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Lender of Last Resort in Islamic Banking

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Background

The recent economic and financial crisis has highlighted the need for a well-designed financial safety net comprising a number of crisis prevention strategies as part of a comprehensive regulatory and supervisory framework to ensure the soundness and stability of the financial system. The lender of last resort (LOLR) is one such preventive strategy. LOLR is taken to mean the *discretionary* provision of liquidity to a financial institution (or the market as a whole) by the central bank in reaction to an adverse shock that has caused an abnormal increase in demand for liquidity which cannot be met from an alternative source (Freixas et al., 1999).

The principle of LOLR can be traced back to the work of Walter Bagehot (1873), who suggested that in time of crisis, the central bank should lend without restrictions, at a high rate of interest relative to the pre-crisis period or penalty rate, to any bank, on the basis of collateral that is marketable in the ordinary course of business when there is no panic. In general, this principle is still well recognised in today's financial environment, although it has come under some criticism by scholars. In practice, however, the nature of the liquidity problem may be associated with various circumstances that would require a more sensible approach and, to a certain degree, a customised solution from the central bank in the provision of LOLR facilities.¹

In fact, the characteristic nature of banking operations fundamentally makes banks more susceptible to the liquidity problem. This is because a bank's assets are dominated by illiquid (long-term) receivables, while its liabilities predominantly comprise liquid (short-term) deposits. This condition potentially creates a liquidity problem if depositors unexpectedly withdraw their deposits (known as a bank run), leaving the bank in a condition of insolvency. In such difficult circumstances, a bank may request emergency liquidity from the central bank, which is usually assigned as the lender of last resort.

Chapra (1983) suggests that Islamic banks should also have such liquidity support. This emergency liquidity should take into account Islamic banks' vulnerability to unscheduled

¹ The central bank may, for example, structure a different scheme of LOLR for different stages or scale of financial crisis, taking into consideration various aspects such as the potential for moral hazard, information asymmetry and market coordination problems, as well as stance of monetary policy within its operations.

withdrawals as well as systemic liquidity crunches. Similar with conventional banks, the unavailability of emergency liquidity may potentially change liquidity pressure in Islamic banks into a solvency problem unless the banks sell their assets with a substantial haircut on their price. Without an LOLR facility, Islamic banks are even more vulnerable to liquidity problems, and thus to a banking crisis, since they often have a shallow interbank market and limited liquidity instruments.² Hence, a report from the IDB-IFSB Taskforce on Islamic Finance and Global Financial Stability (2010) has acknowledged the LOLR facility as an important element for the liquidity management of Islamic financial institutions.³

This paper addresses several issues related to the provision of LOLR, and examines the regulatory framework of LOLR for Islamic banking in Indonesia. The last part of the paper identifies further considerations that need to be addressed in order to develop a more effective framework for the LOLR.

The concept and implementation of LOLR

Causes of a liquidity run

The literature on bank runs identifies as one of their main causes the failure of coordination among related parties such as depositors, banks, regulators, market players and business partners. A run occurs when individual depositors withdraw their money all at the same time, out of fear that, if they delay, the bank will not have enough funds to cover their withdrawals; this “run” on the bank is usually caused by fear among depositors. Further, Morris and Shin (1999) extends the bank run concept to borrower and creditor relationships, and have demonstrated that with asymmetric information, uncertainties in the soundness of a borrower can trigger early liquidation of loan by lenders, because each lender has different beliefs. Doubt in one lender can be followed by doubt in others, and it therefore becomes optimal for lenders to withdraw early.

However, not all depositors have access to signals of a problem from their bank. This is especially true for small and common depositors, who generally do not have enough incentive to monitor their bank, especially as their funds are protected by deposit insurance. Only in the rare situation where widespread doubt arises over the banking system's ability to withstand a systemic crisis might this group of depositors make a run on their money in a concerted manner. Accordingly, Freixas et al. (1999) affirmed that, in practice, wholesale depositors were often the source of a liquidity run on an individual

² A 2008 IFSB survey confirmed the inadequate availability of *Shari'ah*-compliant financial instruments, which forces Islamic banks to hold a significant amount of excess reserves in order to manage liquidity.

³ The report suggests that there are three major elements or building blocks required in addressing liquidity management issues: (i) a comprehensive, cross-sectoral prudential standards and supervisory framework; (ii) a robust national and international liquidity infrastructure; and (iii) a financial safety net mechanism, all of which need to be compatible with *Shari'ah* principles.

bank. They also argued that, given the nature of the deposit contract together with the absence of complete information on the asset side of the bank, a bank could experience a liquidity run.

Other than the "classic" type of liquidity run, the recent financial crisis shows that a run can be started not only by depositors but also by investors causing liquidity disruption in the financial market – for example, if wholesale investors all withheld their credit at the same time. As the market ceases to function, banks and the holders of assets traded in the financial market need to write off the value of their assets using mark to market accounting rules. As a result, this increases their leverage and makes them more risky to their counterparties. Finally, they cannot continue doing business and are forced to fire-sale their assets in order to honour their liabilities.

Basic mechanism of LOLR

Both the "classic" and other type of liquidity run highlight the need for a LOLR facility. In general, there are two types of last resort facilities: temporary capital injection and collateralised lending. An emergency capital injection will expose the central bank to all the risks of the bank, while collateralised lending is perhaps less risky to the central bank as the loan is backed by good collateral (normally, central bank or government paper, valued at a high rate relative to the pre-crisis period). In such lending, the central bank can manage its risk through various measures – for example, by limiting the proportion of loan to value, levelling of the haircut of the collateral and maximising the amount of loan, in addition to establishing collateral eligibility and solvency criteria. In an extremely stressed condition, though, these parameters may need to be relaxed to avoid a time-consistency problem in the implementation of a last resort policy or regulation.

Nevertheless, in practice, the risks associated with providing a last resort facility may not be avoided at all. The central bank often has only a very short time to decide whether to extend a loan to an illiquid but solvent bank. A loan provided to an insolvent bank will incur a financial loss to the central bank. Moreover, in the case of a systemic liquidity run, the potential losses from providing the last resort facility may be significant, given that the central bank may not be in a position to independently absorb that risk due to its budget limitations.

In such an exceptional case, the central bank may ask for assistance from the government's guarantee scheme. The rationale for this form of joint crisis management is the high cost to society of a systemic bank failure. For example, a systemic bank failure may result in a cutback in the supply of credit, which may be the only source of funds for small firms and households – that is, the vast majority of society.

Regulatory issues in the provision of LOLR

A regulatory approach that is perhaps relevant in limiting the possibility of bank runs due to incomplete information is to require increased disclosure of the quality of a bank's assets. Fund owners would then be expected to have a better appreciation of banks' risks so that they will behave rationally in their investment decisions. However, this solution may not be effective if the investment decisions of the owners of the funds are driven by the "herd" (that is, other investors), or if they are overly reliant upon the ratings of certain assets without fully acknowledging their inherent risks. Furthermore, the effectiveness of such an increased level of disclosure may be limited by the increasing complexity of banks' financial transactions. Under such conditions, asymmetric information continues to exist and the owners of funds are even more motivated to protect their investment, potentially leading to a bank run.

The provision of the last resort facility can be perceived as a form of guarantee to banks that may result in banks being less concerned about the level of risk of their activities. In practice, such a moral hazard may be mitigated if the central bank intentionally maintains a degree of uncertainty about which banks will qualify for the support and which will be allowed to fail. To some extent, this practice – known as "constructive ambiguity" – does not appear to work, as market players believe that certain systemic banks will receive central bank support if they encounter difficulties. Yet, in practice, the concept of a "systemic bank" is context dependent, as size is not the only determinant of whether or not a bank is "systemic"; that is, medium-sized banks may also be granted liquidity support.

In order to limit the potential for moral hazard in a bail-out, additional supervisory and regulatory measures are needed. As a general rule, the central bank's supervisory actions should extend to all potentially systemic banks and not only to certain large banks. Nevertheless, extra ex-post monitoring of banks that have received liquidity support is very important. Furthermore, prompt corrective measures should be taken to limit the potential loss, such as penalising the bank's management and shareholders, as well as clearing the exit strategy for the central bank as the last resort provider.

From the banking perspective, the mechanism for the last resort facility has another problem. Particularly during periods of less favourable market conditions, banks applying for the liquidity support facility are usually perceived as having financial difficulties even when they do not. This "stigma" problem consequently makes banks reluctant to use this emergency facility from the central bank, which then hinders the taking of prompt corrective measures that would otherwise prevent the situation worsening. However, some recent innovations from the central banks may avoid this problem – for example, auctioning the (last resort) funds and providing a discount window (Tucker, 2009). These innovations require a wider range of collateral, not only the most liquid one (that is, the

central bank or government securities). In essence, these facilities allow a number of banks to borrow at the same time, not only banks with a potential liquidity problem, and thus may limit the stigma problem.

Islamic perspectives on LOLR

One of the important roles of the state in Islam is to work towards securing the public interest and promoting the general (including material) welfare of society. In implementing this role, government intervention may in certain cases be inevitable, although in general Islam does not prescribe anything like a state with huge control over or intervention in the private sector, other than taking control or intervening to preserve the basic needs of society.

This important role can also be seen as a function of *Bait al-Māl (Baitulmāl)*, or the house of wealth – in this case, the state. This function has been around since the era of Rasullullah SAW, when Muslims were the recipients of large amounts of treasure handed out to them in the mosque by the Prophet, who had asked for guidance in the matter from God. From this history, it appears that the Prophet had used the mosque as the state treasury office (Al-Bukhari and Muslim).

From the Islamic perspective, pertaining to this role as a representative of the state, the central bank has at least three main tasks, namely: (i) maintaining the stability of money; (ii) fostering economic growth with full employment; and (iii) distributing justice. With regards to banking activities, the central bank is responsible for the robust performance of the state's banking operations, part of which involves anticipating banks' liquidity problems requiring the LOLR facility.

Referring to the *Sharī'ah* concept, LOLR connotes with the central bank guarantee (*Kafālah*) to Islamic banks under liquidity distress, where central banks provide liquidity with certain collateral.

Qur'ān Surah Yusuf (12:72) says that:

"They said: We have lost the king's cup, and he who bringeth it shall have a camel-load, and I (said Joseph) am answerable for it."

And Surah Al-Mā'idah (5:2) says that:

"...Help not one another unto sin and transgression, but keep your duty to Allah..."

Hadiths state that:

"Rasulullah SAW bought food using debt from a Jew, and the Prophet mortgaged an armor to him" (Hadith from Al-Bukhari and Muslim from Aishah).

The Prophet Muhammad SAW said: “*Debt must be accomplished and those who bear it have to pay for it*” (Hadith from Abu Daud and Tarmidhi and confirmed by Ibnu Hibban).

The guarantee itself is not in the form of eliminating banks' liquidity risk, but rather lies in helping banks to fulfil their obligation to the third party when there is an unexpected liquidity mismatch. As such, LOLR from the central bank is not intended to cover banks for risk arising from natural business operations. Rather, it is a facility for banks that face liquidity distress due to depositors' unscheduled liquidity withdrawals. Hence, LOLR can hopefully maintain the continuity of Islamic banking operations. Yet, due care is needed to assure the diminution of moral hazard arising from the nature of insurance that is inherent to the LOLR.

LOLR in the Indonesian Islamic banking industry

Bank Indonesia is of the view that liquidity management should cater to the interrelated dimensions of monetary operations, financial stability (through the banking industry) and the resilience of banks, in order to achieve an efficient allocation of capital in the economy. Most importantly, adequate liquidity in the market will ensure that price movements are smooth, which is necessary for the conduct of monetary operations. It will also create confidence among market participants, which is important if banks are to meet their needs – that is, to pay any obligations without upsetting their capital. Therefore, any bank, including an Islamic bank, should have access to the central bank's liquidity facilities, including its last resort facility.

The Indonesian Islamic banking industry, which consists of 11 full-fledged banks and 23 business units of conventional banks, is valued at IDR123.4 trillion (USD13.8 billion). However, the financial market for liquidity is not yet effective, as the interbank market is still relatively small, with an average daily volume of only IDR154 billion (USD17.2 million). Hence, in managing their liquidity needs, Islamic banks rely on the Bank Indonesia certificate and overnight facility, which currently stands at IDR8.4 trillion (USD938 million), or on the government (*Ijārah*) *Sukūk*, which is valued at IDR1.7 trillion (USD190 million).

Islamic banks, particularly the full-fledged banks, can also obtain financing from Bank Indonesia through a short-term *Sharī`ah* financing facility called FPJPS. FPJPS is based on a *Muḍārabah* contract and is typically a last resort facility, where an Islamic bank may obtain short-term financing against collateral. The return of this financing is tied to the *Muḍārabah* deposit rate of the receiving bank, so that the bank has a better expectation of the cost of the facility. FPJPS can also be guaranteed with high-quality and liquid

collaterals. Depending on the level of liquidity distress, the type of collateral eligible for this facility may include Bank Indonesia certificates, sovereign bonds or *Sukūk*, high-quality corporate bonds or *Sukūk*, and financing by a high-quality bank. The term of the facility can also be extended from 14 days up to 90 days in situations where there is the risk of a broader financial crisis, to avoid a rollover risk that could affect a bank's efforts to maintain liquidity without endangering its capital.

Based on Bank Indonesia regulation No. 11/24/PBI/2009, the receiving bank should be solvent, or, in a situation potentially leading to a systemic crisis, having a positive capital adequacy ratio. Also, based on Bank Indonesia estimates, the receiving banks would not be able to fulfil their reserve requirement for the next 14 days. The receiving banks should also be able to provide a valid action plan for resolving their liquidity problem not more than five days after the facility disbursement, and will be required to provide a daily report on the use of the facility and its liquidity condition.

In certain liquidity crises, a failing Islamic bank which could potentially endanger the banking system is also eligible to receive an emergency facility. This emergency loan will be provided by Bank Indonesia but will be guaranteed by the government through the issuance of a sovereign bond/*Sukūk*.

Improving the LOLR framework for Islamic banks: Indonesia's perspective

The risk of the financial system becoming unstable following the failure of banks impacts on the functioning of the financial system and imposes substantial costs on society. Even the central bank or supervisory authority, despite its role as the regulatory and supervisory provider to the banking system, cannot guarantee that a particular bank will be immune to liquidity problems. Therefore, it is important to develop an effective arrangement of the LOLR that not only limits the inherent risk of the facility, but also minimises the distortion of market signals. Moreover, it is important to maintain market discipline and to minimise the disruption to the financial system.

The features of such last resort arrangements may be different in a country with predominantly a large banking system, compared to one where the financial markets are dominant. Yet, in principle, such facilities can be given only with proper collateral or with adequate disincentives to the bank's management or shareholders to limit their moral hazard. One feature of LOLR that needs to be preserved is the notion of ambiguity over whether a bank may receive the emergency facility. This feature is important for at least two reasons. First, it reduces the moral hazard problem of a bank assuming that it will be

protected from its risk exposures.⁴ And second, it may help to reduce the potential for the contagion effect, since none of the market participants has any exact expectation about which banks will experience a liquidity problem and receive LOLR. Nevertheless, Freixas et al. (1999) have suggested that for constructive ambiguity to be effective in reducing moral hazard, a procedure should exist for penalising the managers and shareholders of the failed banks.

A different last resort feature can also be arranged for a different level of liquidity problem. For anything from a normal to a potentially more severe liquidity crisis, collateralised lending or repo of the eligible securities are the most preferred options. However, for a severe or systemic liquidity crisis, an emergency loan or the temporary placement of capital are the most suitable options.

As noted above, an emergency loan requires a government guarantee or even the government budget to fund such a loan, which can have a broader impact on fiscal policy and macroeconomic conditions. In this case, an effective crisis management framework should include a clear distribution of power among the relevant authorities. It is also important that the authorities involved in this coordinated crisis management establish certain protocols for information exchange and criteria for the provision of LOLR support. It is worth noting that in developing such criteria, a certain degree of flexibility in determining the proper LOLR support has to be considered, especially in an exceptional stress situation, as in the very short term it would be difficult to ascertain that the target bank is indeed a solvent bank but facing liquidity difficulties. In this regard, certain criteria for LOLR may be relaxed⁵ – for example, the maximum limit and tenure of an emergency loan may be extended, or the range of eligible collaterals may be expanded to help the bank withstand a potentially longer period of limited trade in the financial market.

The impact of a systemic financial crisis may be extended to the non-financial sector, such as in the form of a cutback in the loan supply. As many companies lose access to regular financing, the level of loan default may increase, which in turn may escalate the severity of the crisis to the financial system. Therefore, further consideration of whether to make fiscal or other related incentives available to the private sector may be necessary in order to improve the crisis management protocol. Moreover, the experience of the recent financial crisis, which saw the slow recovery of the banking system spur negative sentiment from the public when bail-outs poured large sums of taxpayers'

⁴ Such ambiguity would also prevent the subsidy effect of the risk-taking capacity of large banks relative to their small competitors becoming material, which may reduce the efficiency of the financial market.

⁵ Freixas et al. (1999) also discuss the decision not to charge a "penalty rate" for emergency lending, which it is thought may exacerbate the crisis and give managers an incentive to pursue higher risk (and thus reward) as an exit strategy (gamble for resurrection).

money into the system,⁶ has also motivated discussion on the importance of having a "fair" crisis management framework so as to maintain public confidence in the financial system. In this regard, further consideration may be given to the involvement of public representatives – that is, the parliament – in certain parts of the crisis management framework.

Designing such a crisis management framework for the Islamic banking industry would require further consideration with regard to compliance with *Sharī'ah* principles. The development of an adequate range of tools and instruments and emergency financing operations should be consistent with the core objectives and principles of *Sharī'ah*, both in form and in economic substance. Furthermore, there should be no doubts created about the *Sharī'ah* fulfilment of the mechanism and the structure, because this could damage the reputation of the Islamic banking industry. In particular, it may connote the Islamic banking industry mimicking the conventional banking mechanism/products.

Particular consideration also needs to be given to the effectiveness of liquidity arrangements that are available to the industry. As noted above, Islamic banks are more vulnerable to the liquidity problem due to, among other reasons, the limited use of liquidity management instruments. Therefore, one of the key strategies for addressing this issue is to introduce more *Sharī'ah*-compliant money market instruments that broadly serve the liquidity needs of banks as well as meet the monetary and LOLR operation needs of the central bank.

In this regard, Bank Indonesia is considering the introduction of a repo-type instrument as one avenue for increasing liquidity in the market. Among the distinctive features of such an instrument are its short-term flexibility, particularly when compared to the medium to long-term nature of *Muḍārabah*-based instruments, and the utilisation of market-based pricing (of the underlying securities) rather than the use of a central bank-defined price for lending.

Another necessary feature of a money market instrument to better serve those purposes is tradability across different markets, not limited to the domestic Islamic money market. Such a feature is important, as in general the number of players in the Islamic money market is limited and they may not be able to efficiently establish a scale of transactions that assures continuous availability of liquidity in the market. In this regard, the central bank may consider the recent initiative of the International Islamic Liquidity Management Corporation (IILM) to develop a liquidity *Sukūk* that can be traded across borders by both Islamic banks and conventional banks. From the perspective of an LOLR provider,

⁶ The feasibility of reducing the size or complexity of systemic banks to reduce their tendency to require a costly bail-out, or of tightening the regulatory and supervisory conduct of systemic banks by introducing a systemic tax, are among the issues that are currently being discussed.

this particular *Sukūk* may potentially reduce the tendency of banks to ask for last resort support, as its cross-border feature will provide an alternative line for liquidity not impacted by idiosyncratic shock in the domestic market.

Nevertheless, a more fundamental solution – that is, an approach to improve the liquidity risk management of the bank – should also be part of the strategy. There are at least four alternative solutions: (i) institutional deepening – meaning to deepen public understanding of the operations of Islamic banks; (ii) restructuring liquidity management on both the asset and liability sides – for example, matching the tenor of the deposits on the liability side and financing on the asset side; (iii) implementing a profit-sharing scheme both on the asset and liability sides; and (iv) revitalising the liquid instruments by utilising a variety of *Sukūk* instruments (short- and long-term tenor).

A successful institutional deepening will drive depositors and investors to behave Islamically, continuously monitoring and evaluating their investment as the consequence of a profit-sharing scheme. Furthermore, as investment account holders develop a better appreciation of the risks of their fund, they are expected to behave rationally (as opposed to panicking) during periods of financial difficulty. Improved monitoring by the fund owner also means a reduced incentive for banks to engage in excessive risk-taking behaviour, thus further reducing the need for LOLR provision.

A factor underlying the strategy for improving the crisis management framework for Islamic banks is the need to break the transmission of banks' failure at various layers of the system so as to limit their systemic consequences. An important part of this chain of control is to have a protection mechanism from the banking system itself, which expectedly should reduce the potential for the moral hazard problem from banks.

Moreover, as discussed earlier, banks may have a coordination problem that can lead an otherwise non-systemic liquidity problem to become a systemic liquidity crisis. This coordination problem can be partly mitigated by concerted support of liquidity provision from private lenders (mainly banks) to maintain confidence in the money market, while simultaneously protecting them from losing their money with the problem bank or with other banks that may potentially be affected if the liquidity problem becomes systemic. One way to create this typically *Takāful* mechanism is by forming a systemic risk fund, with banks that are considered systemic as the main contributors. This fund needs to be coordinated by the central bank, as contributing banks normally do not want to hold securities until maturity for the purpose of maintaining market stability, and as the central bank has power that may be required to instill a cooperative attitude between banks that otherwise are competitors.

Conclusion

The central bank or supervisory authorities, despite their strong regulatory and supervisory provision to the banking system, cannot guarantee that any particular bank will be saved from the liquidity problem. Therefore, it is important to develop an effective arrangement of the LOLR that not only limits the inherent risk of the facility, but also minimises the distortion to the market signals as this may otherwise spur the moral hazard problems inherent in such a guarantee scheme. It is also important to maintain minimum disruption to the financial system. In any particular situation, the central bank or supervisory authority should not take full charge of the LOLR role; rather, a broader crisis management protocol should be developed with the government.

In terms of the LOLR framework for Islamic banking, it should not be substantially different from the LOLR for conventional banks. An Islamic bank may ask for a *Sharī'ah*-compliant collateralised loan facility, as well as a *Sharī'ah*-compliant emergency loan, or even a capital injection from a provider of LOLR, though technically a *Sharī'ah*-compliant LOLR would have specific features pertinent to the Islamic contract, or *`Aqd*. As Islamic finance continues to become an integral part of the global financial system, it is essential to have an integrated initiative for both conventional and Islamic finance that includes, among other initiatives, the development of a more effective LOLR and crisis management framework.

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