same as fixed income investment instruments or debt. The yield of the *Ijarah* Sukuk is derived from the margin of rent or the excess of the principal, of which the amount is already known and agreed upon at the earliest stage. Therefore, theoretically, the returns and risks of the *Mudharabah*-based Sukuk should be relatively higher than the *Ijarah*-based Sukuk.

Despite the above explanation, results from this study show otherwise, where the *Ijarah*-based Sukuk has a higher return and risk in contrast to the *Mudharabah*-based Sukuk. This finding is interesting, since it might be due to some possible explanations. Most of the *Mudharabah*-based Sukuk in Indonesia is traded using project revenues (contracts) on a profit-sharing basis. This contract has a certain value until the end of the contract period. This means that the level of certainty in the amount of profit-sharing that will be received in the future is higher than that of the revenue-based sharing company in the form of operating profit or net profit. Thus, the level of the *Mudharabah*-based Sukuk investment risk is relatively low and even lower than the *Ijarah*-based Sukuk due to the fact that the majority of *Mudharabah* Sukuk issuers are state-owned enterprises (SOEs, BUMN), which are considered to have lower credit risk.

Another interesting feature from this research finding is that in *Ijarah*-based Sukuk, the longer the contract or the time to maturity (TMT), the lower the return (HPY) will be, which in turns increases the risk (RISK of HPY). This result is not in accordance with the basic rules of investment, in which the longer the

TMT, the greater the return and the higher the risks. A possible explanation given was the low liquidity of *Ijarah*-based Sukuk on the secondary market. The number of outstanding Sukuk in Indonesia is still relatively small, which tends to induce investors to hold their assets until maturity. Therefore, the longer the TMT, the greater the risk (additional liquidity risk), but with a lower return (HPY).

Another important point is the finding on the *Mudharabah*-based Sukuk. By using YTM to measure return, the longer the TMT, the higher the return, but the lower the risk. If we follow the basic rules of investment, the longer the time to maturity, the higher the return and the risk will be. A possible explanation towards this anomaly is the composition of listed Sukuk issuers used as research objects. Most of the long-term *Mudharabah*-based Sukuk comes from SOE issuers that use the value of the contract of work as the basis for profit sharing. The SOE issuers are considered to have smaller risk than the issuers from the private sector. Meanwhile, the shorter term of the *Mudharabah*-based Sukuk comprises a mixture of types of issuers. In addition, the type of income that is used as revenue-sharing basis is a mixed income or operating profit. Thus, the level of uncertainty for this type of Sukuk is relatively higher as opposed to the longer term Sukuk.

4 CONCLUSION

This study provides evidence towards two different types of Sukuk in Indonesia. We found that in terms of return and risk, the *Ijarah*-based Sukuk differs significantly from the *Mudharabah*-based Sukuk. The *Ijarah*-based Sukuk shows higher return performance than *Mudharabah*-based Sukuk. In terms of risk, the *Ijarah*-based Sukuk also shows higher risk than the *Mudharabah*-based Sukuk. These findings contrast basic investment theory, in which, based on the characteristics, the *Mudharabah*-based Sukuk should have higher return and risk than *Ijarah*-based, since it is an equity-based investment.

In more detailed investigations, we found several anomalies: (1) on the *Ijarah-based* Sukuk, the longer the TMT, the lower the return (HPY), but the higher the risk of HPY; (2) on the *Mudharabah*-based Sukuk, the longer the TMT, the higher the return, but the risk decreases. These anomalies are possibly due to the fact that most of the *Mudharabah*-based Sukuk traded in Indonesia are using project revenue (contract) as the profit-sharing basis, with a fixed contract value until the end of the contract period. The majority of the *Mudharabah*-based Sukuk issuers are SOEs. Meanwhile, the number of existing *Ijarah*-based Sukuk is still relatively small, which in turn makes the investment hold up to maturity.

However, those results still need to be evaluated further, for instance by lengthening the observation period. That might have been a limitation in this study. We also suggest that further research compare between the *Mudharaba*-based Sukuk and the *Ijarah*-based Sukuk that are issued by SOEs and private companies in order to get a thorough understanding on this issue. Investigating the variables that cause differences in both types of Sukuk will also be interesting to explore in future studies.

ACKNOWLEDGMENT

We would like to thank Else Fernanda, SE., M.Sc. for his input on this research result from the practitioner's point of view. Also to Dr. Intan Nurul Awwaliyah who is willing to become a peer review of this article. Suggestions from both are very meaningful in this article.

REFERENCES

Al-Amine, M. 2012. *Global Sukuk and Islamic Securitization Market, Financial Engineering and product Innovation, Bril.* Leiden.

Dusuki, A. W., 2015. Challing of Realising Maqasid al-Shari'ah (Objectives of Shari'ah) in the Islamic Capital Market: Special Focus on Equity-Based Sukuk. *Newhorizon Global Perspectif on Islamic Banking*. IIBI.

Edbiz Consulting., 2017. *Global Islamic Financial Report 2016.* London Edbiz Consulting. Edbiz.

Masyrafina, I., Aini, N. (Penyunt.)., 2017. OJK Want Issuance of Corporate Sukuk Is Enlarged. Quoted from 09 24, 2017, http://www.republika.co.id/berita/ekonomi/keuangan/17/05/02/opbdnt382-ojk-ingin-penerbitan-sukuk-korporasi-diperbesar.

Raur, A. L., Ibrahim, Y. b., 2014. Determinant of Risk and Return with Special Reference to GCG Sukuk Market Structure. *International Journal of Development and Economic Sustainability.* ECRTD.

Usmani, M. T., 2002. *An Introduction of Islamic Finance*, The Hague Kluwer Law International. Netherlands.

Wilson, R., 2008. Innovation in the structuring of Islamic sukuk securities. *Humamomics.*