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Evaluation of Bank Liquidity using Gap Analysis – Case Study of Indonesia Islamic Banks

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Abstract
The business development of sharia unit that conducted by parent bank as its conventional bank is indicated high-potentially promising year by year. Consequently, business's sharia unit needs more funds that derived from operating activity fund of conventional bank as their parent bank.
This signal has been captured by Bank Indonesia from year to year through issuing Circular Letter No.11/16/DPNP dated 6 Juli 2009. This study is aimed to descriptively evaluate sharia banking liquidity before and after issuing Bank Indonesia Circular Letter.
As a basic evaluator used by gap analysis approach, by comparing RSA (rate sensitive asset) versus RSL (rate sensitive liability), the result will be wheather positive gap or negative gap. The sources data in this study is downloadaed from Bank Indonesia Monthly Statistic of Islamic Banking.
Keywords : RSA,RSL Gap Analysis,

1.Introduction

From micro view, the increasing competion to get depositors fund, more developed capital market products and tehnology development had changed the way bank to get financing and manage liquidity risk. Moreover, liquidity concentration to the specific structured liquidity products and inter bank market, and also the increased probability commitment on the off-balance sheet turns to balance sheet accounts into triggering fund liquidity problems and central bank intervention.

While from macro view, liquidity risk spreaded over in the middle of crisis can be able to be related to the structured-financial system change, spefically financial innovation process that provided big contributions to the financial asset improvement through inter-related processing. Firstly, the shifting of old-fashioned intermediaries model, that is from "originate-to-maintain" to "orginate-to-distribute", suspected to increase bank credit potential through credit transferred and credit risk to wider-class of investor. Secondly, the more increasing non-financial institution lunge to take a profit from weaken regulation that are able to be increased their investment leverage level to new fianancial instrument.

This study is trying to descriptively analyze the Islamic banking trend before and after issuing the Circulare Letter PBI No.11/16/DPNP dated 6 Juli 2009. The framework is used in this study is by implementating Gap Analysis Method, balance sheet and other supporting data are used from Bank Indonesia Islamic Bank Monthly Statistics during the month of March through November 2009.

2.Literature Overview

Liquidity management is dillema problem, meaning if banks want to maintain their high liquidity then their profit will be low, on the contrary, liquidity is low then profit is high. Banks whose highly liquidity, will have assets relatively higher that dominated on short-term financial assets, while bank whose low liquidity will have a low fund portion invested in the long-term financial asset. The short-term financial asset such as cash, short-term securities and short-term loan give low contribution to bank revenue, even cash does not contributes to the revenue. On the other hand, if financial asset which dominated on long-term asset, bank revenue will be high but low liquidity. While, from liabilities side, the higher portion on short-term liabilities, the bigger fund need in order to fill its liquidity. But the short-term fund will have low cost. If portion of funds is bigger on long-tern liabilities then, bank does not need to biggger liquid fund available in short-term, but cost of funds will bear will be higher. Thus, in managing bank liquidity need to integrately and strategically manage in funding..

2.1.1. Assets LiquidityApproach

There are two things that underlying on liquidity asset management approach as Taswan (2010:249) stated. Firstly, current liquid assets or an alternative source of bank funds. Banks can use either assets or liabilities to meet cash needs. The selection of the source of funding will depend on the cost relative owned. If the costs to sell the asset is less than obtaining funds by selling certificates of deposit, so the liquidity of the asset would be more desirable than a liability liquidity to meet the liquidity requirements. Secondly, it is as a reserve. If the money market is less trusted in the security of the bank, then this will lead to the source of funding is difficult to obtain. In this situation, the banks will consider to their liquid assets in order to maintain their business operations. So asset liquidity is a backup to prevent potential that may threaten the bank's ability to meet its obligations. Maintenance aspect in the form of a ratio, a primary reserve requirement regulations that applied to the cash deposited in the bank and deposits at the Central Bank in the form of Demand Deposit Bank at Bank Indonesia. Primary backup set via PBI No.10/23/PBI/2008 dated October 16, 2008 in Islamic banking by 5% for banks that have FDR (financing to deposit ratio) above 80%. According to Rifki Ismal (2010:108), that fund allocation is coming from instrument asset such as :

1. Direct financing for the real sector that applied "equity-based" (long-term), Mudarabah and Musharakah especially; "debt-based" (short-term) financing such as Muarabah, Istisna, Salam and Ijarah; "service-based" financing such as Wakalah , Ujrah, Kafalah, Hiwalah, Sharf, and Qard Hassan.
2. Indirect financing to the real sector (short-term financing) consists of Sharia securties acquisition, other banks fund placement (inter-bank assets), money loan through money market Islamic inter-bank (money market inter Islamic bank, which is called PUAS) and equity investments.
3. Placements in Bank Indonesia, which consists of SBIS and statutory reserves (statutory reserves)
4. Placements in internal banks consist of (a) cash reserves and (b) productive asset write-off (PPAP) as set by Bank Indonesia.

In fact, funds for "equity-based" financing is dominated bank financing, which means that Islamic banks still have limitations to long-term projects funding, among others, human resources, funds, and prospective projects. Meanwhile, funds placement in the Bank Sentral reflects the anticipated withdrawal of short-term liquidity. This is consistent with a situation where cash reserves are allocated to meet the daily demand over the liquidity of depositors.

2.1.2. Liability Liquidity Approach

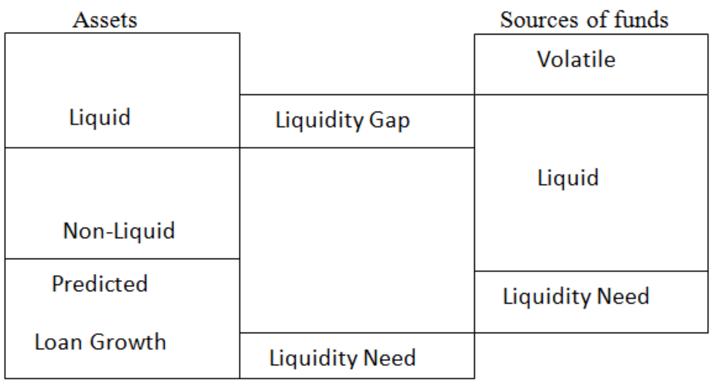
According to this approach (Taswan 2010:250), asset can be shifted from money market instruments that provide low profits into higher returns loan and long-term securities. In certain circumstances, risk occurs in the liability management. If interest rates suddenly rise, then the interest costs will substantially rise as a result of immediate fund purchase and must be rolled-over at high interest rates.

If banks have some less-sensitive-assets to the interest rate changes of its liabilities, so the profit margin will go down and bank capital may not be sufficient . In the profit margins decline situation, banks have to sell fixed-assets in order to reduce its permanent liquidity needs and improve its capital ratios. Losses due to asset sales will depress profit margins. Liquid assets will minimize capital losses, the mastery of some amount of money market instrument will help covering interest rate risk. The most difficult thing in implementing liability management is to meet the liquidity needs means how much external funding provision. Total funds deposit and non-deposit depends on several factors, such as central banks monetary policy, economic conditions and bank financial strength. The best management is by a combination between asset liquidity and liabilities liquidity hereinafter often called fund management approach .

By the issuance Bank Indonesia Circular Letter No.11/16/DPNP dated July 6, 2009, it is expected all banks Islamic banks, no exception, implement liquidity risk management. The realitity is that the Islamic banking experience of “Asset-Liability Imbalance” and “Maturity Mismatch Risk". As Rifki Ismal (2011:43) (Helmen et al., 1994:164-165) says that there are two main causes of the liquidity risk are Asset-Liability Imbalance and Maturity Mismatch Risk” which can occur due to two conditions:

a. Liquid assets (RSA) available is greater than its "volatile liabilities" (RSL), this scenario is called the "Liquidity Gap" or
b. The predicted amount of funds required on the asset side is higher than the predicted amount of funds available on the liability side, this scenario is known as the "Liquidity need" (see figure 1 below)

Figure 1. Asset-Liability Balancing dan Liquidity Plan



Sources : Helmen, *et al* (1994)

By identifying and mitigating liquidity risk causes, can be eliminated through (Sharma, 2004:1) as

Rifki Ismal (2011: 43) stated that: (a) funding liquidity risk, when depositors withdraw their short-term deposits, and (b) market liquidity risk, when disruption occured in the financial markets which turn liquid assets into illiquid assets.

One way to balance the assets and liabilities is by matching the maturity profiles (Greenbaum and Thakor, 1995:172) as Rifki Ismal (2011:44) stated that are called to anticipate the risk of "maturity mismatch". By matching of assets and liabilities, the bank deposits should be allocated correctly based on its maturity. Thus, the demand for liquidity from matured deposits can be met from "matured asset" liquidity. As a result there will be no so-called "liquidity gap" or "liquidity need".

2.Methodology

This analysis aims to examine whether there has been a "liquidity mismatch" on the monthly the data presented in the Islamic Banking Statistics published by Bank Indonesia. By using data from March 2009 until the end of December 2009 on the issuance of Bank Indonesia Circular Letter 11 / 16/DPNP dated July 6, 2009, monthly data are taken from the balance sheet, the composition of the deposits, the composition of financing, financial ratios, and equivalent rate of return / profit sharing of deposits and processed in order to obtain financing group is said to be "rate sensitive assets" (RSA) and "rate sensitive liabilities" (RSL). Then, its results are compared to, until obtaining a condition of whether there has been a "liquidity mismatch" or not.

3.Model and Research Results

By applying the gap analysis as a analysis model is used to obtain a picture of whether there has been a "liquidity mismatch" or not in the Islamic Banking Statistics published by Bank Indonesia. By comparing the results of the grouping assets and liabilities into "rate sensitive assets (RSA) and" rate sensitive liabilities "(RSL), then it will be known whether the difference between RSA and RSL showed positive or negative. If negative mismatch occur which means RSA is smaller than RSL or in other words there has been a excess funds which should be rotated into the financing. Conversely, if there is a positive mismatch which means RSA is greater than RSL or in other words the excess uses of fund.

From Table 1 presented below shows that the positive mismatch conditions over data of Islamic Banking Statistics for BUS and UUS issued by Bank Indonesia during March to May 2009. Through publishing by Bank Indonesia Circular Letter dated July 6, 2009, as a whole may be said the underlying Islamic banking data (both BUS and UUS) indicate that financing activities showed a tendency to increase positive mismatch from March to November. This condition clearly contributed to the Islamic banking profit during the period of March-November according to Islamic Banking Statistics published by Bank Indonesia, it is seen that the profit after income tax (net income) from March of Rp. 289 billion increase to Rp. 634 billion as presented in Table 4.2 below.

Tabel 1 Liquidity Mismatch Trend - 2009 (Billion Rp)

	Mar	Apr	Mei	Jun	Jul	Agst	Sept	Okt	Nop
RSA	44.208	44.460	45.439	47.344	47.872	48.993	49.529	50.489	51.882
RSL	35.425	35.785	36.172	38.739	36.857	38.314	39.528	40.700	42.406
Positive/(Negative)	8.783	8.675	9.267	8.605	11.015	10.679	10.001	9.789	9.476

Sources : Monthly Statistical of Sharia Banking, Bank Indonesia March 2009 – November 2009

From Table 1 above, it appears that liquidity conditions showed "positive mismatch" for Islamic banking contributed profit after estimated income tax (net income) and this obviously affects the ROA of Islamic banking for the period March 2009 through November 2009 from 2.65% to 3:46 %. Thus, the situation is very favorable for the development of Islamic banking services industry in the future.

Tabel 2. Net Income Trend, FDR and ROA

	Mar	Apr	Mei	Jun	Jul	Agst	Sept	Okt	Nop
Net income (Mil Rp).	289	360	437	517	593	669	469	558	634
FDR (%)	103.33	101.36	101.06	100.22	99.59	99.71	98.11	128.73	128.31
ROA (%)	2.65	2.29	2.22	2.98	2.12	2.08	3.10	3.42	3.46

Sources : Monthly Statistical of Sharia Banking, Bank Indonesia March 2009 – November 2009

The favorable conditions also supported by the increasing number of conventional banks to spin Sharia Unit into Islamic Banks off, as one of evidences is the spin-off its UUS BNI BNI Syariah in 2009.

Tabel 3. RSA dan RSL Segment to Total Asset

	Mar	Apr	Mei	Jun	Jul	Agst	Sept	Okt	Nop
RSA/Total Asset	86%	87%	86%	86%	86%	86%	86%	85%	85%
RSL/Total Asset	69%	69%	68%	71%	67%	68%	67%	69%	70%

Sumber : Monthly Statistical of Sharia Banking,, Bank Indonesia compiled

As presented in Table 2 above, prior to publication of the Circular Letter of Bank Indonesia , Islamic banking net income showed an increase from March to July by 44 % , but after the issuance of Bank Indonesia Circular Letter dated 6 No.11/16/DPNP July 2009 the increasing in the net income from July to November 2009 amounted to only 6.5 % . While FDR (financing to deposit ratio) from March to July decreases from 103.33 % to 99.59 %, after the issuance the Circular Letter increases to 128.31 . This signal indicates that there has been quite fierce competition in the Islamic banking industry , which means the funds used in financing activities exceed the funds obtained from a third party which may include deposits , demand deposits , and savings . Although conditions showed positive mismatch , but if it is not managed properly will cause liquidity problems If the increased in financing activities encounter default of the most of the debtor , then what will occur is how the deposits of Islamic banks is covered, rolled over into the financing . These conditions reflected in the period March- July 2009 where ROA shows numbers declined from 2.68 % to 2.12% and in that period there were losses of FDR from 103.33 % to 99.59 % . Fortunately, from the ROA figures in July and November, as presented in Table 2 above that ROA showed an increase from July to November from 2:12 % to 3:46 %.

As described by Rifki Ismal (2010;43), if the liquid assets (RSA) is greater than the volatile liabilities (RSL), then there will be a so-called " liquidity gap. This condition is clearly illustrated as presented in Table 3 above that the share of RSA to Total Assets compared to RSL share to Total Assets every month stating the situation of " Liquidity Gap "

4.Conclusion

Before issuing Bank Indonesia Circular Letter No.11/16/DPNP dated July 6, 2009, the Islamic banking performance showed very promising development, but it is feared that Islamic business unit activity depends on the parent bank would disrupt the overall liquidity. For these reasons, that Circular Letter is issued. After a period of issuance of the Bank Indonesia Circular Letter, the Islamic banking conditions become more advanced by leaps and bounds.

After the issuance of the Bank Indonesia Circular Letter, FDR (financing to deposit ratio) exceeded more ever achieved on the previous month. Islamic banking seems passionate in achieving the target in terms of quantity rather than quality. Consequently, these conditions will increase the liquidity risk. In other words, a negative gap would undermine the bank's profits. Fortunately, the overall net income of the Islamic banking industry still shows positive numbers. But when viewed in percentage changes (see Table 2), prior to the issuance of the Circular Letter, the percentage change in net income nearly seven (7) times the percentage change in net income after the issuance of the circular letter.

Overall both before and after the issuance of Bank Indonesia Circular Letter No.11/16/DPNP dated July 6, 2009, Islamic banking situation encountered a situation as indicated by Rifki Ismal (2011:43) above is Liquidity Mismatch. In other words, there has been an imbalance between Assets and Liabilities in the Islamic banking industry. Moreover, Sharma (2004:1) in Rifki Ismal (2011:44) states to eliminate conditions "Liquidity Gap" is by balancing between assets and liabilities based maturity side.

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