Sukuk Model for Islamic Monetary Instrument in Indonesia

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Indonesia has had some Islamic monetary instruments such as Bank Indonesia Islamic Certificate (SBIS), Bank Indonesia Islamic Facility (FASBIS), SBIS repurchase (repo), Government Sukuk (SBSN) repo. However, IILM (International Islamic Liquidity Management), as the global short term Sukuk (Islamic investment securities) issuer, has a unique Sukuk model which can become a reference model to further diversify the Islamic monetary instruments (central bank Sukuk) in the country. The paper attempts to propose a Sukuk model for the Islamic monetary instrument (central bank Sukuk) referring to the IILM Sukuk model. Particularly, it proposes not only the model (structure and cash flow) but also formulas accompanying the issuance of the proposed Sukuk referring to the IILM Sukuk structure and cash flow. This proposed central bank Sukuk for the Indonesian monetary authority could diversify the current Islamic monetary instruments and support the Islamic monetary operations as well. Taking into account the IILM Sukuk model has never been adopted in the Indonesian Islamic monetary instrument, this paper could be the first one proposing the a new model for the central bank Sukuk in the country.

Keywords: IILM, central bank, Sukuk

JEL classification: E5.

1. Background

Liquidity management is one of the important aspects in banking industry both in conventional and Islamic banks (IBs) to sustain their operations. Practically, banks transform liquid deposits on the liabilities side into illiquid assets on the asset side (Vivian and Spearman, 2015; Khaliun, 2015). At the same time, banks must be able to meet their commitment to depositors in the case of deposit withdrawal. Hence, a potential mismatch between liabilities and assets sides exposes banks to liquidity problems.

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(Khaliun, 2015; Ali, 2013). Then, a failure to manage the short-term liquidity can lead to credibility and reputation risk of the banks.

Even, a significant volume of aggravated liquidity problems may eventually lead to a systemic risk as the failure of one bank could potentially become contagious to other banks and financial institutions (Khaliun, 2015; Abdou, 2015; Muljawan, Yumanita, Taruna, & Astuti, 2014). Further, a worse systemic risk condition could end up with financial system instability (Khaf & Hamadi, 2014). Global financial crisis in 2008 was a good example of the inability of banks to provide liquidity to the third parties due to derivative market failure. However, unlike conventional banks which have varieties of financial instruments to deal with liquidity problems, Islamic banks still have limited number of short-term liquid instruments. This lack of sharia-compliant liquid instrument to be easily transferred into cash causes IBs to maintain higher cash reserves (Onal, 2013). Lately, it can decrease IBs profitability and competitiveness to its conventional counterparts as cash reserve produces zero profit (Khaliun, 2015; Onal, 2013; Archer & Karim, 2014).

In general, most of Islamic banks employ a commodity *Murabahah* (mark up sale) contract to be a liquid instrument by using *Tawarruq* (mark up sale via commodity sale) model for a short-term investment purpose (Muljawan, Yumanita, Taruna, and Astuti, 2014). Although *Tawarruq* remains a controversial contract among scholars in different jurisdictions, it is acceptable in Malaysia and some other parts of the world. Therefore, creating alternatives for Islamic liquid instrument with an acceptable contract is essential to assist liquidity management in the Islamic banking industry.

In relation to this, the International Islamic Liquidity Management Corporation (IILM) provides an alternative instrument namely IILM Sukuk (Islamic securities) available to assist Islamic banks to mitigate liquidity problems and be another Islamic liquid investment alternative for Islamic banks. In brief, IILM Sukuk is a sovereign asset backed Sukuk with A-1 rating by Standard and Poors, USD denominated and tradable globally through primary dealers. It is because IILM Sukuk is issued based on (amongst others assets) long term Bank Negara Malaysia (BNM) assets pledged in the IILM to be the underlying of series of short term
IILM Sukuk. As it uses a sale and lease back contract, the Sukuk is tradable in the secondary market.

In the case of Indonesia, there are several variants of Sukuk which have been issued by the government of Indonesia as (namely SBSN) well as corporations. Nonetheless, market share of SBSN is still around 14%-17% of the total government securities and the corporate one is around 5%. Moreover, Sukuk holders tend to hold their securities until maturity date (HTM). Thus, constructing and proposing new Sukuk models is very crucial to add more varieties of Sukuk, attract more investors and deepen the Islamic financial market. This paper constructs and proposes a Sukuk model based on IILM Sukuk model as another Islamic central bank monetary instrument to fulfill such intention, particularly for the Indonesian case.

2. IILM Sukuk Model

The International Islamic Liquidity Management Corporation (the IILM) is an international institution established by central banks, monetary authorities and multilateral organizations in October 2010. IILM is mandated to create and issue short-term Shariah-compliant financial instruments (Sukuk) to facilitate effective cross-border Islamic liquidity management. By creating more liquid Sharia-compliant financial markets for institutions offering Islamic financial services (IIFS), the IILM aims to enhance cross-border investment flows, international linkages and financial stability. Then, IILM seeks to foster regional and international co-operation to build a robust liquidity management infrastructure in national, regional and international levels.

As an international institution and headquartered in Kuala Lumpur (Malaysia), IILM enjoys a range of privileges and immunities conferred by the IILM Act 2011 provided by the Malaysia authorities (IILM, 2010). Currently, IILM shareholders are from central banks and monetary agency of Indonesia, Kuwait, Luxembourg, Malaysia, Mauritius, Nigeria, Qatar, Turkey, United Arab Emirates and Islamic Development Bank (IDB). In order to achieve effective oversight, management as well as good governance, IILM structure contains key organs which are board of executive committee, board of audit committee, board of risk management committee, sharia committee and, compensation and remuneration committee.
The establishment of IILM is expected to overcome the limited number of short-term financial liquidity instrument in Islamic financial institutions by issuing USD denominated Sukuk at maturities of up to one-year. The IILM Sukuk are money market instruments backed by sovereign assets, distributed and traded globally via a multi-jurisdictional primary dealer network. In addition, IILM Sukuk also have a strong global support as they represent a unique collaboration between several central banks and a multilateral organizations with the aim to strengthen financial stability and function the efficient Islamic financial markets.

The uniqueness of IILM operation is that IILM members can pledge asset to IILM holding to be forwarded to IILM Corporation as the SPV of IILM Sukuk. Later, short-term IILM Sukuk with 3 and 6 months tenors will be issued by the IILM SPV (based on assets pledged in the IILM holding) to primary dealers. Recently, Sukuk IILM has an A-1 rating from Standard & Poor’s (S&P) rating services, although it is not issued by IILM as a rated institution. After being issued, cash inflow from investors will be received by IILM SPV and extended to IILM holding to be finally delivered to obligor (Figure 1). The brief structure of the IILM Sukuk model is shown in Figures 1 and 2 below.

**Figure 1: IILM Sukuk Model – Issuance and Payment Mechanism**
First of all, IILM members (obligors) pledge assets to the IILM holding for a long term tenor to be the underlying of IILM Sukuk (box 1). IILM holding proceeds such an underlying by asking IILM company (SPV) in luxemburg to issue IILM Sukuk (boxes 2 and 3). Sukuk is then offered and purchased by investors and paid to IILM (boxes 5 and 6). Finally, the proceed is sent to the obligor (IILM members-obligors) (box 7).

Regarding payment of Sukuk return (figure 2), the obligor will pay return to investors via IILM holding (boxes 1 and 2) which will pass it through IILM SPV to IILM investors (box 3). In the maturity date, settlement of IILM goes through IILM Sukuk holding (boxes 4 and 5) and IILM Sukuk will be reissued until the end of the long term pledged asset (boxes 6 and 7).

**Figure 2:** IILM Sukuk Model – Maturity and Coupon Payment Mechanism

Following IILM Sukuk model and payment of return, balance sheet of the flow of IILM Sukuk funds is shown in figure 3 as in the following subsequent numbers:

1. Obligor pledges financial assets to IILM holding. Financial assets on the assets side of obligor moves to the assets side of the IILM holding.
2. IILM holding moves financial assets to IILM SPV. Financial asset on the assets side of the IILM holding moves to the asset side of the IILM SPV.

3. IILM SPV issues Sukuk to primary dealers. IILM Sukuk on the liability side is offered to the public and purchased by investors as reflected on the asset side.

4. Primary dealers pay the price of IILM Sukuk to IILM SPV. Cash on the asset side of the investors moves to the asset side of the IILM SPV.

5. IILM SPV passes the payment to IILM Holding. Cash on the asset side of the IILM SPV is extended to the same side of the IILM holding.

6. Obligor receives the Sukuk payment from IILM holding. Cash from the asset side of the IILM holding is finally placed to the asset side of the obligor.

In addition, the flows of return of Sukuk IILM are in the following (see figure 4):

1. Sukuk return (payment) is paid from obligor to IILM holding. Technically, the payment goes from the asset side of the obligor to the asset side of the IILM holding.

2. IILM holding passes the return to IILM SPV. Technically, return goes from the asset side of the IILM holding to the asset side of the IILM company.

3. IILM SPV pays the return to investors. Technically, return finally goes from the asset side of IILM SPV to the asset side of the investors.
Figure 3: Cash Flow – Issuance and Payment Mechanism

Figure 4: Cash Flow of IILM Sukuk Return
3. Indonesian Sukuk Proposal referring to IILM Sukuk Model

a. Sukuk Structure
The paper refers to IILM Sukuk model to propose the Indonesian Islamic monetary instrument for the central bank or central bank Sukuk. The proposed IILM Sukuk model is intended to not only function as the Islamic monetary instrument but also support the Islamic financial market deepening program particularly when the proposed Sukuk could increase volume and frequency of the secondary market trading. Further, Sukuk can also be repurchased (repo transaction) in the secondary market and can become the other liquidity management alternative for banks (both conventional and Islamic banks).

As the proposed Sukuk is going to be issued by Bank Indonesia, it should also be possible to be repurchased to Bank Indonesia, be the secondary reserve requirement as well as be the collateral of the emergency fund from the central bank. However, unlike bond and the existing Islamic monetary instruments which do not have a direct correlation with the real sector, the funds collected from the proposed Sukuk model is constructed to be linked with the real sector particularly the government projects. In addition, instead of using Wakalah (agencyship), the proposed Sukuk model proposes a sale and lease back contract and hence it involves participation of the government and banks (Islamic and conventional banks).

First of all, the proposed Sukuk model employs a sale and lease back contract involving setting up SPV in the internal structure (a unit or department) of the central bank and a physical asset to be the underlying of the Sukuk. Then, the model also uses a Wakalah (agencyship) contract between SPV and obligor (the central bank) particularly a Wakalah bil ujroh (agencyship with fee) in which SPV acts an agent (Wakil) of the obligor and may get fee from the obligor. Before issuing Sukuk, obligor pledges its assets to SPV and then, SPV issues Sukuk as a central bank Islamic monetary instrument. Referring to the IILM Sukuk, this Sukuk issuance is for the short-term tenor (less than a year).
Secondly, step by step to issue the proposed Sukuk is in the following:

1. Obligor (the central bank) pledges an asset (as the underlying of Sukuk) to SPV holding (unit or department in the central bank) and then forward it to the SPV company.
2. SPV company issues the central bank Sukuk and offers to the investors (Islamic banks).
3. Sukuk are purchased by investors.
4. Investors pay the price of Sukuk to SPV company and then forward it to the SPV holding.
5. SPV holding passes the proceeds (from investors) to the obligor (central bank).

**Figure 5:** The Proposed Sukuk Model

Thirdly, due to the sale and lease back contract, Sukuk investors (Islamic and conventional banks) may receive a coupon as the Sukuk return and its mechanism as well as maturity date are explained as in the following (see figure 6):

1. Obligor pays a coupon (return of Sukuk) to the SPV holding and then to SPV company as the issuer of Sukuk.
2. SPV company then forwards the coupon to investors (Islamic and conventional banks).
3. In the maturity date, SPV company may re-issue the Sukuk with the same or different tenors but still less than a year. Even, in the case of a lack of target of issuances, referring to IILM Sukuk practices, obligor may also come as the guarantor or called an Eligible Liquid Asset (ELA).

**Figure 6**: Coupon Payment and Maturity Date

b. **Flow of Fund Mechanism**

Following the Sukuk structure, the flow of funds of the proposed IILM Sukuk under a sale and lease back contract is explained in figures 7 and 8 below.

1. Obligor (central bank) pledging the assets to SPV holding established by Bank Indonesia.
2. SPV holding then passes the assets to the SPV company.
3. SPV company issues Sukuk to investor.
4. Investors pay the price of Sukuk to SPV company.
5. SPV company extends the payment to SPV holding.
6. Finally, obligor (central bank) receives Sukuk proceed from SPV holding.
Figure 7: Flow of Fund in the Issuance

Figure 8: Flow of Return
c. Formulation the Proposed Sukuk Model

It is assumed that the obligor (central bank) pledges assets valued $A_0$ to the SPVs (both SPV holding and then followed by SPV company) for a certain time period ($n$) as such $0 \leq t_n \leq n$. These assets become underlying for the serial of the short term central bank Sukuk issued by the SPVs from now up to $n$ period. The SPVs issue serial of the short term Sukuk valued totally as $A_n$ in which $A_n \leq A_0$. $A_n$ is also an accumulation of the series of issuances or $A_n = a_1 + a_2 + \ldots + a_n$ or

$$A_n = \sum_{1}^{n} a_n$$  \hspace{1cm} (1)

For each of issuance ($a_n$), SPVs divide $A_0$ by certain a number of short term Sukuk issuance ($P_n$) or simply:

$$a_n = \frac{A_0}{P_n} \quad \text{in which} \quad a_1 = \frac{A_0}{P_1}, \quad a_2 = \frac{A_0}{P_2} \quad \text{up to} \quad a_n = \frac{A_0}{P_n}$$  \hspace{1cm} (2)

And hence, by combining (1) and (2), the $A_n$ formula becomes

$$A_n = \sum_{1}^{n} \frac{A_0}{P_n}$$  \hspace{1cm} (3)

When the SPVs issue and offer series of the short term Sukuk to the market and investors purchase them, the obligor may receive funds ($V_n$) from the total short term Sukuk issuances with the amount of $V_n = A_n - C_n - f_n$. $C_n$ is a fixed cost of the Sukuk issuance and $f_n$ is fee for the SPVs. If the fee for the SPVs ($f_n$) is formulated as a certain portion ($\alpha$) of the total Sukuk issuances $A_n$ or

$$f_n = \frac{1}{\alpha} A_n$$  \hspace{1cm} (4)

then the amount of funds received from one time (for example $V_1$) short term Sukuk issuance become:

$$V_i = a_i - c_i - \frac{a_i}{\alpha} \quad \text{or} \quad V_i = \left(1 - \frac{1}{\alpha}\right) a_i - c_i$$  \hspace{1cm} (5)

Thus, the total amount of funds received from the total short term Sukuk issuances are formulated:
\[ V_n = \left( 1 - \frac{1}{\alpha} \right) a_n - c_n \quad \text{or} \quad V_n = \left( 1 - \frac{1}{\alpha} \right) \sum_{i=1}^{n} A_i - \sum_{i=1}^{n} c_i \quad \text{or simply} \]
\[ V_n = \left( 1 - \frac{1}{\alpha} \right) A_n - c_n \quad \text{(6)} \]

For the investors, coupon received (because of having short term Sukuk or \((r_n)\) is composed of rental rate of the assets \((r_{sn})\) and installment of the principal of the assets \((r_{cn})\) or \(r_n = r_{sn} + r_{cn}\). The \(r_{sn}\) is an accumulation of individual series of short term Sukuk issuance as such \(r_{sn} = r_{s1} + r_{s2} + \ldots + r_{sn}\) with

\[ r_{s1} = \frac{1}{\beta_n} V_1, \quad r_{s2} = \frac{1}{\beta_n} V_2, \quad r_{s3} = \frac{1}{\beta_n} V_3 \quad \text{and finally} \quad r_{sn} = \frac{1}{\beta_n} V_n \quad \text{or} \]
\[ r_{sn} = \frac{1}{\beta_n} \sum_{i=1}^{n} V_n \quad \text{(7)} \]

\(\beta\) stands for rental ratio taken from \(V_n\). On the other hand, \(r_{cn}\) is also an accumulation of individual series of short term Sukuk issuance as such \(r_{cn} = r_{c1} + r_{c2} + \ldots + r_{cn}\) with

\[ r_{c1} = \frac{1}{m_1} V_1, \quad r_{c2} = \frac{1}{m_2} V_2, \quad r_{c3} = \frac{1}{m_3} V_3 \quad \text{and finally} \quad r_{cn} = \frac{1}{m_n} V_n \quad \text{or} \]
\[ r_{cn} = \frac{1}{m_n} \sum_{i=1}^{n} V_n \quad \text{(8)} \]

\(m\) stands for the installment of total principal of the assets which is also taken from \(V_n\). And then, total coupon payment is in the following:

\[ r_n = \frac{1}{m_n} \sum_{i=1}^{n} V_i + \frac{1}{\beta_n} \sum_{i=1}^{n} V_n \quad \text{or simply} \quad r_n = \left( \frac{1}{m_n} + \frac{1}{\beta_n} \right) \sum_{i=1}^{n} V_n \quad \text{during the period of} \quad 0 < t_0 < n \quad \text{(9)} \]

With the formulas above, at the end of each short term Sukuk issuance, total amount of revenues \((R_i)\) received by investors consist of both Sukuk values in the maturity time and coupon payment of the serial short term Sukuk issuances or
\[ R_i = a_i + \frac{1}{m_i} V_{11} + \frac{1}{m_2} V_{12} + \ldots + \frac{1}{m_n} V_{1n} + \frac{1}{\beta_i} V_{11} + \frac{1}{\beta_2} V_{12} + \ldots + \frac{1}{\beta_3} V_{1n} \quad \text{or} \]
\[ R_i = a_i + \left( \frac{1}{m_i} + \frac{1}{\beta_i} \right) \sum_{i=1}^{n} V_{in} \] 

(10) \hspace{1cm} (11)

Then, total \((R_n)\) is \(R_n = R_1 + R_2 + \ldots R_n\) or

\[ R_n = A_n + \left( \frac{1}{m_i} + \frac{1}{\beta_i} \right) V_n \]

(12)

It means that besides total maturity value of all short term Sukuk issuances, both rental rate and payment of the principal installment are very important for investors to determine their investment decision.

Finally, for SPVs in order to determine the total short term Sukuk issuances \((A_n)\), they may just combine formulas (6) and (12) to get:

\[ R_n = A_n + \left( \frac{1}{m_i} + \frac{1}{\beta_i} \right) \left[ 1 - \frac{1}{\alpha} \right] A_n - c_n \]

and then it becomes

\[ R_n + \left[ \frac{1}{m_i} + \frac{1}{\beta_i} \right] C_n \]

\[ A_n = \left[ 1 + \left( \frac{1}{m_i} + \frac{1}{\beta_i} \right) \left( 1 - \frac{1}{\alpha} \right) \right] \]

(13) \hspace{1cm} (14)

From formula (14), it is known that total short term Sukuk issuances \((A_n)\) issued by the SPVs depend on: (i) total coupon payment which are ratio of rental rate and payment of principal installment, (ii) cost of Sukuk issuances and, (iii) fee rate of the SPVs. The illustration of central bank Sukuk issuance with a sale and lease back contract is depicted in graph 9 below.
Graph 9: Sukuk Issuance (Sale and Lease Back)

**d. Benefits in Applying the Proposed Central Bank Sukuk**

Compared to the IILM Sukuk Model, the proposed model has some differences below:

<table>
<thead>
<tr>
<th>No</th>
<th>IILM Sukuk Model</th>
<th>Proposed Sukuk Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Underlying: securities (Sukuk)</td>
<td>Underlying: physical asset</td>
</tr>
<tr>
<td>2</td>
<td>Target market: global market</td>
<td>Target market: domestic market</td>
</tr>
<tr>
<td>3</td>
<td>Purposes: commercial and liquidity</td>
<td>Purposes: monetary operation and liquidity</td>
</tr>
<tr>
<td>4</td>
<td>Investors: primary dealers (PD)</td>
<td>Investors: Banks (without PD)</td>
</tr>
<tr>
<td>5</td>
<td>Object of rating: IILM</td>
<td>Object of rating: central bank</td>
</tr>
</tbody>
</table>

Hence, the proposed model has some benefits and positive economic impacts as in the following:

(1) **Liquidity allocation for economic stability.** Excess liquidity in the economy is re-allocated via banking sector to central bank (through Islamic monetary operation with the central bank Sukuk). When banks purchase the short term central bank Sukuk, the idle (excess) liquidity
in the economy is absorbed (monetary contraction) in order to manage liquidity, achieve the inflation target and gain economic stability.

(2) ** Tradable central bank Sukuk instrument.** Because of adopting a sale and lease back contract, the proposed central bank Sukuk are tradable in the secondary market. As such, this instrument supports the Islamic financial market deepening as it become another tradable (liquid) Islamic instrument to solve liquidity problem in banks.

(3) **Creating a pricing benchmark.** The proposed central bank Sukuk can also be the benchmark for the market players. It is because the coupon (rate) of the central bank instrument (including Sukuk instrument) as a representative of central bank monetary policy stance is usually benchmarked by the industry as the pricing benchmark.

### 4. Conclusion and Recommendations

IILM applies a Sukuk model which is very possible to be adopted by the central bank as one of its Islamic monetary instruments. The proposed central bank short term Sukuk requires assets as the underlying of the Sukuk, SPVs (both SPV holding and SPV company) as a separate entity to purchase the assets and to issue Sukuk and investors (both Islamic and conventional banks). Some benefits can be gained by applying the proposed central bank Sukuk such as liquidity allocation for economic stability, tradable central bank Sukuk instrument and, creating a pricing benchmark.

Finally, the paper recommends some actions to prepare for Sukuk issuance, which are:

- Conducting a Focus Group Discussion (FGD) with the stakeholders (market players, regulators, National Sharia Board, and related parties) to introduce the model, seek for some advices for the market friendly Sukuk application and, receive some comments, ensure a much proper Sukuk application among the market players (banks and financial market intermediaries).

- Having internal central bank discussions in the related departements such as monetary policy department, monetary operation department,
monetary research and policy, legal department, etc to assess the application of the instrument and construct SPVs.

- Arranging high level meeting among authorities (central bank, ministry of finance and other related authorities) to have a common understanding and agreement in applying the short term central bank Sukuk to achieve economic stability.
References


IILM. (2010), Articles of Agreement. International Islamic Liquidity Management Corporation, Kuala lumpur, Malaysia.


Appendix

Bank Indonesia Islamic Certificate (SBIS): is a short-term rupiah denominated securities based on sharia principles issued by Bank Indonesia.

Bank Indonesia Islamic Facility (FASBIS): is a deposit facility to sharia bank and sharia business unit at Bank Indonesia in the terms of Sharia Monetary Operation for a period of 1 (one) business day.

SBIS repurchase (repo): repurchase of SBIS by Bank Indonesia as part of monetary operation.

Government Sukuk (SBSN) repo: repurchase of SBSN by Bank Indonesia as part of monetary operation.

Government Sukuk (SBSN): Government of Indonesia Islamic securities to finance government projects in the State Budget (APBN).

Sukuk: an Islamic financial certificate that provides an investor with ownership in an underlying asset.

IDB: Islamic Development Bank.

IILM (International Islamic Liquidity Management): is an international organisation established by central banks, monetary authorities and multilateral organisations to create and issue Shari’ah-compliant financial instruments to facilitate effective cross-border Islamic liquidity management.

Murabahah: Sale contract with a disclosure of the asset cost price and profit margin to the buyer

Tawarruq: Purchasing an asset with deferred price, either on the basis of murabahah, then selling it to a third party to obtain cash.

Ijarah: Lease or service contract that involves benefit/ usufruct of certain asset or work for an agreed payment or commission within an agreed period.
Special Purpose Vehicle (SPV): issuer of trust certificates to qualified investors and puts the proceeds of the investments toward a funding agreement with the issuing organization. In return, the investors earn a portion of the profits linked to the asset.

Obligor: Owner of the Sukuk’s underlying which might also be an issuer of Sukuk certificate.

Guarantor: one of the basic factors of Sukuks which is act as the one who guarantees the capital and the profit of Securities owners (the first article and item of instruction of Sukuks distribution) and the regulations require its existence.