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Analysis of Liquidity Risk Management Practices of Islamic Banks in Indonesia

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Abstract

Islamic banking industry is so prospective over the years. Although depositors mainly locate their fund in long-term deposit but their investment motive is not for long-term perspective, rather it is for regular transactions followed by expectation for short-term return. Islamic banks respond the potential of short-term liquidity needs by releasing most of fund into short-term financing contracts together with preparing some liquid instruments for regular liquidity demanded. Lastly, the role of central bank and government completes the liquidity risk management mechanism.

JEL classification:
Keywords: rate of return, non-performing financing, financing to deposit, liquidity

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1. Background of Indonesian Islamic Banking Industry Industrial Performances

Indonesian Islamic banking industry[2] has been growing promisingly since the establishment of the first Islamic bank in 1992. People's awareness to employ Islamic banking spurred by government and Indonesian Moslem Scholars Council (MUI) has made the industry meaningful. Up to end of 2007, there are three Islamic Commercial Banks (BUS) followed by 25 Islamic Banking Unit (UUS) and 114 Islamic Rural Banks (BPRS) integrating 683 offices around the country (see Table 1 below).

Table 1. Selected Islamic Banking Indicators

BANKING INDICATORS	2000	2001	2002	2003	2004	2005	2006	2007
Islamic Banks (unit)	2	2	2	2	3	3	3	3
Islamic Banking Units (unit)	3	3	6	8	15	19	20	25
Islamic Rural Banks (unit)	79	81	83	84	88	92	105	114
Total Offices (unit)	146	182	229	337	443	550	567	683
Total Asset (trillion Rp)	1.79	2.72	4.05	7.86	15.33	20.88	26.72	36.53
Total Financing (trillion Rp)	1.27	2.05	3.28	5.53	11.49	15.23	19.53	27.94
Total Deposit (trillion Rp)	1.03	1.81	2.92	5.72	11.86	15.58	20.67	25.65

Source : Bank Indonesia

In its development, Islamic banks have been showing a healthy financial intermediary and prudential operation shown by its main banking indicators. For example, Financing to Deposit Ratio (FDR) has been lying between 100%-120% annually since 2001 while in conventional banking it is around 60% and Non Performing Financing (NPF) positions between 2%-4% while conventional one records higher position at 8%. Others, like total asset, financing and deposit have been growing annually for more than 60% on average[3]. Lately, total asset has been reaching Rp36.53 trillion with total financing of Rp27.9 trillion, well above its total deposit of Rp25.65 trillion.

Despite its achievement above, the share of the industry in the total banking industry is still very small. Total asset caters less than 2% of total banking asset although it grows around 60%-80% annually[4]. Less competitive, positioning of banks in people's mindset and less synergy with other financial institutions are some weakness of the industry (Blue Print, 2005:18-22). Most importantly, some fundamental problems leading to liquidity risk challenge the industry especially depositors' investment motives; under developed financial market; limited banking instruments; industry's fragility on macroeconomics issues; etc (Ismal, 2008a: 9-12).

General Framework on Liquidity Risk Management

Liquidity risk management can be broadly categorized into internal and external approaches of the banks. Internally, they set up organizational structure that has liquidity risk management mechanism inside and asset liability balancing as well.

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[2] Islamic banking industry consists of Islamic Commercial Banks (BUS), Islamic Banking Unit (UUS) and Islamic Rural Banks (BPRS). Islamic Banking Unit (UUS) is a special sharia banking unit in conventional bank (windows system or dual banking system) while Islamic Rural Banks (BPRS) names Islamic banks operated in suburb / rural areas.

[3] As reported in Bank Indonesia annual report 2006.

[4] Conventional bank's growth is only about 10% annually.

Meanwhile, the external one is the good relation of banks with their stakeholders mainly depositors, regulators (central bank and government) as well as other banks. Finally, to fill out regular liquidity demanded or liquidity pressure after setting up both internal and external approaches, they have some usable liquid instruments to be occupied upon needed. The general description of it is plotted in Appendix.

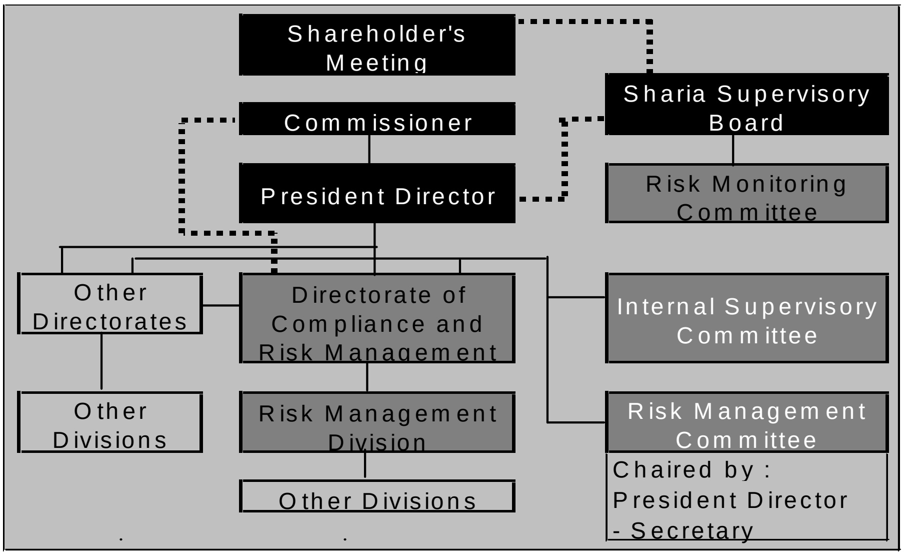
2. Organizational Approach on Liquidity Risk Management

Islamic Bank (BUS)

General organizational structure of Islamic banks (BUS) depicts that risk management activities are done by three elements. First of all is risk-monitoring committee, set up by sharia supervisory board. Directorate of compliance and risk management, which has special division/department of risk management, applies the general operation of risk management within the organization, the second one. Finally is risk management committee chaired by president director as a central control of risk management within all directorates. All of them are drafted in figure 1 below.

Intensive intension by Islamic banks regarding risk management specifically liquidity risk management has been protecting them from liquidity risk problems. However, their organizational structure's focus is merely on the internal side of the liquidity management while the integrated banking industry nowadays also requires consideration of external side of the organization through cooperation with all stakeholders. Analyses of macroeconomic liquidity, business partners' operation, Islamic financial market liquidity, etc are some proposed actions that should be accommodated by all related parties/risk management bodies within the Islamic bank's organizational structure.

Figure 1. General Structure of BUS & Liquidity Risk Management



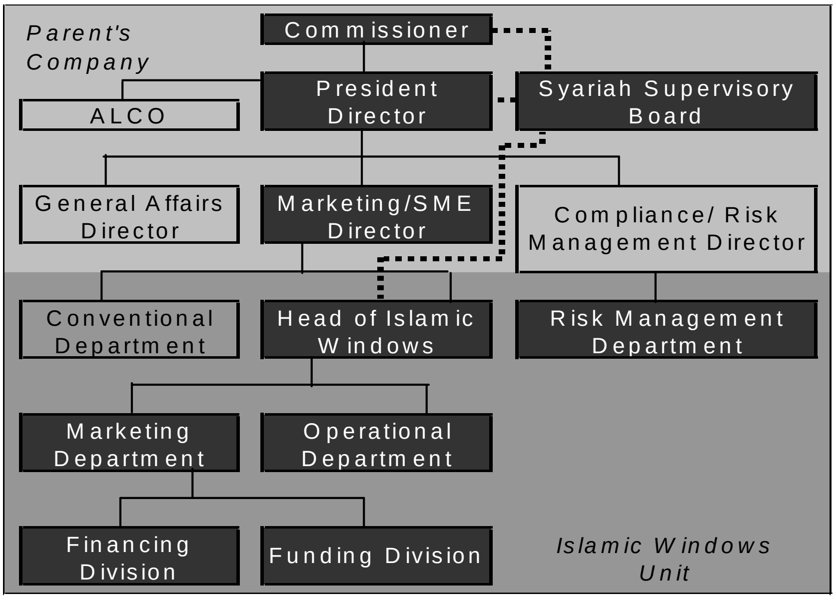
Sources: Combination of BUS' structures

Islamic Banking Unit (UUS)

However on the other players, organizational structure of Islamic banking unit (UUS) is a bit different with most Islamic banks. President Director of the parent company positions in the highest level, commanding director (such as marketing director) who is responsible for UUS daily operation. Meanwhile, UUS itself is lead by head of UUS who guides marketing department where funding and financing divisions located. Funding and financing activities are one of the central focuses of liquidity risk management in banking activities. However, the risk management itself in UUS is run by parents company under risk management department lead by compliance director as seen in figure 2 below.

Therefore, liquidity risk management as part of risk management is not being managed and tackled by internal department/team in UUS. It is so essential to do as Islamic banking activities in some parts is dissimilar with its counterpart. Hence, funding and financing divisions in UUS should be complemented with internal risk management division to cover liquidity risk management. Fortunately, in some UUS' parent companies, they have Asset Liability Committee (ALCO), which is a standard body dealing with liquidity risk management. Therefore in UUS, the role of president director, sharia supervisory board and marketing/small and medium enterprise (SME) director is so crucial associated to liquidity risk management, as they are responsible for the operation of UUS including its liquidity risk management.

Figure 2. General Structure of UUS & Liquidity Risk Management



Sources: Combination of all UUS' structures

3. Liability Side Related to Liquidity Risk Management

Sources of Fund and Its Provisions

There are two categories of sources of fund in Indonesian Islamic banking industry called public fund gained through Islamic banking deposits and public fund gained through non-banking deposit. The first source comprises of (1) Wadiah[5] demand deposit; (2) Mudarabah saving deposit and; (3) Mudarabah time deposit. Meanwhile, in the second source there are (1) Received financing; (2) Securities issued by banks; (3) Inter bank liability; (4) Liability to BI; other payables.

Regarding public fund in banking deposit, especially Mudarabah time deposit, the banks have various tenors from 1 month into more than a year. Any withdrawal in out of its due date period is charged a penalty. Nevertheless, unlike most conventional banking rules, the penalty is based on a fixed amount of money not connected with nominal amount of time deposit. Furthermore, in relation to liquidity risk management, some banks do not have any communication with depositors regarding allowable time for depositors to liquidate their time deposit (Ismal, 2008b:7-20). In

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[5] Generally in under Wadiah Yad Dhomanah contract

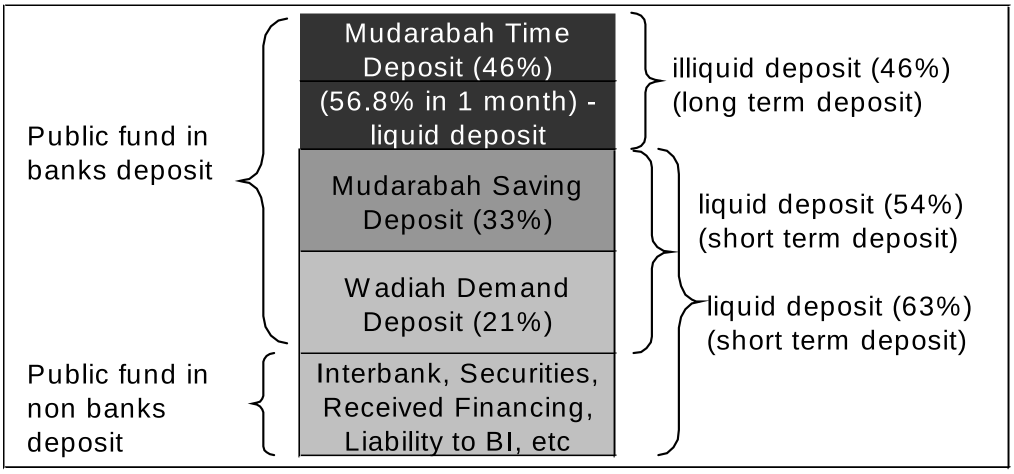
specific case when bank does not have enough liquidity to pay a mature or immature time deposit, some of them often request extra time to provide enough liquidity. Whilst, in normal liquidity condition and as liquidity run never happens in this industry, banks just use their internal cash reserve adjusted to liquidity forecasting. Other liquidity sources also available in case of high and sudden demand of liquidity, even BI provide emergency liquidity for this concern and will be explored in the latest part of the analysis.

Liquidity Risk Analyses in Liability Side

Breakdown of Liability Side

Portion of Mudarabah time deposit copes 46% of the total deposit followed by Mudarabah saving deposit 33% and Wadiah demand deposit 21%. Therefore the liquid deposit (Wadiah demand deposit and Mudarabah saving deposit) grabs 54%, greater than illiquid deposit (Mudarabah time deposit), which is 46%. Meaning, concentration of deposit in Islamic banking industry is in liquid deposit (short-term placement). Even, if public fund in non-banking deposits is included, that liquid deposit raises into 63% leaving illiquid deposit (long-term placement) in only 37% (see figure 3).

Figure 3. Liability Breakdown based on Type of Fund

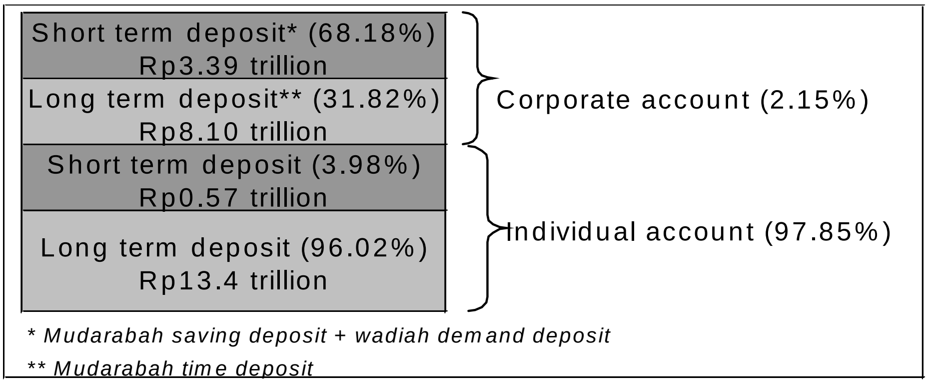


Source of data : Sharia Statistics Report of Bank Indonesia (2000-2007)

As this type of deposit is allowable to be taken anytime, the demand for liquidating it has to be accurately predicted. Even 56.8% of illiquid deposit should also be anticipated as the fund is locked in 1-month time deposit with automatic rolled over (ARO) upon requested, illustrated in figure 3 above. Hence, specific financing strategy considering this reality and for the sake of liquidity risk management has been employed by Islamic banks.

The other reason to adopt such a specific financing strategy is due to the owner's type of the account. On average, 97.85% of 2.7 million industry's accounts belongs to individuals and the rest to the non-individuals (companies and government institutions). Predicting individual depositors' fund behavior is more difficult than companies. Although only 3.98% of individuals' account (Rp0.57 trillion) is in form of short-term deposit and the rest of them is in Mudarabah time deposit (Rp13.40 trillion), but they put it in 1-month ARO deposit tenor.

Figure 4. Liability Breakdown based on Owner of Fund



Source of data : Sharia Statistics Report of Bank Indonesia (2000-2007)

Non-individuals although caters 2.15% of the total industry's account, they have a significant nominal value of Mudarabah time deposit which is Rp8.10 trillion, more than half of individuals'. The rest of their deposits are allocated in short-term deposit for about Rp3.39 trillion and also much bigger than individuals' (see figure 4 above). Therefore, in terms of liquidity pressure, non-individuals determine the short-term liquidity demanded and both individuals and non-individuals jointly determine the long-term liquidity demanded. And, because 1-month time deposit dominates 56.8% of the total Mudarabah time deposit, Islamic banks should treat it as a potential short-term liquidity demanded instead.

<u>Other Analysis Related to Liquidity Demanded</u>

Some facts known from liability breakdown above become a basis for Islamic banks to manage their liquidity. First of all, individual depositors seek maximum deposit return by allocating much of their fund into Mudarabah time deposit. Their need for regular transaction is low revealed by small portion of short-term deposit. Therefore, it is found that short-term liquidity pressure from individual depositors is manageable assuming that their 1-month time deposits are always being rolled over or at least known.

Secondly for non-individuals, Islamic banking seems their second best investment option after conventional banks. Generally, they still expect for interest rate return offered by conventional bank's deposit. Their minimum number of bank accounts and moderate nominal value of long-term deposit prove it. Further, although the ratio of short-term and long-term deposit is 1:2, but nearly half of long-term deposit is in 1-month deposit, meaning that their investment purpose is also to meet regular transactions.

Considering those facts, short-term liquidity demanded from corporations can be high because of their non-profit motive and high portion of short term and long-term deposit. Moreover, corporate depositors are mostly private companies (non government institutions), which is relatively difficult for Islamic banks to detect their transaction behaviors[6]. Ideally, widening range of banking product should be adopted to bind companies with long-term investment so long as to make liquidity management much easier (Wilson, 2007: 5).

Finally, short-term liquidity demanded in liability side can be predicted. Assuming 40% of non-individuals' time deposit is 1-month ARO and 54.48% for

[6] Public openly knows government institutions' activities, for example Ministry of Religion is active during hajj, idul fitr, etc. Furthermore, no liquidity withdrawal commitment takes place as mentioned earlier.

individuals' (BI monthly statistics, 2001-2007), combined with market players information, the prediction is as in the following:

Individual depositors

- Individuals' short-term deposit is Rp0.57 trillion or 2.24% of total industry's deposit.
- Individuals' 1 month time deposit is Rp7.3 trillion or 28.66% of total industry's deposit.
- Total short-term liquidity demanded from individuals is Rp7.87 trillion or 30.90% of total industry's deposit.

Non-Individuals depositors

- Non-individuals' short-term deposit is Rp3.39 trillion or 13.33% of total industry's deposit.
- Non-individuals' 1-month time deposit is Rp3.24 trillion or 12.73% of total industry's deposit.
- Total short-term liquidity demanded from non-individuals' is Rp6.63 trillion or 26% of total industry's deposit.

Total Short Term Liquidity Demanded by Type of Deposit

- Total short-term liquidity demanded from all short-term deposits is Rp3.96 trillion or 15.57% of total industry's deposit.
- Total short-term liquidity demanded from 1 month time deposit is Rp10.54 trillion or 41.39% of total industry's deposit.

Tracing The Potency of Short Term Liquidity Demanded

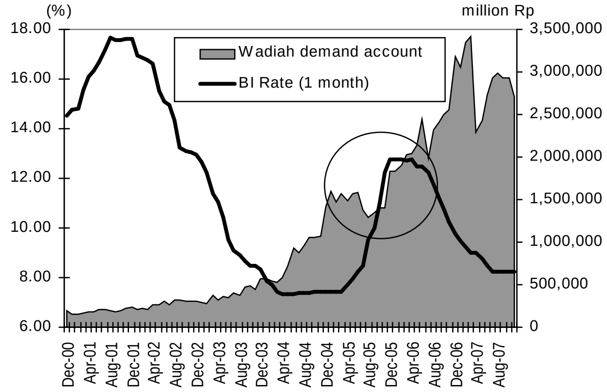
Upon finding some industrial facts and prediction of short-term liquidity demanded, it is realized that Indonesian Islamic banking industry faces potential of liquidity pressure if it is not handled properly. As long as the industry can offer competitive banking return, appropriate services and network, the short-term liquidity pressure will not hopefully occur. But if they are less competitive, paying low return, and not attractive to depositors, the potential of short-term liquidity withdrawal may appear the industry.

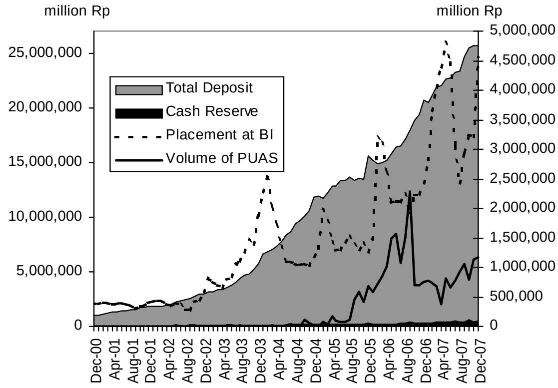
Some details below will explore the behavior and sensitivity of this demand of liquidity and whether it can cause liquidity risk problems into Islamic banks. Macroeconomic affect will see whether short-term deposit is very sensitive with high interest rate when conventional monetary policy responds on unpleasant economic pressure. Daily transactions will tell how active the short-term liquidity demanded is because banks prepare more liquid fund when short-term demand is more intense (for instance). Time deposit withdrawal for tenor adjustment is going to detect whether the purpose of short-term withdrawal is only tenor adjustment. Finally, the potential of rational depositor is one important thing to trace the source of short-term liquidity demanded covering depositors' behaviors as well.

Macroeconomic Affect

External issues often affect Indonesian economy. World oil price hikes, huge foreign capital inflow, depreciation of US dollar as well as international monetary policy are some examples of factors affecting of domestic economy. When tight monetary policy is taken as a respond of negative external factors, Islamic banking industry is automatically being affected. Nonetheless, in reality among three kinds of deposits, only Wadiah demand deposit, which reacts with movement of interest rate as, displayed in figure 5 below. Other kinds of deposits seem unaffected, they keep growing although conventional banks' interest rate goes up. But it is realized that all types of deposit might be affected if the industry itself remains under performed as indicated previously.

Figure 5. Islamic Deposit & BI Rate **Figure 6. Short Term Deposit Behavior**





Source : Sharia Statistics Report of Bank Indonesia Source : Sharia Statistics Report of Bank Indonesia

Daily (Routine/Regular) Transactions

Short-term liquidity pressure can be detected from depositor's daily (routine) transactions. It is reflected in movement of bank's cash reserve, inter bank activities and bank's account in central bank. Cash reserve as an indicator of daily transaction of depositors tends to be more active time by time. Not exceptionally inter bank activities and bank's account in Bank Indonesia, all of them are going progressively. It informs that depositors' routine transactions tend to be active and various short-term liquidity reserves should be in place as depicted in figure 6 above. However, because total deposit of Islamic banking industry grows continuously, liquidity turn over is positive (incoming fund is bigger than out coming fund). Moreover, short-term liquidity withdrawal is relatively small, although very active, well anticipated, and mostly for the sake of routine business transactions.

Withdrawal for Tenor Adjustment

One rationale of liquidating time deposit is for tenor adjustment. Triggered by some factors such as high return offered by short-term time deposit, flexibility, liquidity, etc, depositors nowadays love to concentrate their placement in 1-month time deposit. Adjusting process starts from 3- months time deposit followed by 12-months and 6-months time deposit into 1-month deposit. Decreasing rate for 3 months time deposit is 6.25% per month on average, whilst; 3.1% per month in 12-months and 2.9% per months in 6-months time deposit.

From liquidity risk management point of view, Islamic banks have to re-adjust this depositor's mindset by offering more attractive return in long term time deposit. Ideally, Islamic banks should involve potential depositors[7] in specific financing project through Mudarabah muqayyadah. Also, by re-focusing their financing from debt based into equity based financing, promising and competitive return can be offered to depositors (Ismal, 2007:10-17). Deposit withdrawal for tenor adjustment should happen the other way around, from short-term placement into long-term one.

The Potential of Rational Depositors

Amongst other factors, rational depositors' behaviors that indifferently position Islamic bank and conventional bank are the most important issue. Their sensitive investment decisions ended up with displaced commercial risk has to be considered by industry's players. One way to detect their behaviors is through the owner of Wadiah demand deposit and 1-month Mudarabah time deposit. Wadiah demand deposit holders consist of 107,374 individual accounts and 32,931 non-individuals' accounts. Whilst, 1-month time deposit holders belongs to 759,505 persons and 4,382 non-individuals. In total, all of them take over 33.5% of the total bank account holders (BI monthly sharia statistics, 2001-2007). Between them, owners of Wadiah demand deposit are more sensitive with interest rate return so rational depositors from Wadiah demand deposit is the most fragile and sensitive one.

Meanwhile, public fund invested in non bank deposit such as received financing; securities issued by banks; inter bank liability; liability to BI; other payable; etc are assumed manageable. It is because Islamic banks involve directly with such kinds of deposit so they know precisely when is the due date and schedule of withdrawal. Nevertheless, as this fund is mostly short-term placement, utilizing them in an appropriate way is a must.

4. Asset Side Related to Liquidity Risk Management

Alternatives of Fund Allocation

Continuing from liability side analysis, Islamic banks allocate public fund into four places, namely (a) Direct financing to real sector; (b) Indirect financing to real sector; (c) Placement in central bank and; (d) Internal placement for liquidity reserve. Each of them has its own instruments as in the afterwards:

1. Direct financing to real sector uses equity based instruments (long term financing) mainly Mudarabah and Musharakah; debt based instruments (short term financing) such as murabahah, istisna, salam including leasing (ijarah); service based instruments (short term financing) such as wakalah, ujrah, kafalah, hawalah, sharf and; benevolent loan like qardh.
2. Indirect financing to real sector (short term financing) which are buying Islamic securities; placement in other banks (inter bank asset); placement in Islamic money market (PUAS); equity participation; etc.
3. Placement in Bank Indonesia is in form of (1) Positive bank account in BI comprises of reserve requirement and excess reserve and; (2) Placement in Bank Indonesia Wadiah Certificate (SWBI).
4. Internal bank reserve that consists of (a) Cash reserve (b) Allowance for earning asset losses (PPAP), required by central bank's banking rule.

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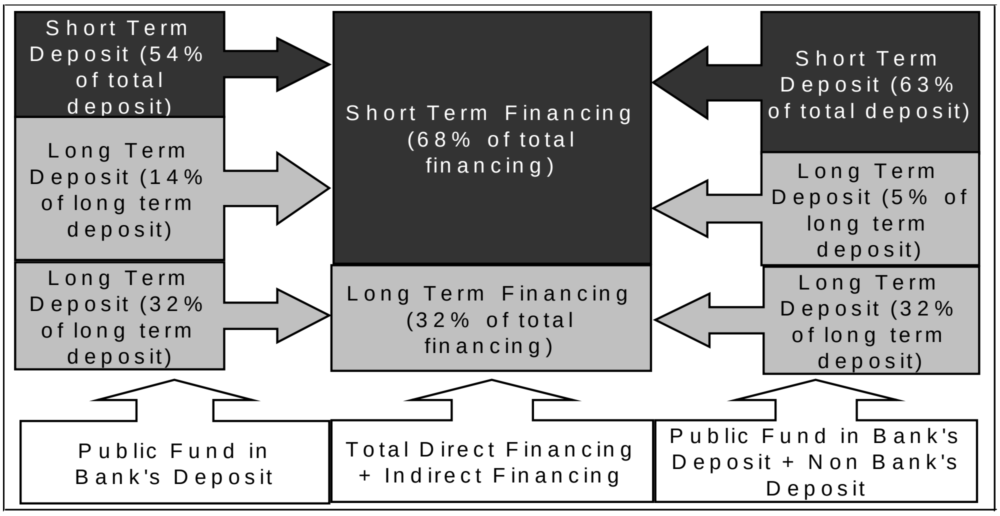
[7] Company or individual that has big amount of fund to be deposited.

Theoretically, more funds should be allocated in direct financing as it contributes significantly to the economy. Moreover, equity-based financing is the most appropriate instrument as it gets in touch directly with investment (business) activities compared with debt-based financing. If indirect financing dominates financing to real sector, it can be interpreted that most of investment projects are not prospective enough to be directly financed. Placement in central bank also reveals the same thing except it shows the short-term liquidity anticipation. When public need more liquidity for short-term transactions (not investment motive), cash reserve in banks will be up.

Bank's Financing with Respect to Liquidity Management

What is found in Indonesian Islamic banking industry, most of the fund allocation is in debt-based financing, which is short-term placement. It copes 68% of total industry's financing whilst long-term one is only 32% (BI monthly statistics, 2001-2007). It is not surprising as 54% of total deposit is in form of short-term deposit as mentioned previously. Therefore, all of short-term deposits are fully occupied to finance short-term financing. Even if public fund in non-bank deposit is included, all of them are occupied for short term financing too. Finally, not only short-term deposit being fully utilized, small part long-term deposit is also used for this purpose, as seen in figure 7 below. And, due to high demand of short-term financing, the industry records above 100% financing to deposit ratio (FDR).

Figure 7. Financing from Liquidity Management Point of View

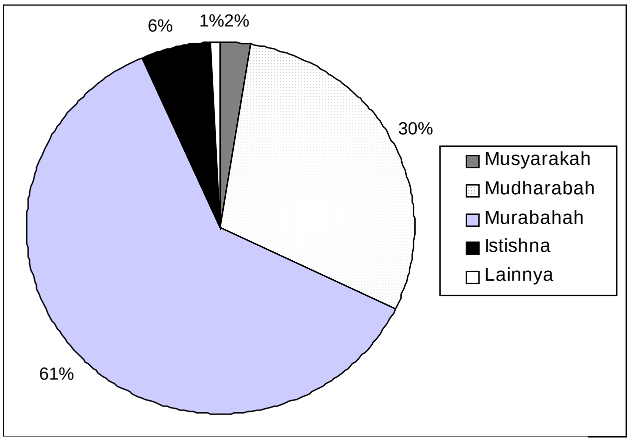


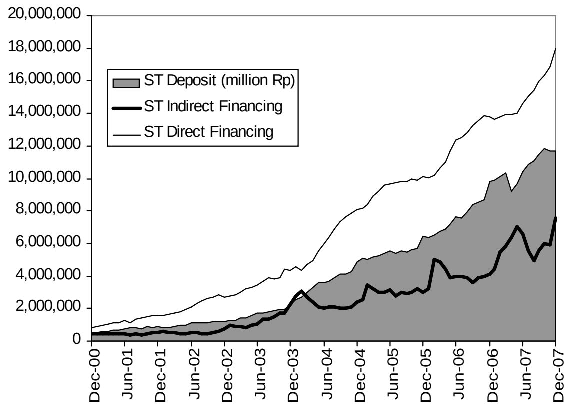
Source : Sharia Statistics Report of Bank Indonesia

In the view of liquidity management perspective, this financing strategy is reasonable. It enables Islamic banks to balance liquidity from liability and asset side, so that short-term liquidity demanded is not a big problem so far. Further, compared with long term financing, it provides under scheduled (certain) and positive return payment, which is good to maintain depositors' positive expectation and loyalty. Though, in macroeconomic perspective, an advantageous of such system is not seen optimally. Long term financing, as a reflection of investment activities should be the dominator in order to give significant impact to the economy.

Exploring at short term financing in detail, the industry takes two steps of priority financing. First of all, the short-term non-bank deposits are distributed into short-term indirect financing such as placement in Bank Indonesia; inter bank asset (placement into other banks); purchasing securities; and equity participation. Surely, this is the right way to secure the fund, gain profit and prepare it for short-term liquidity requirement. In the second step, public fund in short-term bank deposit is put in short-term direct debt based financing. Murabahah grabs 61% of the total financing, the highest among others followed by Istisna 6%; Ijarah and other debt based financing for only 1%. Because fitting the demand for short-term financing often absorbing long-term deposit, so long term financing allocation is not as much as short term one. Mudarabah, takes 30% of the total financing or half of Murabahah portion, whilst Musharakah is left behind with only 2% as seen in figure 8 and 9 below.

Figure 8. Financing Breakdown **Figure 9. Deposit & Financing**





Source : Sharia Statistics Report of Bank Indonesia Source : Sharia Statistics Report of Bank Indonesia

Meanwhile, because FDR sometimes reaches above 100%, it means that some part of first step financing is used to support the second one[8]. And in general, over 100% FDR happens 62% times of total financing history especially from the year 2000 up into 2003. Between 2004 and mid 2005 FDR was a little bit less than 100% because some unpleasant economic condition especially high domestic inflation due to government adjustment on domestic oil price so long as world oil price hike. That policy influenced real sector activities as well as financing activities of the Islamic banking.

In other view, Islamic banking adopts polling of fund financing approach with no strict obligation to set every liability and asset instrument in the same time period.

[8] FDR is calculated based on total direct financing over total deposit.

Long-term deposit, for example, should not always be put in long-term financing. Allocating fund to short term financing due to its profitability, certainty and liquidity is the most preferable. It is also in line with depositors short-term investment motive as indicated above. Besides that, long term financing requires long term financing commitment, more risky, asymmetrical nature of risk and strongly determined by macroeconomic performances (Wilson, 2007:4).

So long with short-term placement, which is pro liquidity management and positive regular return, Islamic banks use BI's facility to locate their end of the day idle liquidity. On average, there is only 7.45% placement in SWBI of total public deposit in the industry (BI monthly statistics, 2001-2007). Besides its security, SWBI offers monthly bonus (fee), which usually links with BI-Rate (central bank rate), for its depositors. SWBI lies as a liquid instrument for banks and available to be taken any time when banks are in urgent liquidity need.

Figure 10. Allocation of Fund in SWBI

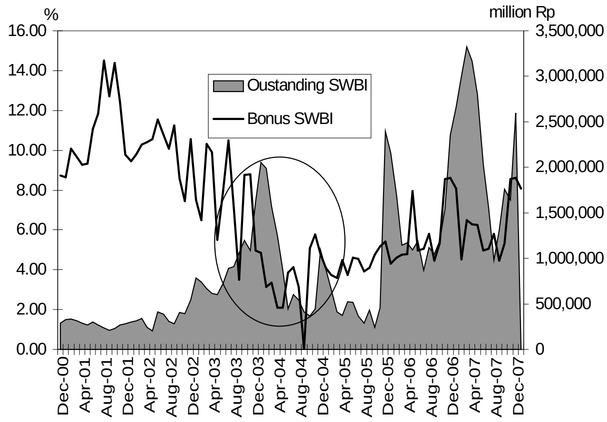
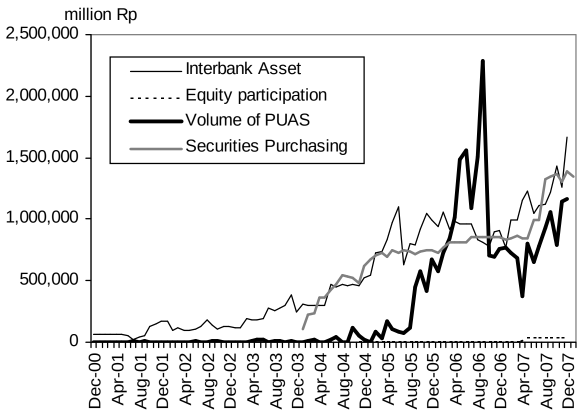


Figure 11. Other Indirect Financing



Source : Sharia Statistics Report of Bank Indonesia

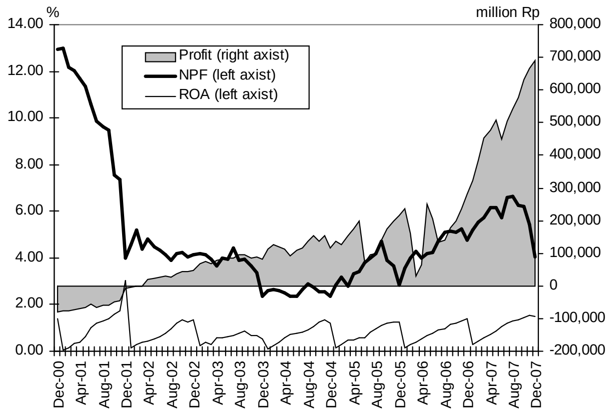
Source : Sharia Statistics Report of Bank Indonesia

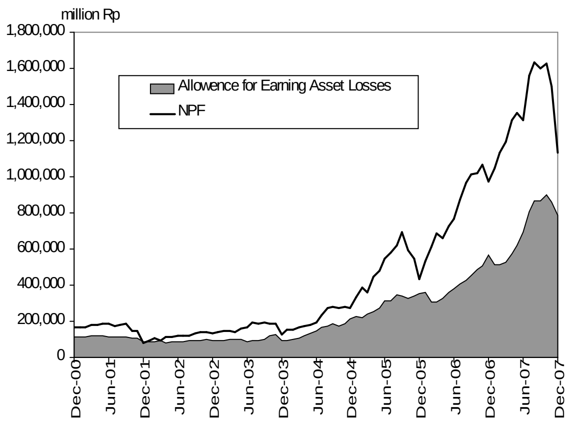
Unlike conventional banks, which locate fund in Bank Indonesia Certificate (SBI) for the sake of high interest rate return[9], Islamic banks do not position SWBI as their ultimate alternative for fund allocation. It is found that locking money in SWBI does not link with bonus being promised. Islamic banks rely on return from short term direct financing rather than SWBI's bonus. When the bonus is relatively higher than usual, they do not automatically increase the outstanding of SWBI as proven by figure 10. Rather, it depends more on the business condition rather than securing money in zero risk central bank instruments.

Other indirect financing such as inter bank asset, equity participation, securities purchasing, and PUAS do not gain much allocation too. Amongst all, significant placements are only in inter bank placement (5.83% of all deposit) and purchasing of Islamic securities (5.21% of all deposit) (BI monthly statistics, 2001-2007). Participating in Islamic money market through PUAS is not so intensive not only because of its modest rate of profit return but also limited number of participants. Nonetheless, separating fund into these indirect financing which are very liquid in some extents has increased the liquidity of the industry (see figure 11).

Overall, Islamic banking industry's profit by implementing those financing strategies increases overtime as shown by figure 12 below. Since March 2002 until today, profit has been growing 81% approximately valuing Rp0.14 trillion on average together with persistent positive value of return on asset (ROA). Although most of it comes from debt based financing, the existence of profit from equity based financing shows good relation between banks and their business partners as required.

Figure 12. Profit, ROA and NPF **Figure 13. PPAP**





[9] Based on data from 2001-2007, conventional banks place 11.45% of their deposit in SBI whilst sharia banks place only 7.45% of their deposit in SWBI.

Source : Sharia Statistics Report of Bank Indonesia Source : Sharia Statistics Report of Bank Indonesia

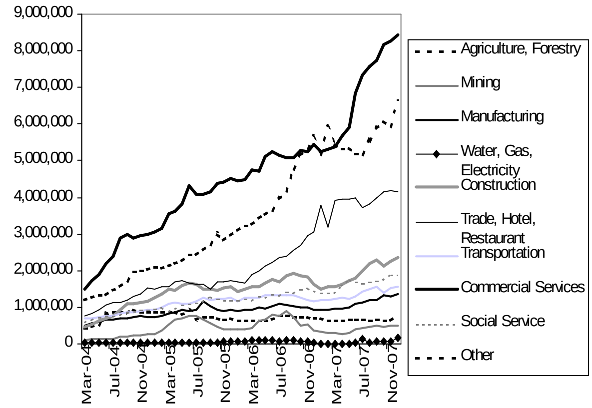
However, the increase in non-performing financing (NPF) often goes behind the upper trend of profit. NPF was up consistently since January 2004 until mid of 2007 for about 5% of total deposit on average (BI monthly statistics, 2001-2007). Especially, during world oil price hike and internal economic pressures, NPF of long term based financing dragged up total NPF in 2006 into 4.8% from 2.8% (BI annual report, 2006:25). But after strong efforts from banking authority and industry's players, it slowly went down and under controlled. In this case, to mitigate business loss and serious non-performing financing Islamic banks prepare allowance for earning asset losses (PPAP) as ruled by Bank Indonesia.

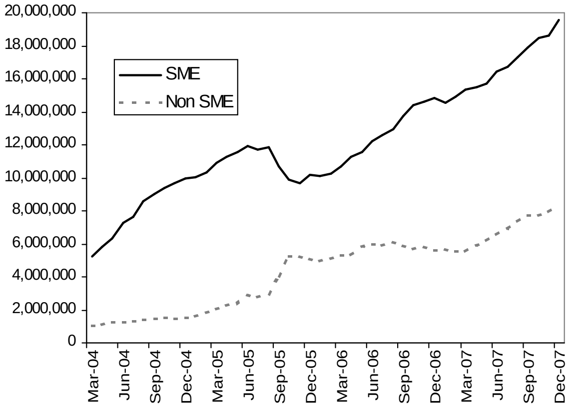
Retained earning is proposed more on managing sustainable payment of positive return to depositors, expanding bank's operation and positioning as bank's internal reserve against actual business looses. Meanwhile, PPAP is prepared mainly for avoiding banks from future business looses counted around 2% of total asset in the last five years. As drafted in figure 13, in line with expansion of banks financing and increasing trend of NPF, total amount of PPAP also move up. Fortunately, these two actions have maintained depositors' trust on the industry. And implementing those actions make it possible for Islamic banks to provide competitive return and healthy banking operation.

Exploring the distribution of fund based on economic sectors, it is found that most of the deposits are given into certain sectors, which are very liquid and operate in short-term period. Those are commercial services sector (28% of all financing); miscellaneous sector (21.36% of all financing); trade sector[10] (13.84% of all financing) (BI monthly statistics, 2001-2007). Specifically, financing in those sectors is used for working capital purposes (52%) besides investment (28%) and small part for consumption financing (20%). These facts clarify the previous findings that Islamic banks concentrate financing into very liquid and short-term contracts, which can regularly guarantee positive and continuous return (see figure 14 below). Although those economic sectors are profitable and provide sustainable liquidity but in the long run perspective, financing agriculture and forestry; mining; manufacturing; and construction would give wider benefit to the economy. So far, those long-term natural based investments are captured by only small allocation of fund through long-term deposit after being used to support short term deposit as mentioned previously (Timberg, 2002:3-5).

Figure 14. Financing by Economic Sectors **Figure 15. SME/Non SME Financing**

[10] Composed of trade, hotel and restaurant





Source : Sharia Statistics Report of Bank Indonesia Source : Sharia Statistics Report of Bank Indonesia

Furthermore, tracing from type of enterprise being financed, it is found that 73.6% of financing goes to small and medium enterprise (SME) as figured in figure 15 above. It is widely known that financing SME has less risk of business loss. SME also operate in large scale of consumer business transactions[11] and returnable projects with continuous payment of return. As SME are widely driven by individuals who own SME, no wonder that they dominate industries financing account for about 90.3% whilst companies only cope 9.68% of it. However, despite its small share, financing to companies' values at Rp12.78 trillion (63.6% of total amount of financing) doubling individuals financing which is Rp6.78 trillion. Again, it supports the fact of financing priority adopted by Islamic banking industry so far.

For ideal business operations, without releasing financing to SME, Islamic banks have to capture a larger business scale involving mega projects from government or private. A joint financing of several Islamic banks for big project becomes a good idea to minimize and handle risk of financing.

5. Instruments to Manage Liquidity Demanded

The potential of short-term liquidity demanded is relatively high but due to anticipated liquidity management approach, precautionary actions and short-term financing orientation explained above, any liquidity risk problems can be figured out so far. Assessment of liquidity risk management through liquidity risk management index explains indifferent findings. Three Indonesian Islamic banks capturing 82%

[11] Such as trade, restaurant, retail business, etc.

market share achieve a “good” grade category of the index (Ismal, 2008b:7-20)[12]. Meanwhile, as part of their liquidity risk management particularly to serve routine or irregular demand of liquidity in short-term period, Islamic banks have some liquid instruments to be used as explained in the following.

Instruments Prepared for Wadiah Demand Deposit

First instrument used by Islamic banks to serve liquidity withdrawal from Wadiah demand deposit is cash reserve. Cash reserve is organized for satisfying daily transaction needs in banks. On average, Islamic banks reserve 1.6% of their total deposit for this instrument. If demand for daily transaction exceeds stock of cash reserve, there is second instruments namely placement in Bank Indonesia. Actually, there are two kinds of banks placement in BI. First of all is in form of positive bank’s account in BI, which comprises of reserve requirement and excess reserve. This allocation does not give direct return to banks except suits for inter bank transactions of depositors.

Secondly is in form of SWBI, which is BI’s Islamic deposit instrument to absorb excess liquidity for short-term period. SWBI gives direct return to banks and functions as liquid instrument to fill out short-term liquidity need as well. In general, banks release 18.62% of the fund to positive bank’s balance in BI and 7.45% to SWBI as quoted previously. Until recently, cash reserve and placement in BI have served depositors of Wadiah demand deposit.

Instruments Prepared for Mudarabah Saving Deposit

For total amount of Mudarabah saving deposit, which are bigger than Wadiah demand deposit, there is inter bank placement. This is actually short-term allocation of fund from Islamic banks into other banks readily to be taken upon needed. It is recorded 5.41% of total deposit on average. Alternatively, Islamic banks have placement of fund in Islamic money market or PUAS. Fund allocation in IMA instrument (instrument in PUAS) uses 1.77% of total deposit and readily to be traded shortly through money market mechanism. These two instruments have covers the short-term liquidity needs of depositors of Mudarabah saving deposit.

Instruments Prepared for Mudarabah Time Deposit

Finally for Mudarabah time deposit, which is the highest public fund deposited in banks, three instruments are set aside: placement at BI, inter bank placement and PUAS. Combination of these three instruments occupying 33.25% of total deposit so long as short-term placement of long-term deposit are all designed to serve the possibility of 1-month time deposit liquidation which is 41.39% of total deposit. Nevertheless, if the needs for short-term liquidity still surpass liquidity prepared above, Islamic banks can use the last option, central bank’s intra day emergency fund (FLI) with some specific pre-requisite from the monetary authority. For overall protection, government institution called Deposit Guarantee Institution (LPS) guarantees all of Islamic deposits. As a member of LPS, every BUS and UUS have certainty to pay back depositors’ fund through Islamic insurance mechanism. The existence of LPS completed the industry’s safeguard instruments against anticipated or unanticipated liquidity withdrawal such as liquidity run.

[12] Liquidity risk management index has four grading categories: excellent, good, satisfactory and poor.

6. Conclusion

Indonesian Islamic banking industry can be described from liquidity risk management perspective as in the following:

1. Sources of fund are lead by short-term deposit with the potential of rational depositors. Allocation of fund, considering liability side's type of fund; liquidity management; readiness of banks' personnel; macroeconomic condition; and limited banking financing instruments, are mostly located in short term financing.
2. Upon the potential of short term liquidity demanded calculated above, the asset and liability balancing implemented by the industry has been so far mitigating it. Even, economic pressure indicated by high interest rate has not impacted the industry a lot.
3. For regular and irregular liquidity demanded in every type of deposit, Islamic banks have had certain liquid instruments to be used. Moreover, they are also facilitated by FLI from BI and backed up by LPS from government for the case of liquidity run.

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Appendix

Liquidity Risk Management in Indonesian Islamic Banking Industry

Internal Organizational Structure	***External Relation with Depositors***
- Having special risk management division/department - Multiply committees monitoring risk management - Under coordination with parent company - Under responsibility of President Director	- Educating depositors about Islamic banking principles and operation - Sustaining payment on profit sharing to maintain loyalty - Improving performance, increasing network, etc to maintain trust. - Guarantying payment of every fund withdrawal
Asset Liability Balancing	***External Relation with Central Bank / Government***
Liability Side - Offering Mudarabah time deposit to gain long term investment fund - Adjusting PLS ratio to make it competitive with interest rate return - Analyzing type of deposit, tenor, etc for financing purposes - Analyzing type of depositors, withdrawing factor, etc.	- Fulfilling liquidity risk management standard set by Bank Indonesia - Liquidity cooperation by utilizing BI's islamic monetary instruments - Locating fund as reserve requirement required by Bank Indonesia - Opportunity to use BI's emergency liquidity & deposit insurance ***External Relation with Business Partners***
Asset Side - Concentrating financing on short term debt based financing - Prefering liquid, profitable and highly returnable economic sectors - Prefering SME which has low record of NPF and manageable - Fund in short term financing is bigger than short term deposit	- Cooperation, communication and sharing information - Maintaining sustainable payment on debt based financing contracts - Developing enterpreneurs from SME, tradable and profitable sectors - Business partner's selection and default policy
- Financing monitoring, evaluation, cooperation and coordination - Cooperating among Islamic banks for joint investment financing - Retaining profit and allocationg allowances for earning asset looses	***External Relation with Other Banks*** - Placement of fund directly & indirectly (securities, etc) - Cooperation through Islamic money market

Islamic Banking Instruments for Liquidity Risk Management
Cash Reserve
Placement in Bank Indonesia (Positive Bank's Account + SWBI)
Inter bank Asset
Islamic Money Market Instruments
Emergency Liquidity Facility

Source : Compiled from various sources.

Glossary of Arabic Words

***Mudarabah* :** A form of partnership where one party provides the funds while the other provides expertise and management. The latter is referred to as the Mudarib. Any profits accrued are shared between the two parties on a pre-agreed basis, while loss is borne by the provider(s) of the capital.

Murabahah : Literally it means a sale on mutually agreed profit. Technically, it is a contract of sale in which the seller declares his cost and the profit. As a financing technique, it can involve a request by the client to the bank to purchase a certain item for him. The bank does that for a definite profit over the cost which is stipulated in advance.

Musharakah : Musharakah means a relationship established under a contract by the mutual consent of the parties for sharing of profits and losses in the joint business. It is an agreement under which the Islamic bank provides funds which are mixed with the funds of the business enterprise and others. All providers of capital are entitled to participate in management, but not necessarily required to do so. The profit is distributed among the partners in pre-agreed ratios, while the loss is borne by every partner strictly in proportion to respective capital contributions.

Qard (Loan of fungible objects) : The literal meaning of Qard is ‘to cut’. It is so called because the property is really cut off when it is given to the borrower. Legally, Qard means to give anything having value in the ownership of the other by way of virtue so that the latter could avail of the same for his benefit with the condition that same or similar amount of that thing would be paid back on demand or at the settled time. It is that loan which a person gives to another as a help, charity or advance for a certain time. The repayment of loan is obligatory.

Bay Salam : *Salam* means a contract in which advance payment is made for goods to be delivered later on. The seller undertakes to supply some specific goods to the buyer at a future date in exchange of an advance price fully paid at the time of contract. It is necessary that the quality of the commodity intended to be purchased is fully specified leaving no ambiguity leading to dispute. Bay *Salam* covers almost everything which is capable of being definitely described as to quantity, quality and workmanship.

Bay Istishna : It is a contractual agreement for manufacturing goods and commodities, allowing cash payment in advance and future delivery or a future payment and future delivery. A manufacturer or builder agrees to produce or build a well described good or building at a given price on a given date in the future. Price can be paid in installments, step by step as agreed between the parties. Istishna can be used for providing the facility of financing the manufacture or construction of houses, plants, projects, and building of bridges, roads and highways.

Ijarah : Letting on lease. Sale of a definite usufruct of any asset in exchange of definite reward. It refers to a contract of land leased at a fixed rent payable in cash and also to a mode of financing adopted by Islamic banks. It is an arrangement under which the Islamic banks lease equipments, buildings or other facilities to a client, against an agreed rental.

Kafalah (Suretyship) : Literally, Kafalah means responsibility, amenability or suretyship, Legally in Kafalah a third party become surety for the payment of debt. It is a pledge given to a creditor that the debtor will pay the debt, fine etc. Suretyship in Islamic law is the creation of an additional liability with regard to the claim, not to the debt or the assumption only of a liability and not of the debt.

Hiwalah : Literally, it means transfer; legally, it is an agreement by which a debtor is freed from a debt by another becoming responsible for it, or the transfer of a claim of a debt by shifting the responsibility from one person to another – contract of assignment of debt. It also refers to the document by which the transfer takes place.

Ijarah Muntahia Bittamleek : A mode of financing, by way of Hire-purchase, adopted by Islamic banks. It is a contract under which the Islamic bank finances equipment, building or other facilities for the client against an agreed rental together with a unilateral undertaking by the bank or the client that at the end of the lease period, the ownership in the asset would be transferred to the lessee.

Wakalah : A contract of agency in which one person appoints someone else to perform a certain task on his behalf, usually against a certain fee.