



ISLAMIC FINANCIAL SERVICES BOARD

EXPOSURE DRAFT-12

GUIDING PRINCIPLES ON LIQUIDITY RISK MANAGEMENT FOR INSTITUTIONS OFFERING ISLAMIC FINANCIAL SERVICES [EXCLUDING ISLAMIC INSURANCE (*TAKĀFUL*) INSTITUTIONS AND ISLAMIC COLLECTIVE INVESTMENT SCHEMES]

*Comments on this Exposure Draft should be sent
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12 October 2011

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ACRONYMS

ALCO	Assets and Liabilities Committee
ALM	Asset–liability management
BCBS	Basel Committee on Banking Supervision
BOD	Board of directors
CFP	Contingency funding plan
CMT	Commodity <i>Murābahah</i> transactions
CRO	Chief risk officer
ERM	Enterprise risk management
FTP	Fund transfer pricing
GN	Guidance Note
HLTF	High-Level Task Force
IAH	Investment account holders
IDB	Islamic Development Bank
IFSB	Islamic Financial Services Board
IFSI	Islamic financial services industry
IIFS	Institution(s) offering Islamic financial services (excluding for these Guiding Principles Islamic insurance/ <i>Takāful</i> institutions and Islamic collective investment schemes)
IILM	International Islamic Liquidity Management Corporation
IMB	<i>Ijārah Muntahia Bittamlik</i> (also known as <i>Ijārah wa Iqtina</i>)
IRR	Investment risk reserve
IRTI	Islamic Research & Training Institute
LOLR	Lender of last resort
MIS	Management information system
PER	Profit equalisation reserve
PSIA	Profit-sharing investment account
RIAH	Restricted investment account holders
SPV	Special purpose vehicle
SSB	<i>Shari`ah</i> supervisory board
UIAH	Unrestricted investment account holders

SECTION I: BACKGROUND AND INTRODUCTION

1.1 Background, Purpose and Objectives

1. Due to the importance of a sound liquidity risk management framework for any well-functioning institution offering Islamic financial services (IIFS), this subject has been addressed in a number of previous Islamic Financial Services Board (IFSB) publications¹ and initiatives.² Owing to various constraints on liquidity risk management by IIFS³ in different jurisdictions, IIFS have often found management of liquidity risk a very challenging part of their operations. These challenges can be observed at all tiers of the liquidity risk management framework of an IIFS – institutional, interbank and central bank levels. Accordingly, the potential for cross-border management of liquidity risk by IIFS is even further muted.

2. The global financial crisis, which later transformed into a broad-ranged economic crisis, impacted a large number of financial institutions in both developed and developing economies. Whereas IIFS were largely spared the initial impacts of the financial crisis due to, among other things, a ban on investments in excessively leveraged financial products and *Riba*-based equity investments in the form of shares, subsequent tightening of liquidity and credit in the global financial markets adversely impacted a large number of financial institutions, including IIFS. Owing to the growing market share of IIFS in many jurisdictions and their potential significance for systemic soundness and stability of the overall financial system, the need for a robust liquidity risk management framework for IIFS cannot be overemphasised. This phenomenon has led to the growing systemic relevance of IIFS, and to their increasing interaction with other important financial institutions in their jurisdictions.

3. Keeping in view the significance of this subject, the Council of the IFSB, in its 15th meeting in Kuala Lumpur, approved the establishment of a working group to develop a set of *Guiding Principles on Liquidity Risk Management for IIFS* (hereinafter collectively referred to as the “Guiding Principles”). This set of Guiding Principles is intended to provide guidance to IIFS in a number of key areas in their management of liquidity risk, and to facilitate the supervisory authorities’ assessment of the adequacy of IIFS’ liquidity risk management framework and levels of liquidity within their constituency.

4. These Guiding Principles endeavour to provide a set of principles for the robust management of liquidity risk by IIFS and its vigorous supervision and monitoring by the supervisory authorities, taking into consideration the specificities of the IIFS and complementing relevant existing and emerging international best practices. This document sets out 22 guiding principles in the area of liquidity risk management for IIFS (excluding (a) Islamic insurance (*Takāful*) institutions, and (b) Islamic collective investment schemes). In addition to highlighting necessary conditions for effective liquidity risk management in the IIFS, this document provides principles for liquidity risk management by the IIFS as well as principles for related monitoring and supervision by the supervisory authorities.

¹ These publications include IFSB-1: Guiding Principles of Risk Management, issued in December 2005, IFSB-IRTI-IDB: Islamic Financial Services Industry Development: Ten-year Framework and Strategies issued in May 2007, TN-1: Issues in Strengthening the Liquidity Management of IIFS: The Development of Islamic Money Markets, issued in March 2008 and IFSB-IRTI-IDB: Report on Islamic Finance and Global Financial Stability, issued in April 2010. See Section 1.4 for further details.

² Among others, a major initiative by the IFSB Council was the establishment of a High-Level Task Force on Liquidity Management (HLTF) in March 2009, which was the driving force in the setting up of the International Islamic Liquidity Management Corporation (IILM) in November 2010. The IILM will issue high-quality benchmark inter-governmental *Sukūk* that can be traded globally and bring about regional and global integration of Islamic money and capital markets in sovereign issues.

³ These constraints include, *inter alia*: scarcity of *Shari'ah*-compliant instruments; lack of active money market activity in these instruments; insufficient *Shari'ah*-compliant mechanisms to mitigate liquidity risk management; insufficient tools available to supervisory authorities for providing liquidity support to IIFS in normal and stressed market conditions; exclusion of IIFS in open market operations for meeting monetary policy objectives, etc.

1.2 Scope and Application of the Standard

5. This set of Guiding Principles is primarily intended to serve banking institutions offering Islamic financial services. These IIFS include, but are not limited to: fully fledged Islamic commercial banks; Islamic investment banks/companies; Islamic banking subsidiaries of conventional banks; Islamic banking branches/divisions/units of conventional banks (hereinafter collectively referred to as “Islamic windows”⁴); Islamic finance houses; and other fund-mobilising institutions as determined by the respective supervisory authorities.

6. The Guiding Principles are prepared in line with the objectives of the IFSB, which are to:
- i. promote the development of a prudent and transparent Islamic financial services industry (IFSI) through introducing new, or adapting existing, international standards consistent with *Shari’ah* principles, and recommending these for adoption; and
 - ii. provide guidance on the effective supervision and regulation of institutions offering Islamic financial products and to develop for the IFSI the criteria for identifying, measuring, managing and disclosing risks.

Consequently, the Guiding Principles will not try to “reinvent the wheel”, but will endeavour to complement and reinforce the existing internationally recognised standards and best practices for liquidity risk management, while addressing the specificities of the IIFS.

7. The IFSB makes a full acknowledgement of the international efforts to make regulatory reforms at a broader level, including the major areas of concern such as capital adequacy and liquidity risk. This set of guiding principles complements various international publications related to liquidity risk management – many of which were revised following the financial crisis – issued by, *inter alia*, the Basel Committee on Banking Supervision (BCBS), the Committee for European Banking Supervisors (CEBS) and the International Organization of Securities Commissions (IOSCO). Most importantly, the initiative by the BCBS to develop two international liquidity standards as part of global regulatory toolkit is a significant development in this respect. The IFSB is working on the preparation of a separate Guidance Note on quantitative tools for the measurement and monitoring of liquidity risk in IIFS, in line with industry practices and other global initiatives, including the Basel III liquidity standards.

8. The IFSB recognises that the specific risk management practices of IIFS may vary in nature and scope depending on the institution size, the products offered and the regulatory environment. Since the financial crisis, a number of IIFS have already made improvements in the liquidity risk management framework of their institutions.⁵ Nonetheless, IIFS are expected to make a thorough evaluation of their liquidity risk management practices based on the Guiding Principles, and to make changes/improvements where required. The regulatory/supervisory authorities are also expected to review their current related regulations and guidelines for IIFS, if any, in the light of the principles delineated in these Guiding Principles.

9. IIFS also need to recognise that, like other areas of risk management, liquidity risk and asset–liability management (ALM) should be integrated with their enterprise risk management (ERM) systems and overall stress testing frameworks. For this purpose, IIFS will be expected to implement enhanced data management processes which can provide accurate risk intelligence to senior management and various business units across the IIFS. As a part of the ERM framework, the interaction of liquidity risk with other types of risks should be monitored by the IIFS, while providing a real-time reporting capability to various stakeholders. Further, relevant personnel in various business units that have the potential for generating liquidity exposure for an IIFS should be fully aware of the consequential impact of their business decisions on the institution’s liquidity.

⁴ IFSB-5 defined “Islamic windows” as part of a conventional financial institution (which may be a branch or dedicated unit of that institution) that provides fund management (investment accounts) as well as financing and investment that are *Shari’ah* compliant. Thus, these windows are potentially self-contained in terms of *Shari’ah*-compliant financial intermediation, as the funds generated are invested in *Shari’ah*-compliant assets.

⁵ An IFSB survey conducted during the preparation of this standard identified that more than 60% of the IIFS have made a number of changes in their liquidity risk management strategy in the last three years, including: diversification of funding sources; more active involvement of executive management; review of exposure limits for interbank transactions; increasing liquidity buffer, etc.

1.3 Implementation Timeline

10. Supervisory authorities are expected to start implementation of these Guiding Principles in their jurisdictions from 2013, taking into account an adequate period for the Guiding Principles to be transformed into national supervisory regulations and guidelines for IIFS, as well as to be incorporated into their own processes of supervising and monitoring these institutions. Such implementation should be undertaken in compliance with *Shari`ah* and within the legal and regulatory framework applicable in the jurisdiction.

1.4 Previous IFSB Publications and Initiatives

11. IFSB-1 (*Guiding Principles of Risk Management for IIFS*), issued in December 2005, provided a set of guidelines and best practices for establishing and implementing effective risk management in IIFS. This standard identified liquidity risk as one of the six important risks being faced by the IIFS and has outlined two principles in this respect. It has also included guidance for supervisory authorities in order to ascertain that IIFS in their jurisdiction have adequate liquidity policies, systems and controls in place to manage their liquidity risks. Simultaneously, it has emphasised the role of supervisory authorities in providing lender of last resort (LOLR) facilities to IIFS on a *Shari`ah*-compatible basis.

12. The IFSB, in collaboration with the Islamic Development Bank (IDB) and Islamic Research & Training Institute (IRTI), published “Islamic Financial Services Industry Development: Ten-Year Framework and Strategies” in May 2007 (hereinafter “the Framework”). The Framework had the aim of supporting the national supervisory authorities in designing IFSI development initiatives and integrating these into their national financial sector development policies. The Framework – which has separately addressed issues related to banks, non-bank financial institutions, micro-finance institutions, *Takāful* institutions, Islamic capital markets and Islamic financial architecture – notes that the Islamic banking segment urgently requires *Shari`ah*-compliant instruments to meet a number of pressing needs, including the short-term placement of funds and managing liquidity and asset–liability mismatches; financial risk management and hedging; resource mobilisation at a competitive cost; and balance sheet management through securitisation. The Framework suggests that IIFS should invest more in their research and development activities in order to introduce new *Shari`ah*-compliant instruments. The Framework also outlines the need for the development of a well-functioning Islamic money market. It suggests replicating the success of asset-based securitisation transactions in the conventional capital market to structure more innovative tradable and liquid short-term Islamic financial instruments for the purpose of monetary operations of central banks/monetary authorities, as well as for the liquidity management of IIFS.

13. In March 2008 the IFSB also issued a Technical Note on *Issues in Strengthening the Liquidity Management of IIFS: The Development of Islamic Money Markets* (TN-1). *Inter alia*, TN-1 identified and highlighted key issues in strengthening liquidity management by IIFS in a dual banking system, including the practices of central banks in conducting monetary operations with IIFS, and in supporting money market liquidity for both IIFS and conventional banks. TN-1 also outlined several critical areas for development and proposed a comprehensive strategy for the development of Islamic money and government securities markets as the foundation for the broader development of Islamic financial markets.

14. In October 2008, the IDB formed a Joint IFSB-IRTI-IDB Task Force on Islamic Finance and Global Financial Stability to examine the key elements in Islamic finance that contribute to its viability and resilience, and to review the advancement of the IFSI in the face of the challenges of the current global environment. The Task Force produced the *Report on Islamic Finance and Global Financial Stability* in April 2010, recommending eight important building blocks to further strengthen the foundations of the Islamic financial system. Three major elements or building blocks identified, *inter alia*, in this report relate to the development of prudential standards and a supervisory framework for IIFS, addressing related liquidity management issues. These building blocks are:

- i) developing a set of comprehensive, cross-sectoral prudential standards and a supervisory framework covering Islamic banking, *Takāful* and the capital market, which take into account the specificities of IIFS;

- ii) enhancing the financial resilience and stability of the IFSI by the development of a robust national and international liquidity infrastructure, which encompasses the potential for monetary policy and money market operations; and
- iii) strengthening the financial safety net mechanism, namely LOLR facilities and emergency financing mechanisms as well as deposit insurance, all of which need to be compatible with *Sharī'ah* principles.

15. In March 2009, the IFSB set up a High-Level Task Force on Liquidity Management (HLTF). The work of the HLTF builds on one of the key recommendations made in TN-1 – namely, that country experiences should be reviewed, and action plans for implementing a money market development strategy in individual countries should be developed. One of the identified issues is the unavailability of sufficient securitizable assets for regular benchmark issues which constrains effective liquidity management by the IIFS. Therefore, the HLTF developed a proposal for international and regional cooperation in acquiring a large pool of securitizable assets as the basis for issuing high-quality benchmark inter-governmental *Sukūk* that can be traded globally and bring about regional and global integration of Islamic money and capital markets in sovereign issues. After a series of meetings, a number of central banks/monetary authorities and multilateral development banks agreed to establish the International Islamic Liquidity Management Corporation (IILM) in October 2010. The IILM will endeavour to achieve the following objectives: (a) facilitate cross-border liquidity management among the IIFS by making available a variety of *Sharī'ah*-compliant instruments to suit the varying liquidity needs of IIFS; and (b) foster regional and international cooperation in order to build a robust liquidity management infrastructure at the national, regional and international levels.

16. The IILM will procure *Sharī'ah*-compliant assets or property from members and create a pool to facilitate the issuance of *Sukūk* or other *Sharī'ah*-compliant financial instruments. This pool of assets or property will be used by IILM to issue high-quality *Sukūk* or other *Sharī'ah*-compliant financial instruments that will not only facilitate liquidity management by the IIFS but also complement national-level monetary and public debt management. Further, availability of such instruments will spur the establishment of vibrant local and cross-border Islamic money markets.

SECTION II: LIQUIDITY RISK AND NECESSARY CONDITIONS FOR ITS EFFECTIVE MANAGEMENT IN THE IFSI

2.1 Liquidity Risk and Liquidity Risk Management

17. Liquidity risk is the potential loss to IIFS arising from their inability either to meet their obligations or to fund increases in assets as they fall due without incurring unacceptable costs or losses.⁶ Liquidity risk can be categorised into two major types: funding and market liquidity risk. Funding liquidity risk is the risk that an IIFS will not be able to meet efficiently both its expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the IIFS. Market liquidity risk is the risk that an IIFS cannot easily offset or eliminate a position at the market price because of inadequate market depth or market disruption.⁷

18. Liquidity risk can arise due to funding or market risk, or various factors arising due to a combination of these risks, which might be linked to changes in institutional or systemic behaviour. An IIFS may face funding liquidity risk due to unexpected withdrawals or transfers of funds by its investment account holders (IAH) and depositors for several reasons, including reduced creditworthiness, displaced commercial risk, *Sharī'ah* non-compliance risk or reputational risk. On the assets side, an IIFS may face funding strain due to problems in its financing and investment portfolio – for example, a fall in value of marketable assets held for trading or in the banking book, lack of liquid markets for holdings of *Sukūk*⁸ and other *Sharī'ah*-compliant instruments, the impairment of Islamic financing assets due to the financial distress of customers, and large drawdowns under committed line-of-credit agreements. An IIFS may also face increased liquidity risk due to operational and information system failures of counterparties, or because of problems in a payment and settlement system resulting in late payment or non-payment of funds due.

19. Bearing in mind the strong interactions between funding and market liquidity risk, these Guiding Principles provide various insights into both funding and market liquidity risk in IIFS and their correlations. The Guiding Principles also elaborate the role of supervisory authorities in providing a necessary framework and complementing it with regulatory guidelines for enhancing market liquidity for IIFS. In order to meet the shortfall in funding liquidity, an IIFS can opt to sell its assets in the Islamic money market. In this way, funding liquidity risk is mitigated through raising cash by the selling of assets. Insufficient market depth – due to the lack of an adequate number of players, as well as the insufficient quantity and volume of instruments in the market – can make it difficult for an IIFS to generate cash by selling assets, thus contributing to an increased funding liquidity risk. In stressed conditions, deterioration in market liquidity may either impact the liquidity of a particular type of instrument or affect a wide range of assets in the market.

20. All other risks of an IIFS culminate in liquidity stress before ultimately resulting in insolvency. An IIFS could fail if its cash inflows from new investment accounts and deposits, repayment of financing, sale of assets and mobilisation of new funds are unable to meet its cash outflow obligations such as mandatory cash reserves, investment account and deposit withdrawals, operating expenses and payments to creditors. From a funding liquidity risk perspective, two main sources of generating the funds available to conventional banks are not applicable to the IIFS. An IIFS cannot take an interest-based loan from the interbank market or other sources and, in most jurisdictions is not allowed to sell its debt, other than at its face value. Shortage or unavailability of *Sharī'ah*-compliant securities in many jurisdictions adds to these problems, compelling IIFS to maintain a higher level of cash and non-earning liquid assets than conventional institutions. These factors affect the performance and competitiveness of IIFS vis-à-vis conventional financial institutions in several jurisdictions.

⁶ See IFSB-1, paragraph 81.

⁷ *BCBS Principles for Sound Liquidity Risk Management and Supervision*, footnote 2.

⁸ *Sharī'ah*-compliant instruments and *Sukūk* have been used interchangeably in the Standard.

2.2 Necessary Conditions for Effective Liquidity Risk Management in the IFSI

21. The term “liquidity infrastructure” refers to a set of key institutional and operational arrangements which in any jurisdiction can provide a facilitating environment to financial institutions in that jurisdiction for managing their liquidity in normal and stressed times, as well as supporting market liquidity in the system. The components of a balanced liquidity infrastructure are largely institutional in nature. These infrastructure elements may or may not be within the scope of the authority of the supervisory authority. Nevertheless, supervisory authorities should communicate to the relevant state authorities and institutions the actual and potential negative repercussions of not providing a facilitating atmosphere to IIFS for managing their liquidity in an effective and competitive manner and thus ensuring the soundness and stability of IFSI as well as of the financial sector as a whole. Supervisory authorities may also liaise with relevant state authorities and institutions by providing the necessary technical support and assisting in finding appropriate solutions for IFSI.

22. The existence of a robust liquidity risk management infrastructure for IIFS is increasingly viewed as an essential component of both Islamic financial market development and overall financial system stability. The liquidity infrastructure for IIFS is composed of a number of elements, as follows:

- i) a system of business laws, including securities, capital market, trust, public debt, contract, bankruptcy and asset recovery laws;
- ii) adequate macroprudential surveillance in order to monitor the impact of potential macroeconomic shocks on financial soundness, and to adjust macro and financial policies as and when required;
- iii) a secure and efficient payment and clearing system;
- iv) a regime for timely and relevant information disclosures to various stakeholders of IIFS – including IAH – in order to ensure transparency and effective market discipline;
- v) a broad framework governing applicable Islamic financial transactions, including appropriate governance in place to ensure compliance with *Sharī`ah* rules and principles;⁹
- vi) a well-functioning Islamic money market and a sufficient number of *Sharī`ah*-compliant instruments, players and channels;
- vii) a carefully designed mechanism for providing an appropriate level of systemic protection – that is, a public safety net;
- viii) the availability of monetary policy instruments and mechanisms in compliance with *Sharī`ah* rules and principles;
- ix) a vibrant and well-managed exchange and securities market in *Sharī`ah*-compliant government and corporate instruments;
- x) a framework for dealing with insolvency by IIFS, and associated rules, rights and obligations for recovery of financing and that of parties to the transaction, including investors, financiers, shareholders and depositors;
- xi) the availability of suitable Islamic benchmarks for transacting and pricing the financial products offered by IIFS on the basis of various *Sharī`ah*-compliant modes of financing and investment;
- xii) application of internationally recognised accounting and auditing standards to facilitate accuracy, reliability, timeliness and comparability of the information disclosed by financial institutions; and
- xiii) the availability of external credit assessment institutions and other information intermediaries (investment advisers, investment research firms, credit bureaus, financial journalists, etc.) to facilitate effective disclosures and enhance market discipline.

23. IIFS, like their conventional counterparts, are involved in maturity transformation by accepting short-term deposits and investment accounts and providing financing mainly on a medium- to long-term basis. This maturity transformation process entails a number of risks for an IIFS, including liquidity risk. Commonly, major risks faced by conventional financial institutions are managed through instruments that offer opportunities to hedge and transfer the risk, financial markets that make available other

⁹ See IFSB-5, paragraph 21.

counterparties for funding positions for desired maturities, and an enabling payment and settlement system that provides a platform for clearance and processing of payments across the financial institutions. There are a number of shortcomings faced by the IFSI in terms of various components of a liquidity infrastructure for IIFS, as described earlier. In many jurisdictions, there is a shortage or unavailability of a supporting liquidity infrastructure in terms of market players, *Shari`ah*-compliant instruments and associated interbank, money and secondary markets. Likewise, conditions may not exist for ensuring the effectiveness of a *Shari`ah*-compliant LOLR facility and *Shari`ah*-compliant deposit insurance. In addition, there is typically a lack of a well-functioning insolvency regime for IIFS.

24. The availability of the infrastructure elements at the jurisdiction level (as mentioned in paragraph 22) not only provides a level playing field for IIFS – making them more sound, competitive and in tune with the international legal and regulatory environment – but also fosters avenues for international cooperation and the expansion of IIFS. It will also help IIFS to reduce their cost of intermediation, enhance the level of liquidity in the system, and improve their profitability by removing obstacles to the effective management of liquidity risk and the deployment of liquid funds in the market. From a macroprudential stability viewpoint, these necessary building blocks will enhance the ability of an IIFS to meet expected and unexpected cash-flow obligations, thus reducing the possibility of liquidity shortfalls and systemic contagion across the financial markets.

LIST OF GENERAL AND GUIDING PRINCIPLES FOR THE IIFS

General

Principle 1: An IIFS should have in place a sound and comprehensive liquidity risk management framework, integrated into its enterprise risk process, in order to maintain sufficient liquidity to meet its daily funding needs and to cover both expected and unexpected deviations from normal operations for a reasonable time. The IIFS should have an appropriate governance process, including board and senior management oversight, in order to identify, measure, monitor, report and control the liquidity risk in compliance with *Shari`ah* rules and principles and within the context of available *Shari`ah*-compliant instruments and markets. Supervisory authorities should have a rigorous process for evaluating the liquidity risk management position and framework of IIFS and requiring prompt corrective action in case of any deficiency.

Role of the Board of Directors

Principle 2: The Board of Directors (BOD) has the ultimate responsibility for setting the level of liquidity risk to be incurred (the liquidity risk tolerance) and the liquidity risk management framework of the IIFS. Therefore, it should establish a level of liquidity risk tolerance for the IIFS commensurate with its ability to have sufficient recourse to *Shari`ah*-compliant funds in order to mitigate this risk. In line with the stated risk tolerance, the BOD should establish, approve and review from time to time the liquidity risk management strategy and significant policies, taking into consideration the IIFS's business model, legal structure, complexity, key lines of business and regulatory environment.

Governance Structure and the Role of Senior Management

Principle 3: The governance structure of the IIFS should outline the roles and responsibilities of senior management, the *Shari`ah* Supervisory Board, as well as various functional and business units, including that of the risk management department, with appropriate segregation between operational and monitoring functions. The senior management of the IIFS has responsibility for executing the liquidity risk management strategy and policies approved by the BOD in an integrated manner, while ensuring that liquidity is effectively managed on a regular and timely basis and that appropriate policies and procedures are established to limit and control material sources of liquidity risk.

Identification of Liquidity Risk

Principle 4: An IIFS should be able to identify all sources of primary and secondary risks – whether idiosyncratic or market-wide – that can lead to and interact with its liquidity risk. In particular, the IIFS should be able to model the contractual as well as the behavioural profiles of its investment account holders (IAH) – especially unrestricted IAH – current and savings account holders and other fund providers, in normal and stressed market conditions. In doing so, the IIFS should take account of the effects of any smoothing practices it has adopted in making profit payouts to its IAH, and its possible access to *Shari`ah*-compliant deposit insurance.

Implications of Islamic Financing Contracts and the Interactions of Liquidity Risk with Other Risks

Principle 5: The IIFS should ensure that liquidity risk management practices are incorporated within a firm-wide, integrated enterprise risk management framework that fully takes into account the interactions between liquidity risk and other risks, including market, credit and operational risk, displaced commercial risk, reputational and *Shari`ah* non-compliance risk. This framework should also address liquidity risk arising from various *Shari`ah*-compliant financial contracts, either directly due to the nature of the contract or indirectly as a consequence of other risks at any stage during the period of the contract.

Measurement of Liquidity Risk

Principle 6: An IIFS should be able to measure and forecast its prospective cash flows arising from on- and off-balance sheet positions over a variety of appropriate time horizons in different currencies and market conditions, using suitable metrics and methodologies including deterministic, behavioural and statistical modelling, where appropriate. The results of these calculations, along with suitable stress testing and scenarios analysis, should provide a basis for setting thresholds and limits, as well as for making any adjustments in the liquidity risk management strategy, policies and procedures.

Control and Mitigation of Liquidity Risk

Principle 7: An IIFS should ensure that it has a well-diversified funding base that is commensurate with the nature and size of its business, products offered and market environment. Such diversification should address potential concentrations by providers of liquidity (retail or wholesale), funding types (secured or unsecured), maturity profile, currencies and geographical locations. The IIFS should test, on a regular basis, its ability to raise funds from each funding source, and make appropriate adjustments in its diversification strategies in anticipation of changes in its internal and external environment. The potential funding base may include, where appropriate, *Sharī'ah*-compliant securitisation.

Principle 8: If an IIFS is part of a financial group (e.g. a fully fledged Islamic bank or Islamic investment bank) or part of a conventional bank (e.g. an Islamic window operation) which has a centralised structure for managing liquidity risk, the board and senior management at the group/parent level should prepare a strategy, policies and procedures for the Islamic operations taking into account the position of such operations within the overall group/parent, with due consideration to the mutual independencies and constraints in transfers of liquidity on a *Sharī'ah*-compliant basis between the group entities.

Principle 9: An IIFS should maintain a liquidity buffer, composed of cash and other highly liquid *Sharī'ah*-compliant assets, in order to withstand a prolonged period of potential stress conditions. There should be minimal legal, regulatory or operational obstacles to the sale or pledge of such assets in order to generate funding in a variety of market stress situations. The magnitude and composition of these assets should be in line with the IIFS's risk tolerance, decided by its BOD, and its liquidity requirements as estimated by its stress testing exercises.

Principle 10: All IIFS, regardless of their nature and complexity, should have a contingency funding plan that delineates the action plan and procedures for dealing with liquidity stress events. Such a plan should be prepared with input from all relevant functions of the IIFS, while carefully incorporating the results from stress tests, including scenario analyses. The plan should establish a clear designation of roles and responsibilities and backup of key functions, with a suitable internal and external communication plan addressing various stages of stress events. The plan should include regular monitoring of related triggers, with appropriate escalation procedures. It should be reviewed as the business and market environment changes.

Principle 11: An IIFS should be able to identify its needs for *Sharī'ah*-compliant collateral over different time horizons, and should address the *Sharī'ah*, legal and operational constraints in the use of such collateral. The IIFS should actively manage its collateral positions while differentiating between encumbered and unencumbered assets, and its information system should be able to identify available unencumbered collateral by type, currency and location, in both normal and stressed times.

Principle 12: With due attention to the lack of well-developed Islamic interbank markets for effective liquidity risk management in a number of jurisdictions, IIFS should closely cooperate among themselves in order to develop *Sharī'ah*-compliant arrangements, solutions and trading mechanisms for liquidity management purposes. Such collaboration may involve Islamic banking industry associations in the jurisdiction. These and other arrangements may be supported by the supervisory authorities in order to provide a robust platform and harmonised agreements for active trading between the IIFS, with availability of market makers in various trading instruments and mechanisms.

Principle 13: Irrespective of whether an IIFS uses a net or a gross payment and settlement system, it should be able to manage short-term (overnight and intraday) liquidity in order to meet on a timely basis its payment and settlement obligations in all circumstances. In view of the interdependencies and interconnectedness between payment and settlement systems, an IIFS should ensure that its critical payments are always made on a timely basis in order to avoid any potential systemic disruptions which could prevent the smooth functioning of other payment systems and money markets.

Foreign Exchange Liquidity Risk

Principle 14: An IIFS should have a measurement, monitoring and control mechanism for liquidity positions in each currency with a significant exposure. An IIFS should assess, monitor and, where appropriate, limit the size of its cash-flow mismatches over particular time horizons for foreign currencies in aggregate and for each significant individual currency in which it operates, especially with respect to its domestic currency (or, where different, its functional currency). The IIFS should employ appropriate stress tests and make use of *Shar`ah*-compliant hedging strategies for limit setting and controlling currency risk. The IIFS should especially limit its exposures in currencies that are not highly liquid or have low convertibility.

Reporting and Disclosure of Liquidity Risk

Principle 15: An IIFS should have a fully integrated information system, commensurate with its nature, size and complexity of operations, that provides clear, timely and accurate liquidity risk reports to its relevant functional units and senior management. The information system should, at suitable intervals, present to senior management and the BOD a clear understanding of the IIFS's liquidity risk exposures, its compliance with established policies and limits, as well as the appropriateness of management strategies with respect to approved risk tolerance. The IIFS should make appropriate disclosures of qualitative and quantitative information about its liquidity position and liquidity risk management practices through suitable channels.

LIST OF GUIDING PRINCIPLES FOR SUPERVISORY AUTHORITIES

Responsibility for Supervision of Liquidity Risk Management and Liquidity Position

Principle 16: Supervisory authorities should make a regular evaluation of the overall liquidity positions and the liquidity risk management framework of an IIFS so as to ensure that it maintains an adequate level of liquidity at all times, and can withstand a period of liquidity stress. As a part of supervisory assessment, special emphasis should be given to the application of appropriate stress tests, the composition and robustness of liquidity buffers, and the effectiveness of contingency funding plans.

Supervision of Liquidity Risk in those IIFS that are Part of a Financial Group or the Islamic Operations of a Conventional Bank

Principle 17: In cases where fully fledged Islamic banks are part of a financial group, or where a conventional bank offers Islamic operations through Islamic windows, supervisory authorities should fully evaluate the liquidity risk management framework at both the group/parent level and Islamic entity level. The supervisory authorities should ensure that there is sufficient liquidity at both the levels to meet the funding needs during normal and stressed times. Supervisory authorities should also ensure that risk of liquidity and reputational contagion from Islamic to other operations, or vice versa, has been properly considered and suitably mitigated.

Need for Supervisory Regulations for IIFS with respect to Liquidity Risk Management

Principle 18: Supervisory authorities should develop regulations and guidelines for management of liquidity risk by IIFS, taking into account their specificities related to funding structure, financing and investment products, access to *Shar`ah*-compliant securities, as well as the stage of development of the Islamic money market in their jurisdiction. Supervisory authorities should provide maximum clarity of their roles as provider of liquidity support, in compliance with the *Shar`ah*, in both normal and stressed times, simultaneously seeking to harmonise and expand the eligibility of *Shar`ah*-compliant collateral for providing such liquidity support to IIFS.

Compilation of Information from the IIFS and Corrective Action in Case of Need

Principle 19: Supervisory authorities should require the IIFS to submit precise and timely qualitative and quantitative information to evaluate the liquidity risk profile and framework adopted by the IIFS in their jurisdiction. If the supervisory authority becomes aware of any major shortcomings in the liquidity position or liquidity risk management framework of an IIFS, it should require the IIFS to take timely corrective action to address the detected problems. Supervisory authorities should make use of other tools at their disposal, with appropriate escalation procedures, for ensuring that suitable corrective action is taken by the IIFS.

Home-Host and Cross-Sector Supervision of Liquidity Risk in IIFS

Principle 20: For IIFS having cross-border operations, home and host supervisory authorities should collaborate and communicate their assessments of the consolidated liquidity position and the framework for managing liquidity risk by the respective entities. Through mutual cooperation, home and host supervisory authorities should take measures which can protect their financial systems against any liquidity contagion due to idiosyncratic or market-wide stress situations. Supervisory authorities within a jurisdiction that monitor different business lines of IIFS should also take steps for coordinated supervision and information sharing on the liquidity positions and levels of risk of these entities.

Supervisors' Contingency Planning for the IIFS

Principle 21: Supervisory authorities should have a plan for identifying and dealing with liquidity stress in the IIFS sector as a part of their macroprudential liquidity contingency framework for the financial sector. Such a framework should be supported by macro-level stress testing by the supervisory authorities, taking into consideration the balance sheet exposures submitted by IIFS as well as other relevant macroeconomic, geographic and political factors.

Supervisors' Role in the Development of Infrastructure for Liquidity Risk Management

Principle 22: In order to provide a conducive environment for liquidity risk management by the IIFS, supervisory authorities should work closely with other relevant official or public sector bodies (e.g. the finance ministry and the deposit insurance provider) to facilitate the issuance of *Sharī`ah*-compliant instruments/*Sukūk* by the government and the provision of *Sharī`ah*-compliant deposit insurance. Supervisory authorities, together with other relevant bodies, should facilitate the availability of market makers in *Sharī`ah*-compliant instruments/*Sukūk* in their jurisdictions so as to develop secondary markets in such instruments and to increase market liquidity.

SECTION III: EXPLANATION OF GENERAL AND GUIDING PRINCIPLES FOR THE IIFS

3.1 General

Principle 1

An IIFS should have in place a sound and comprehensive liquidity risk management framework, integrated into its enterprise risk process, in order to maintain sufficient liquidity to meet its daily funding needs and to cover both expected and unexpected deviations from normal operations for a reasonable time. The IIFS should have an appropriate governance process, including board and senior management oversight, in order to identify, measure, monitor, report and control the liquidity risk in compliance with *Shari`ah* rules and principles and within the context of available *Shari`ah*-compliant instruments and markets. Supervisory authorities should have a rigorous process for evaluating the liquidity risk management position and framework of IIFS and requiring prompt corrective action in case of any deficiency.

25. An IIFS should have a sound and comprehensive liquidity risk management framework as a part of its enterprise risk process. The main objective of this framework should be to maintain sufficient liquidity to meet its regular funding requirements and payment obligations in the normal course of business, and to help it withstand a reasonable period of liquidity stress based on its liquidity tolerance level. The liquidity risk management process of an IIFS should involve adequate tools to identify, measure, monitor, report and control the liquidity risk in compliance with *Shari`ah* rules and principles, including a plan to meet contingency funding requirements and setting of limits on the basis of robust stress testing and scenario analysis.

26. The ultimate responsibility for providing a comprehensive liquidity risk management framework, and for monitoring the level of liquidity risk maintained by the IIFS, lies with its board of directors¹⁰ (the board). This framework should include strategy and significant policies for management of liquidity risk by the IIFS, keeping in view the nature and size of its operations, business model, funding profile, mix of *Shari`ah*-compliant financing and investment products, availability of *Shari`ah*-compliant liquidity instruments and mechanisms in the jurisdiction, and liquidity support available from supervisory authorities¹¹ on a *Shari`ah*-compliant basis. Senior management is responsible for executing and implementing the board-approved strategy and policies for managing the liquidity risk, for having a clear view of all sources and linkages of liquidity risks by taking a holistic approach to risk management, and for laying down the procedures and processes for continuous monitoring of liquidity risk and reporting to the board.

¹⁰ The term “board of directors” has been used in these Guiding Principles not to identify a legal construct but rather to label a top decision-making function within an IIFS (or other entity). In a single-tier system, such as those in most IFSB member countries, the “board of directors” includes both non-executive and executive directors, and plays the role of a monitoring and supervisory organ assisted by certain key committees with the non-executive directors representing shareholders and other outside interests, and the executive directors heading at least some of the top executive functions. In jurisdictions that adopt a two-tier system, this system comprises a “supervisory board” and a “management (or executive) board”. In the latter system, the “supervisory board” includes only non-executive directors, and is charged with the monitoring and supervision of the “management (or executive) board”. The “management (or executive) board”, on the other hand, includes the members of senior management heading the top executive functions, being charged with the management of the entity, and being accountable to the “supervisory board”. Another main difference between the single and dual systems is that in the former, executive management powers are delegated by the “board of directors” and can theoretically be changed at any time, whereas the powers of the “management (or executive) board” in a dual system are mostly vested by law and cannot be reduced even by a shareholders’ resolution on amendments to the Articles.

References to the “board of directors” in these Guiding Principles are to be understood as designating the *body* that is charged with the top executive functions in the entity, namely the BOD in a single-tier system and the management or (executive) board in a dual-tier system. References to “senior management” designate the heads of the main executive functions in the entity in their functional capacities, rather than as members of a top executive body.

¹¹ The term “supervisory authority” in these Guiding Principles has been used in a general sense to refer to the institution which is responsible for supervising the operations of IIFS in that jurisdiction. In this context, this term may refer to the central bank, monetary authority, financial supervisor, Ministry of Finance or other overseer of the operations of the IIFS in a jurisdiction – depending on the structure of the financial supervisory system in the relevant jurisdiction.

27. The strategy and policies of an IIFS for liquidity risk management should explicitly incorporate both normal and stressed times. In the case of a liquidity stress – whether idiosyncratic or market-wide – an IIFS may face problems in obtaining medium- to long-term funding due to loss of confidence by the market players and other fund providers. In addition, time horizons of current financing may shorten because payment obligations will fall due earlier than the historical practice. In such times, *Shari'ah*-compliant instruments held by an IIFS, which are already facing the problem of low market depth, may become non-saleable. Therefore, the board should clearly set out in its liquidity risk management framework the degree of reliance on the IIFS's liquidity buffer and committed lines of financing,¹² fully reflecting the trade-off between cost and resilience to liquidity stress.

28. IIFS should be aware that liquidity risk management is to be considered as a cost centre and not a profit centre, as attempts to make profits from the liquidity management function is likely to distract it from its essential role of managing liquidity risk. The BOD should clearly distinguish between service (or cost) centres and profit centres while formulating the policies of liquidity risk management in the IIFS. Further, liquidity risk management strategy and policies should cover the short-term and long-term liquidity needs of the IIFS, as well as off-balance sheet and contingent liquidity risks. IIFS should perform an impact analysis on management and mitigation of liquidity risks arising from new business initiatives and product approvals. This analysis should be performed by competent professionals from the relevant departments and functions. The IIFS should have comprehensive and appropriate internal controls and internal audit mechanisms, in order to evaluate and test the adequacy of controls in the liquidity risk management framework. Since most of the activities performed by various functions of the IIFS can have an impact on its liquidity risk and level of liquidity, liquidity risk management strategy and policies should be communicated throughout the institution. The senior management should ensure that all such functions and business units are operating under the approved policies, procedures and limits.

29. The objective of monitoring and supervision of liquidity risk in the IIFS should be to minimise the incidence and magnitude of liquidity problems in the IIFS. As with other major risks, the supervisory authorities should give due importance to assessing the liquidity risk of the IIFS. This assessment process should address the peculiarities of the IIFS with regard to distinct balance sheet structure and *Shari'ah*-compliant investment instruments. Supervisory authorities should make a regular assessment of the liquidity positions and liquidity risk management framework of the IIFS in order to minimise the possibility of an IIFS's failure and the contagion impact on other institutions in the financial system. As a result of such assessment, supervisory authorities should evaluate whether each IIFS has sufficient liquidity to withstand the various stages of liquidity stress, as discussed in paragraph 83, and seek corresponding and timely corrective action in the case of any deficiency. Supervisory authorities should also provide greater clarity of their roles as provider of *Shari'ah*-compliant liquidity support and LOLR facility to the IIFS. For providing such support, supervisory authorities should seek to harmonise and expand the eligibility of *Shari'ah*-compliant collateral issued in other jurisdictions and currencies. Supervisory authorities should also work closely with other relevant authorities within and outside the jurisdiction that are supervising the various business lines/legal entities of the IIFS with respect to the liquidity risk assessment and the planning of coordinated supervision. Such collaboration will help to safeguard liquidity and reputational contagion across entities and facilitate timely corrective action by the respective supervisory authority.

3.2 Role of the Board of Directors

Principle 2

The Board of Directors (BOD) has the ultimate responsibility for setting the level of liquidity risk to be incurred (the liquidity risk tolerance) and the liquidity risk management framework of the IIFS. Therefore, it should establish a level of liquidity risk tolerance for the IIFS commensurate with its ability to have sufficient recourse to *Shari'ah*-compliant funds in order to mitigate this risk. In line with the stated risk tolerance, the BOD should establish, approve and review from time to time the

¹² In a severe liquidity stress situation, committed lines of financing or other contingent funding facilities can practically become unavailable. Therefore, the board should use a conservative estimate of any possible access to such funding in stressed market conditions.

liquidity risk management strategy and significant policies, taking into consideration the IIFS's business model, legal structure, complexity, key lines of business and regulatory environment.

30. The ultimate responsibility for liquidity risk management oversight lies with the BOD of an IIFS. The board should approve an IIFS's liquidity risk management strategy and broad policies while balancing the trade-off between profit and risk. While formulating the strategy and significant policies, the board should translate the IIFS's overall risk appetite into a clear set of risk tolerance¹³ for liquidity risk, looking from the perspective of ERM. Such a strategy and policies should take into account the IIFS's business model, legal structure, complexity of products and operations, key lines of business and regulatory environment. The board should ensure that the IIFS's risk tolerance is transformed into actionable elements, reflecting its potential response to a range of plausible events. The board should ensure that liquidity risk tolerance is communicated to all levels of management so that it is taken into account in the various processes of the institution – product approval, documentation, execution and subsequent monitoring. The board should, on a regular basis, evaluate the relevance of the liquidity risk management strategy and policies based on current market conditions, ground realities and stakeholders' expectations while making appropriate changes at least on an annual basis. In the case of rapidly changing market conditions related to liquidity, the board may decide to make appropriate revisions more frequently. The strategy may comprise different high-level qualitative and quantitative standards and limits.

31. The board should establish lines of authority and responsibility for various board committees and senior management in order to manage liquidity risk in the IIFS. If the board delegates to certain board committees authority for approving various policies, procedures and limits, it should clearly set out the roles, functions and scope of work of those committees. The board should also ensure that senior management transforms board-approved strategies and policies into detailed and well-documented guidance, procedures and operating instructions which are properly aligned from risk and reward perspectives. The board should review the compensation structure of senior management to ensure ownership and alignment of risk in the IIFS's various activities. The board should also approve and review the IIFS's liquidity contingency funding plan (CFP) for handling institution-specific or market-wide liquidity stress to ensure that the IIFS continues to fund its important activities on a timely basis, without incurring unacceptable costs or losses.

32. The board should establish a mechanism for regular monitoring and detailed reporting of the liquidity risk profile of the IIFS. It should periodically review this information, and information on the IIFS's level of liquidity, in order to be able to provide strategic direction on a timely basis. The board should be informed about any major institutional- and market-level events that could impair the liquidity position of the IIFS. Institutional-level events may include deterioration in the value and marketability of liquid asset holdings, significant funding concentrations, the growing cost of funding, significant withdrawal of deposits and profit-sharing investment accounts (PSIA), an escalating funding gap, frequent and sizeable breaches of limits, cash-flow shortages, major losses in operational results, etc. Market-level events may include a rating downgrade, a significant breach in *Shari'ah* compliance pointed out by internal or external auditors which has the potential to transform into reputational risk, problems in liquidity or insolvency of a partner financial institution, the withdrawal of funding lines by any interbank partner, adverse changes in rules and regulations for accessing *Shari'ah*-compliant financing from supervisory authorities, general market disruption, etc. The board should ensure that timely remedial action is taken by senior management to address these issues and developments. The board should conduct self-assessment of its monitoring of liquidity risk and should be proactive in seeking additional detailed information from relevant bodies in case of need.

33. Improving the knowledge and expertise of the board members relating to liquidity risk management practices and evolving trends should be a priority for an IIFS. Without questioning the general acumen of many board members in IIFS with respect to financial knowledge, the board members

¹³ Risk tolerance is the extent to which an institution will be ready to accept risk in the pursuit of financial returns. The greater an institution's risk tolerance, the more risk it will accept in order to reach its target for financial reward from its operations.

should be able to comprehend, to a reasonable extent, the nature and complexities of liquidity risk management in the IIFS. The board members should be sufficiently risk literate and should be able to understand the risks inherent in *Shari`ah*-compliant financing and investment products.

3.3 Governance Structure and the Role of Senior Management

Principle 3

The governance structure of the IIFS should outline the roles and responsibilities of senior management, the *Shari`ah* Supervisory Board, as well as various functional and business units, including that of the risk management department, with appropriate segregation between operational and monitoring functions. The senior management of the IIFS has responsibility for executing the liquidity risk management strategy and policies approved by the BOD in an integrated manner, while ensuring that liquidity is effectively managed on a regular and timely basis and that appropriate policies and procedures are established to limit and control material sources of liquidity risk.

34. Similar to other constituents of risk management, an IIFS should have a governance structure in place outlining the roles and responsibilities of senior management, as well as of various functional and business units, for executing the strategy and policies approved by the board in an effective manner. The structure should ensure ongoing and active involvement of senior management in order to effectively manage liquidity on a regular and timely basis. Depending on the size and nature of operations of an IIFS, key management committees which might be involved in monitoring and managing liquidity risk in an IIFS include the Assets and Liabilities Committee (ALCO), the Executive Risk Committee and/or the Risk Management Committee, etc. Nevertheless, this set of Guiding Principles acknowledges the “no one size fits all” approach for various management structures approved by the relevant board, which might suit the objectives, business plan, nature and size of an IIFS’s operations.

35. The ALCO or any other committee assigned to monitor an IIFS’s liquidity risk should actively monitor its liquidity risk profile and should have adequate broad representation within the institution, including finance, treasury, senior managers, credit, deposits and investments, financing and risk management. The board should define the mandate of this committee in terms of planning, directing and controlling the flow, level, mix, cost and yield of the IIFS’s funds and investments.

36. The committee members should ensure that the system set up for liquidity risk management is able to adequately identify and measure the risk exposure. The committee should also ensure that the IIFS has an information system which is sufficiently flexible and able to prepare and provide timely, accurate and relevant reports to senior management, the board and supervisory authorities about the institution’s liquidity risk exposure.

37. Senior management is responsible for determining the structure, responsibilities and controls for managing liquidity risk in the IIFS. These areas should be documented and elaborated in liquidity risk policies and manuals. Senior management should be able to respond to all the major related developments and report to the board, where applicable, in a timely manner. It is the responsibility of senior management to ensure that adequate internal controls and internal audit mechanisms are in place to protect the integrity of the established liquidity risk management process. The responsibility also lies with senior management to appoint skilled and capable personnel who understand the nature and peculiarities of *Shari`ah*-compliant contracts and instruments to handle the liquidity risk management and internal control functions.

38. Senior management should keep a constant eye on changes in market conditions and new developments that can present significant challenges in terms of the smooth management of liquidity risk in the IIFS. On the basis of these Guiding Principles, senior management should be able to recommend to the board any necessary amendments to the strategy and policies for managing liquidity risk. Market changes can impact on an IIFS’s strategy and policies at both the day-to-day (short-term) and strategic (long-term) level. Senior management should be especially vigilant in responding to changes that may affect the “strategic” liquidity risk management of the IIFS. The management structure of an IIFS should

be established in such a way that it provides for segregation of duties between operational and monitoring functions, which can minimise the chances of a conflict of interest.¹⁴ It is expected that the primary responsibility for monitoring liquidity risk management should be independent of business units that are involved in the financing, investment and trading functions.

39. Depending on the size, scope and structure of the IIFS, a centralised or decentralised liquidity risk management framework can be adopted at the institutional level.¹⁵ Whatever structure is used by the IIFS, senior management should make a study of any legal, regulatory, operational or *Sharī'ah* restrictions on the transfer of funds between various legal entities or jurisdictions. Senior management at the parent level should be able to monitor the liquidity risk and level of liquidity across various entities on an ongoing basis. Senior management of a conventional bank operating Islamic operations in the form of an Islamic window should be aware of the differences, complexities and constraints in managing liquidity in the Islamic operations vis-à-vis at the bank level. Similarly, in jurisdictions where the Islamic money market is not sufficiently developed due to the small number of players, the limited offerings of *Sharī'ah*-compliant instruments and the limited mechanisms for trading between IIFS, senior management should be able to assess the impact of such constraints on the operations and profitability of the IIFS. Senior management should work closely with the relevant functions and bodies responsible for managing liquidity risk in the IIFS, including the product development department and the *Sharī'ah* supervisory board (SSB), in order to find new avenues for better management of liquidity risk on a *Sharī'ah*-compliant basis. Senior management should also work jointly with the other IIFS in the jurisdiction and liaise with supervisory bodies for this purpose.

40. As elaborated in IFSB-10 (*Sharī'ah Governance Standard*), an IIFS needs to have a robust *Sharī'ah* governance system in order to ensure an effective independent oversight of *Sharī'ah* compliance over various structures and processes within the organisational framework. One of the major constituents of this framework is the SSB of an IIFS. Keeping in view a number of *Sharī'ah* issues that can be faced by an IIFS during structuring, offering and executing *Sharī'ah*-compliant liquidity risk management products and mechanisms, members of the SSB are required to take an active role. IFSB-10 highlights the role of the SSB in both *ex-ante* and *ex-post* *Sharī'ah* governance processes which includes, among others, close liaison between an IIFS's SSB and its internal *Sharī'ah* compliance department/unit, as well as the internal *Sharī'ah* review/audit function. Some areas related to the liquidity risk management framework of an IIFS where the SSB can play an important role include, but are not limited to: (i) approving new *Sharī'ah*-compliant liquidity risk management products and mechanisms,¹⁶ including *Sharī'ah*-compliant hedging products; (ii) ensuring proper execution of its approved products and mechanisms, in association with internal *Sharī'ah*-compliant and audit functions; (iii) verifying and controlling the commingling of funds between Islamic windows/branches/subsidiaries and parent conventional entities; and (iv) verifying and controlling the extent of an IIFS's investments with the conventional financial institutions on the basis of Commodity *Murābahah* transactions (CMT) or other structures.

41. Senior management should also make appropriate changes in the IIFS's hierarchy in order to strengthen the role of the risk management department and the chief risk officer (CRO), with the introduction of more-direct reporting lines, and greater importance and authority. The role of CRO should be strengthened in such a way that, in addition to monitoring, measuring and reporting risk, the CRO should have a say in challenging business decisions and managing risk more proactively. The opinion of the CRO should also be considered in performing transactions, evaluating counterparties and in other key risk-related decisions, with an appropriate escalation and resolution procedure involving members of

¹⁴ As explained earlier, in a single-tier board structure, there is a clear distinction between operational (executive directors and other members of senior management) and monitoring (non-executive directors) functions. In a two-tier structure, where the "management (or executive) board" performs the operational role and the "supervisory board" performs the monitoring role, then the top executives are members of the management board.

¹⁵ The IFSB survey found that an overwhelmingly 98% of IIFS have a centralised liquidity risk management structure. The remainder have a decentralised structure, or a combination of the two where business units or legal entities are responsible for their own liquidity, subject to limits imposed by senior management.

¹⁶ Such mechanisms may include *Sharī'ah*-compliant alternatives to repurchase (repo) or derivative transactions, etc.

senior management or the risk management committee. The CRO should also be considered for membership of various management committees of the IIFS.

3.4 Identification of Liquidity Risk

Principle 4

An IIFS should be able to identify all sources of primary and secondary risks – whether idiosyncratic or market-wide – that can lead to and interact with its liquidity risk. In particular, the IIFS should be able to model the contractual as well as the behavioural profiles of its investment account holders (IAH) – especially unrestricted IAH – current and savings account holders and other fund providers, in normal and stressed market conditions. In doing so, the IIFS should take account of the effects of any smoothing practices it has adopted in making profit payouts to its IAH, and its possible access to *Shari'ah*-compliant deposit insurance.

42. An IIFS should be able to identify the liquidity risk it is exposed to, in the short and long term, arising from institution-specific or market-wide events for all its operations including subsidiaries, branches, windows or similar arrangements. In the process of identification, the IIFS should identify and recognise each significant on- and off-balance sheet position that can have an impact on its liquidity in normal and stressed times and establish a range of metrics. The IIFS should consider the types of events that can expose it to liquidity risk. It should have a robust framework for projecting the contingent liabilities and other commitments, including calculating the impact of drawing on undrawn commitments. The identification process should consider the nature of exposure, the creditworthiness of the counterparty, correlations between the various business and geographical sectors, and the nature of the relationship with the counterparties. An IIFS should be able to identify incidents that can negatively influence its perception in the marketplace about creditworthiness and fulfilment of its obligations.

43. The IIFS should take into account that liquidity risk is often considered a subsequent or secondary risk arising out of credit, market or operational risk events. Therefore, liquidity risk may be understood from the perspective of a consequential risk. Liquidity risk can also arise due to failure or weaknesses in business decisions and corporate policies, including shortcomings in business strategy, modelling assumptions and the IIFS's communication in a period of stress. In the process of identification, the range of assumptions used in predicting the timing and volume of cash flows are also important. Incorrect judgement or a complacent attitude of the IIFS towards the timing and size of its cash inflows and outflows can impact the whole process of measurement, control and mitigation of liquidity risk.

44. IIFS offer various types of accounts for generating funds, including current accounts, saving accounts, unrestricted PSIA, restricted PSIA, etc. Recently, some IIFS have also started seeking funds on the basis of *Murabahah* accounts from their customers. IIFS should be able to model the contractual and behavioural profiles of these and other fund providers with respect to normal and disruptive market conditions, which can be impacted by its smoothing practices and possible access to *Shari'ah*-compliant deposit insurance.

45. Most IIFS offer unremunerated current accounts on the basis of *Qard*, because current account holders do not share the risk of their investment. The contractual counterpart for non-remuneration of such accounts lies in the fact that IIFS must guarantee the nominal amount of these accounts, and must pay back the full amount on demand. The IIFS needs to ensure the availability of sufficient funds as and when the demand arises.

46. For many IIFS, a major source for generating funds is PSIA, which may be unrestricted or restricted in nature. PSIA are mostly offered on the basis of *Mudharabah* or *Wakalah* contracts.¹⁷ In managing unrestricted PSIA, an IIFS has full discretion to utilise the funds for the provision of finance and/or investments, as unrestricted investment account holders (UIAH) provide funds without specifying any restrictions as to where, how or for what purpose the funds should be invested, provided that they are *Shari'ah* compliant. For restricted PSIA, on the other hand, the mandate is confined to financing and/or

¹⁷ A number of IIFS in some jurisdictions also offer PSIA on the basis of a *Musharakah* contract.

investment activities agreed between the IIFS and restricted investment account holders (RIAH) as to where, how and for what purpose the funds are to be invested.

47. For unrestricted PSIA, any losses generated from assets funded by these accounts should in principle be contractually borne by the UIAH and should not impact the IIFS's capital. Nevertheless, IIFS may be affected by runs or panic withdrawals of funds by UIAH, in the case of rate of return risk, *Shari'ah* non-compliance risk or reputational risk which may have an impact on the liquidity condition of the IIFS. In the case of early withdrawal, UIAH are commonly required to waive their share of the profit for the most recent period by using the principle of *Mubāra'at*. The short-term contractual nature of UIAH also exposes the IIFS to withdrawal or liquidity risk. As explained in detail in IFSB GN-3 (*Guidance Note on the Practice of Smoothing the Profits Payout to Investment Account Holders*, issued in December 2010), rate of return risk exposes the IIFS to withdrawal risk which, if unmitigated, can transform into a systemic liquidity crisis and hence be a cause for concern on the part of supervisory authorities. In such a case, many IIFS, to a greater or lesser extent, transfer the risk arising from assets managed on behalf of UIAH (and/or, more rarely, RIAH) to their own capital by using various smoothing techniques¹⁸ as outlined in GN-3. The availability of *Shari'ah*-compliant deposit insurance can also change the behavioural profile of IAH as it provides capital protection up to a certain amount.

48. The impact of these smoothing practices (especially the investment risk reserve, or IRR) and the availability of *Shari'ah*-compliant deposit insurance should be fully taken into consideration when analysing the risk profile of IAH.¹⁹ Though the IAH and depositors are influenced by the availability of *Shari'ah*-compliant deposit insurance in the jurisdiction, the nature and limits of coverage, as well as the perceived speed with which these are paid through this mechanism, have an effect on the "stickiness" of these customers. Stress testing, including scenario analysis, should be used to evaluate the impact of these two factors, separately and collectively, on the behaviour of IAH. The IIFS's own historical data may provide a good basis for performing an internal assessment of the expectations and incentives of IAH, in normal as well as stressed times. For restricted PSIA, IIFS normally make matching investments. However, in the case of a withdrawal, the IIFS may need to fund the gap for the intervening period until the investments are transferred into cash. If the withdrawals are more than expected, this might expose the IIFS to liquidity risk.

49. As a form of PSIA, most IIFS offer savings accounts on a *Muḍārabah* basis. In some jurisdictions, savings accounts comprise the largest share of many IIFS' funding sources. Savings accounts are mostly kept by the fund providers for safe-keeping purposes, with a low expectation of returns from the IIFS, if any. Nevertheless, if such accounts are offered on the same contractual terms as for PSIA, essentially they will have similar features to the PSIA, although the profit rate expected by savings account holders will be lower than that expected by the IAH.

50. Some IIFS have started offering accounts on the basis of reverse CMT. In such transactions, the customer first buys a commodity and sells it to the IIFS on a deferred payment basis at an agreed price with a profit margin. As the funds generated by an IIFS on the basis of CMT effectively require it to pay back the principle and agreed profit to the customer on maturity, the IIFS may be exposed to liquidity risk due to a variety of reasons. If CMT-based funds, which are usually short-term in nature, are used by the IIFS to finance long-term assets, a maturity-mismatch will result. Such a mismatch may become acute if

¹⁸ As elaborated in GN-3, four techniques are commonly used by IIFS for smoothing the profits payout to IAH: (i) an IIFS may forgo or give up part or all of the *Muḍārib* share of profit earned on UIAH funds; (ii) it may make a transfer from shareholders' current or retained profits to the UIAH on the basis of a *Hibah*; (iii) it may establish a reserve called a profit equalisation reserve (PER) by setting aside amounts from the investment profits before allocation between the shareholders and the UIAH and the calculation of the IIFS's *Muḍārib* share of profits; and (iv) it may also maintain a reserve called an investment risk reserve (IRR) by setting aside amounts from the investment profits attributable to the UIAH, after deducting the IIFS's *Muḍārib* share of profits. Only the IRR may be used to cover losses on the investments of UIAH funds, and it may not be used for any other purpose.

¹⁹ As highlighted in GN-3, the availability of *Shari'ah*-compliant deposit insurance and the need for an IRR are not mutually exclusive. The deposit insurance scheme may not cover 100% of the IAH investments, or there may be an upper limit to the cover. Further, an IRR will be used to cover the losses attributable to IAH in the normal course of business, whereas a *Shari'ah*-compliant deposit insurance scheme will usually be triggered in special circumstances, such as liquidation of the IIFS. This means an IRR can not be considered as an alternative to a *Shari'ah*-compliant deposit insurance scheme in the normal course of an IIFS's operations.

an IIFS has a high reliance on such deposits to fund its assets. CMT-based funds can also expose the bank to roll-over risk in stressed market conditions. If an IIFS relies on the roll-over or renewal of its CMT contracts with counterparties on maturity for continuous availability of funding, it can find the counterparties unwilling to renew such contracts in the case of market disruption. As *Sharī'ah* requires that roll-over or renewal of the contract can only be made after the initial contract has been terminated, in the case of stressed markets, as well as perceived or actual financial or reputational problems of the IIFS, counterparties will be less willing to hold their funds with the IIFS, resulting in liquidity shortages.

51. Due to the IIFS's dual role in meeting its obligations to current and *Murābahah* accounts and managing the expectations of its IAH, it is imperative that the IIFS performs liquidity cash-flow analysis periodically under various market conditions. The analysis should include assumptions about the repayment of invested funds to the IAH to the extent that the amount of capital erosion due to investment losses is sufficiently mitigated by IRR.

3.5 Implications of Islamic Financing Contracts and the Interactions of Liquidity Risk with Other Risks

Principle 5

The IIFS should ensure that liquidity risk management practices are incorporated within a firm-wide, integrated enterprise risk management framework that fully takes into account the interactions between liquidity risk and other risks, including market, credit and operational risk, displaced commercial risk, reputational and *Sharī'ah* non-compliance risk. This framework should also address liquidity risk arising from various *Sharī'ah*-compliant financial contracts, either directly due to the nature of the contract or indirectly as a consequence of other risks at any stage during the period of the contract.

52. In view of its critical importance to the viability of an IIFS, liquidity risk management should be integrated into a firm-wide, enterprise risk management framework. The ERM process of an IIFS should be designed to identify potential events that may affect the institution, to manage risk within risk tolerances set by the board, and to provide reasonable assurance regarding the achievement of the IIFS's objectives of growth, profitability and stability. By identifying and proactively addressing risks and opportunities, an IIFS can protect and create value for its stakeholders, including shareholders, investors, depositors, employees, customers, regulators, and society as a whole. The ERM framework of the IIFS should fully take into account the interactions between liquidity risk and other risks, including market, credit, operational, displaced commercial risk, and reputational and *Sharī'ah* non-compliance risk. An IIFS can take various steps to strengthen its integrated risk universe with respect to liquidity risk and other risks: coordination between heads of various risks at the operational level which can be extended to committees, to review all the aspects of new product or business proposals from a holistic point of view, participation of risk managers in liquidity crisis teams, integrated risk reporting for senior management and board committees, and considering the aforementioned risks in the stress testing exercise. The IIFS should develop and monitor limits in a way that the overall risk tolerance for products is represented in an integrated way.

53. In an IIFS, various types of risks interact with liquidity risk in a variety of ways, both in normal and stressed conditions. Credit risk in an IIFS can transform into liquidity risk if it faces major defaults in its financing and investment portfolio. Uncertainty about the creditworthiness and quality of an IIFS's financing portfolio can make it difficult to obtain funding from the market or to resell an eligible asset portfolio to other IIFS. In many IIFS across jurisdictions, a large part of their financing portfolio consists of *Murābahah* financing. Hence, this portfolio cannot be resold in the market due to *Sharī'ah* restrictions on the selling of debt other than the par. The lack of depth in *Sharī'ah*-compliant instruments and *Sukūk* in many jurisdictions increases the market risk of IIFS. During the stressed conditions, the IIFS may find it difficult to sell these assets to generate liquidity. Further, any reputational problem experienced by an IIFS due to perceived *Sharī'ah* compliance or fiduciary risk may result in the withdrawal of funds by the fund providers, resulting into heightened liquidity risk for the IIFS. The liquidity risk management framework of the IIFS should factor-in these and similar relationships and interactions between liquidity risk and other

risks while setting limits, performing stress testing, preparing CFP, and executing its risk management strategy and policies in its operational environment.

54. Rate of return risk, which is a major cause of displaced commercial risk, can also give rise to liquidity problems in an IIFS. Rate of return risk is the risk of facing a lower rate of return on assets than currently expected by UIAH. For instance, IIFS may have invested UIAH funds into relatively long-maturity assets such as long-maturity *Murābahah*, *Murābahah* for the purchase orderer, *Ijārah* or *Ijārah Muntahia Bittamlik*, and thereby have locked in lower rates of return on assets than those currently on offer in the market. Contractually, UIAH should accept any return decided on the basis of a pre-agreed profit-sharing ratio, which may be higher or lower than their initial expectation. Similarly, UIAH are also expected to bear any losses on the assets funded from their investment, provided there is no negligence, fraud, misconduct or breach of contracted terms by the IIFS. Despite these contractual features, many IIFS consider their UIAH as behaving like conventional depositors, who might withdraw their funds in the case of lower-than-expected profit rates, posing a liquidity risk for the IIFS. To mitigate this risk, many IIFS smooth the profits payout to their IAH, particularly UIAH. The IIFS should fully take into account its practices, regulatory requirements, if any, and accounting conventions related to smoothing, especially the establishment of PER and IRR, while analysing the interaction of liquidity risk with rate of return risk and displaced commercial risk.

55. An IIFS should also address liquidity risks arising from various *Sharī`ah*-compliant modes for financing and investment. IIFS should especially look into risk transformation in these transactions during the various stages of execution, which might impact the liquidity of these products, directly or indirectly. In a *Murābahah* contract, an IIFS's liquidity is impacted by the risk of cancellation in a non-binding *Murābahah* contract and by late or non-payment by customers. In the case of *Ijārah*, an IIFS may face liquidity risk due to the late or non-payment of instalments by the customer, the inability to sell or lease the asset to a new customer at the end of an earlier contract, or default by the customer. In a *Salām* contract, the illiquidity of commodity markets and the non-permissibility of exiting the contract before delivery can pose a liquidity risk for an IIFS. In the case of the profit-sharing modes, *Muḍārabah* and *Mushārahah*, liquidity risk can arise in the case of late or non-payment of profit payments during the contract and non-payment by the customer of the existing principal at the end of the contract.

56. Similarly, in the case of default by the customer in these contracts, an IIFS may repossess the assets in most cases and sell them in the market. If such assets fetch a price lower than their book value, the bank may face a liquidity risk due to the lower-than-expected cash flows. The IIFS may take into consideration that liquidity risk can arise either directly due to the nature of the contract or indirectly as a consequence of other risks at any stage during the period of the contract, mostly through credit risk, whereas continuous illiquidity in the *Sukūk* market mostly impacts an IIFS's liquidity through market risk. Overall, an IIFS should be able to analyse its financing and investment portfolio with reference to features of *Sharī`ah*-compliant contracts that can lead to liquidity risk and make appropriate adjustments in the case of need. Overall liquidity risk for an IIFS will largely depend on the mix of various *Sharī`ah*-compliant modes of financing and investment in its asset portfolio and the concentration of individual customers exposed to each type of contract.

57. An IIFS should be able to fully take into account the interaction between funding and market liquidity in its analysis of liquidity risk. With the increasing interconnections between the two types of liquidity, it is imperative that the IIFS evaluate the potential systemic consequences of liquidity problems. In a period of crisis, problems with funding liquidity can lead to asset sales and may lower asset prices, which may impact the IIFS's market liquidity. Similarly, efforts by an IIFS to sell a significant amount of some of its assets, due to doubts about their quality and future performance, can impact market liquidity by reducing the price of assets. Thus the IIFS ends up with a lower amount than expected. The collapse of market liquidity is also likely when market makers are risk averse or lack absorption capacity. The interaction can also become significant when IIFS start stockpiling liquidity (i.e. liquid assets) due to pessimistic expectations about prospective market conditions. Thus, overall market confidence is an important factor in understanding the interrelationship between funding and market liquidity. Keeping in view the limitations of markets for *Sharī`ah*-compliant instruments and *Sukūk* (lack of depth and breadth)

as well as the dearth of sufficiently large market makers in such instruments, there is a probability of transmission of funding liquidity risk into market liquidity risk in stress events, or vice versa.

3.6 Measurement of Liquidity Risk

Principle 6

An IIFS should be able to measure and forecast its prospective cash flows arising from on- and off-balance sheet positions over a variety of appropriate time horizons in different currencies and market conditions, using suitable metrics and methodologies including deterministic, behavioural and statistical modelling, where appropriate. The results of these calculations, along with suitable stress testing and scenarios analysis, should provide a basis for setting thresholds and limits, as well as for making any adjustments in the liquidity risk management strategy, policies and procedures.

58. An IIFS should be able to measure and forecast its future cash flows arising from all of its positions, whether on- or off-balance sheet, over a range of time bands. The IIFS should use a range of time horizons in order to assess its vulnerability to changes in its cash flows and liquidity requirements over time, given the size and mix of its balance sheet components. These time horizons can range from intraday, overnight, weekly and monthly for short-term liquidity assessments, up to one year for medium-term and over one year for longer-term assessments.²⁰ IIFS should have robust, documented and well-tested methodologies for measuring liquidity risk, and should make appropriate amendments and revalidation to reflect changing market conditions, so as to ensure that the major assumptions and parameters continue to be relevant and up to date. IIFS should also take into consideration the impact of potential payments and commitments arising from off-balance sheet items such as committed lines, guarantees, letters of credit and *Shari'ah*-compliant derivatives. Particular importance should be paid to covenants that trigger the drawing of liquidity lines or that allow counterparties not to fulfil their obligations. Implicit support to restricted PSIA or any securitisation vehicles of the IIFS (held off-balance sheet in most cases) should also be considered in the liquidity analysis. For securitisation vehicles, an IIFS should also take into consideration the contingent exposure and triggering events stemming from its contractual and non-contractual relationships with special purpose vehicles (SPV).

59. IIFS should also recognise that the nature of their cash flows can be considerably different from those of their conventional counterparts owing to the different nature of their financing and investment products. As elaborated in IFSB-1,²¹ cash flows in an IIFS may be categorised into “known cash flows”, “conditional but predictable cash flows” and “conditional but unpredictable cash flows”. “Known cash flows” are those cash flows where the amount and maturities are known in advance, such as receivables from *Murabahah*, *Ijarah*, *Ijarah Muntahia Bittamlik* (IMB) and CMT-based financing. “Conditional but predictable cash flows” are dependent on the performance of commitments or work and fulfilment of agreed terms and conditions over an agreed period by the counterparties, as in the case of *Salām*, *Istisnā* and Diminishing *Musharakah*. “Conditional but unpredictable cash flows” are related to equity participations by the IIFS where the recovery of invested capital and possible levels of return on investment are conditional on the financial results of the activity in which the funds are invested, as in *Musharakah* and *Mudharabah*.

60. For measuring liquidity risk, an IIFS should utilise a range of measurement techniques, time horizons and levels of granularity. Depending upon the nature, size and complexity of operations of an IIFS, cash-flow forecasts and projections can range from simple spreadsheets to complex modelling techniques. The most widely used tool for measuring and monitoring liquidity risk in the IIFS has been the cash-flow mismatch/maturity gap for calculating the net funding requirement, which is based on an estimation of the amount and timing of future cash flows with respect to contractual or expected maturity. Many IIFS also monitor internal or supervisory liquidity ratios and quantitative indicators. A minority of IIFS also utilise more sophisticated modelling techniques, such as static simulations, value at risk, liquidity at risk and others. As a starting point, pro-forma cash-flow statements are an important tool for

²⁰ For further explanation, see metric related to “Contractual Maturity Mismatch” in the Appendix.

²¹ See IFSB-1, paragraph 92.

adequately measuring and projecting the liquidity risk. IIFS should analyse liquidity gaps, breaking them down by type of product, business unit and currency, with appropriate forecasting of liquidity needs in various stress scenarios. In order to ensure the reliability of the forecasting process, IIFS should collect and aggregate relevant data, and verify that the data are processed and transferred correctly through various systems and channels. IIFS should also validate the forecasted cash flows and ensure that the data are complete and reconciled, with appropriate plausibility checks. The validations and back-testing results must be properly documented and communicated to senior management for their information.

61. The maturity gap approach helps the IIFS to address the net funding requirement in each time horizon. The analysis of net funding requirements involves the construction of a maturity ladder and the calculation of a cumulative net excess or deficit in funding at a series of points in time. For calculating net funding requirements, the IIFS should analyse prospective cash flows based on assumptions of the future behaviour of assets, liabilities and off-balance sheet items, and then calculate the cumulative net excess or shortfall over the time frame. Typically, an IIFS may find substantial funding gaps in distant periods and will endeavour to fill these gaps by managing the maturity of transactions so as to offset the gap. For example, if there is a significant funding requirement two months from now, an IIFS may choose to acquire an asset maturing on that day, or seek to renew or roll over a liability. It is more difficult to offset a large gap as it gets closer. The IIFS should therefore collect the data for a range of time intervals so as to match the gap before it gets too close. An IIFS should be able to ensure that the remaining funding requirements, after the possible matching, are constrained to a limit which remains comfortably within its capacity to fund from the Islamic interbank market. Based on an IIFS's nature of operations, products and business model, commonly, in normal market conditions, it would not actively manage its net funding requirement beyond a period of six to eight weeks. Nevertheless, management may require information on the net funding requirement beyond this period, if necessary. For IIFS which are more active in medium- to long term assets and liabilities, there will be a need for extended data and monitoring.

62. Assumptions related to the behaviour of various fund providers and asset classes, or regarding possible triggers of any contingent liability and liquidity disruption, play an extremely important role in measuring and projecting cash flows. IIFS should ensure that the assumptions it makes are practical, realistic and properly documented. Assumptions related to the behaviour and stability of PSIA, current accounts and funds generated from wholesale investors, as well as the volatility of asset portfolios on the basis of profit-sharing modes such as *Muḍārabah* and *Mushārahah*, are important. An IIFS should be able to test various scenarios on the availability of alternative funding sources from Islamic money and capital markets under adverse market conditions, as well as the effects of a deterioration in its asset quality or capital adequacy. An important consideration in such analyses is the critical role that the reputation and creditworthiness of an IIFS play in accessing funds from the market on reasonable terms and in time. An IIFS should be aware of any information that may adversely affect its public image and reputation, and hence its access to funds from the Islamic interbank market. Such information includes any negative publicity appearing in the media on the IIFS's *Sharī'ah* non-compliance, rating downgrade, and fall in earnings.

63. Evaluating the liquidity position and liquidity risk of an IIFS requires an analysis of the behaviour of different cash flows under various market conditions. This behaviour can be analysed using various stress testing or "what-if" scenarios, to determine what the impact would be on cash stocks (i.e. cash balances) or cash flows. Stress testing helps to quantify potential liquidity gaps in specified stress scenarios using deterministic and stochastic cash flows and, therefore, should be linked with various actions and countermeasures. For example, if, on the basis of stress testing results, it is expected that the IIFS will find difficulty in closing its gap for a particular maturity, it can take different actions such as raising term funding, tapping alternative funding sources, or changing the asset mix or their maturities. A common approach adopted by many IIFS is using different levels of difficulty in market conditions which can impact their position and management of liquidity. Thus, these scenarios range from measuring liquidity requirements in normal market conditions, in a liquidity crisis affecting one other IIFS in the market, and in a general market crisis. These scenarios may also build in different periods of times for which a stress might be expected. Such analysis should consider the role of *Sharī'ah*-compliant supervisory liquidity support facilities in normal and stressed market conditions. IIFS should also include sensitivity and scenario analyses in their stress testing. While sensitivity analyses test the dependence on

a selected risk factor, scenario analyses simultaneously examine the effect of several risk factors on liquidity. The results of stress testing exercises should be the basis of setting limits, preparing the CFP, and revising the strategy, policies and procedures for liquidity risk management in the IIFS. The IFSB's exposure draft on *Guiding Principles on Stress Testing* provides a comprehensive framework on approaches, strategies and best practices for stress testing in IIFS, and should be consulted for further information on this subject.

64. An IIFS should use various kinds of limits for controlling its liquidity risk. These limits are normally set at the group level and apportioned downwards to the various entities, including subsidiaries, units/divisions or desks. Through limits, an IIFS can ensure that it does not have a level of outflows which cannot be funded in the market, taking account of its risk tolerance and historical record. IIFS are using various kinds of internal and external limits in order to control their liquidity risk exposure. External limits are commonly set by supervisory authorities that vary from jurisdiction to jurisdiction. The most common limits imposed by supervisory authorities are statutory reserve requirements, liquidity ratios and maturity mismatch requirements. Internally, IIFS are using a wide range of ratios depending upon their size, nature of operations, position of the IIFS within the group, and business model. Many IIFS have also set internal limits on funding concentrations, maturity mismatches, currency mismatches, liquidity buffers, cost of funding, profit rate mismatches, liquid assets ratio, counterparty exposures in the Islamic interbank market, net financing as a percentage of PSIA and deposits, net interbank financing, undrawn commitments, etc. Overall, IIFS should set their limit structure so that it continues to operate in an idiosyncratic stress or market-wide stress, or both.

65. An internal fund transfer pricing (FTP) technique is being used by some large conventional banking institutions. It is an important tool for measurement and analysis of pricing, profitability and performance of various business lines, products and branches within the bank. It is also used to allocate overheads between the business units and during the new-product approval process. The IFSB survey showed that FTP is not a practice commonly used by IIFS, but a small number of them are utilising this technique for properly aligning liquidity costs with associated profits and risks in their internal pricing and performance measurement mechanism. Nevertheless, with the expected growth in size, complexity and sophistication of IIFS' operations in the future, the IFSB anticipates that more IIFS will be utilising this technique.

66. FTP mechanisms are mainly considered part of the management accounting and financial control systems which assist banking institutions, including IIFS, with their profit planning, cost budgeting, and asset and liability management. Keeping in view the nature of such techniques, the objectivity and impartiality of the function performing this task should be ensured by the IIFS. Since the internal prices affect the performance measurement of different functional units, products and lines of business, senior management should assign such responsibility to an independent unit, be it risk management, finance or other department, in a transparent manner. The internal pricing should be decided after an interactive discourse between the business lines and the unit responsible for the FTP and should cover all significant business activities of the IIFS, including off-balance sheet. The output of the FTP process should be able to facilitate the decision-making process at the transaction level or, if appropriate, to a pool of transactions with a similar kind of liquidity risk. This process should take into account different factors related to assets, liabilities and off-balance sheet items,²² including their expected holding periods and associated changes in liquidity risk, "stickiness" or stability of funding sources, and other related factors. The FTP mechanism should be updated at appropriate intervals, preferably not exceeding one year, to accommodate the changes in market conditions.

3.7 Control and Mitigation of Liquidity Risk

Principle 7

An IIFS should ensure that it has a well-diversified funding base that is commensurate with the nature and size of its business, products offered and market environment. Such diversification

²² Depending on the applicable regulations, restricted PSIA are considered as part of off-balance sheet items in several jurisdictions.

should address potential concentrations by providers of liquidity (retail or wholesale), funding types (secured or unsecured), maturity profile, currencies and geographical locations. The IIFS should test, on a regular basis, its ability to raise funds from each funding source, and make appropriate adjustments in its diversification strategies in anticipation of changes in its internal and external environment. The potential funding base may include, where appropriate, *Shari`ah*-compliant securitisation.

67. An IIFS should ensure that it has a well-diversified funding base, which should be commensurate with the nature and size of its business, products offered and regulatory market environment. It should maintain strong relationships with various fund providers – retail, corporate or interbank – to ensure proper diversifications of its funding base. It should also be able to identify major factors that influence the decision-making process of various fund providers and take measures to control and mitigate those factors. An IIFS should be able to define and maintain relationships with its “core investment funds and deposit base”. “Core investment fund and deposit base” is the base of demand, savings and investment accounts which – while not usually legally restricted – the IIFS can expect to maintain for an extended period of years because of generally stable relationships. The diversification of funding sources should span a range of maturities, including the short, medium and longer term, so as to provide a suitable match with maturities of its assets portfolio. An IIFS should also take into consideration the possibility of getting the funding from supervisory authorities in various market conditions, especially in the case of difficulty in obtaining funding from market sources. Appropriate limits should be used to achieve diversification over type of fund providers, counterparties, product types, currencies, geographical locations, and secured versus unsecured markets. Funding diversification strategies of the IIFS, however, are limited due to the difficulty in structuring *Shari`ah*-compliant instruments as alternatives to that commercial paper, certificate of deposit, subordinated and hybrid debt instruments, etc.

68. As a part of diversification strategy, an IIFS should also reduce its funding concentrations. A funding concentration exists when a single factor or single change in market conditions could result in a significant and unexpected withdrawal of funds. The size of funding concentration refers to a volume in one category of funds that, if withdrawn by itself or in combination with accounts in a similar category, would require the IIFS to drastically change its day-to-day funding strategy. The IIFS should reduce funding concentrations by name-type, product, geographical location, sector and currency.²³ IIFS should also benefit from economies of scale and economies of scope in order to reduce their concentrations to specific types of products.

69. Many IIFS, especially Islamic investment banks, rely on wholesale investors²⁴ as a major funding source. Increased reliance on wholesale funding sources exposes the IIFS to price and credit sensitivities of sophisticated investors. Generally, such fund providers are more sensitive to credit and profit rates, and are less prepared to continue a financial relationship with the IIFS in the case of actual or perceived financial problems. Wholesale investors will also be less willing to roll over their current funds with a troubled IIFS that is facing (or is perceived to be facing) creditworthiness or reputational problems in the market. Thus, maturing short-term funding of an IIFS that is dependent on wholesale sources would most likely not be rolled over.²⁵ In addition to their vulnerability, wholesale fund providers, being more sophisticated than retail customers and having relatively better access to market information, expect more profits on their investments and/or placements with an IIFS. An IIFS should assess the likelihood of being able to continue to rely on keeping funds with such investors when under duress and should incorporate in its analysis that funding from wholesale investors might dry up in stressed conditions.

70. Securitisation of financing and investment assets is an important technique used by financial institutions globally for managing liquidity, freeing up assets from the balance sheet and raising new funds, in addition to reducing their risk exposures. Further, it provides lower funding cost, market-based

²³ For further explanation, see the metric related to “Concentration of Funding” in the Appendix.

²⁴ Wholesale investors are also termed “institutional” or “sophisticated” investors in the financial literature. Such investors may include, among others, large corporates, other financial institutions or high net worth individuals.

²⁵ This phenomenon was witnessed in some jurisdictions in the global financial crisis, with some Islamic investment banks either failing or facing severe financial difficulties due to roll-over risk related to CMT.

valuation of securitised assets, the prospect of an enhanced credit rating for the securitised portfolio, and better asset–liability management by matching the cash flows and capacity to offer new and diversified products to the consumers with a wide range of risk-and-return profiles. It also helps the financial institutions to meet the demands of financing by creating new financial products that disengage, customise, repackage and distribute the asset risk to a variety of investors. Financial institutions can also diversify their funding base through securitisation by reducing the credit constraints they face due to capital adequacy and asset concentration limits imposed by supervisory authorities. Securitisation helps them to transform their assets into instruments which can be placed with institutions with a longer risk horizon and appetite, such as mutual funds, insurance companies, pension funds and other institutional investors. In this way, it helps the financial institution, as well as the financial system as a whole, by providing avenues for risk diversification, developing investor sophistication, and contributing to the health and growth of capital markets.

71. All these economic benefits of securitisation apply equally to IIFS. Nonetheless, securitisation as a funding source has not been a preferred choice of many IIFS in various jurisdictions.²⁶ Many reasons are cited in the literature for the lack of interest by IIFS in securitising their assets. Among these are the higher cost of issuance, the inadequacy or absence of a relevant legal and regulatory framework, the high cost of replacement of securitised assets, and the extra liquidity with the IIFS which minimises any incentive for them to be involved in the hassle of securitising their assets. These Guiding Principles, however, acknowledge a number of improvements in various jurisdictions with respect to the legal and regulatory framework, changes in tax regulations, and the establishment of new IIFS which can provide the right incentives for the IIFS to consider the option of securitising their assets. It can help them better manage their liquidity and capital needs, as well as to augment liquidity in financial markets in which they operate. The presence of *Ijārah*, *Muḍārabah* and *Mushārah* – with or without a combination of other types of *Shari'ah*-compliant assets in the IIFS's balance sheet – provides an opportunity for them to issue tradable *Sukūk*. It is, however, imperative for an IIFS involved in using securitisation SPVs as a source of funding to take into account whether such vehicles can be relied upon as a funding source in adverse market conditions. An IIFS facing a liquidity stress situation would normally find it difficult to access the securitisation market and, therefore, should incorporate such scenarios in its funding strategies.

72. An IIFS may generate its funding from its retail and corporate fund providers on the basis of current accounts, savings accounts, restricted and unrestricted PSIA, or *Murābahah* accounts. In the Islamic interbank market, an IIFS can also raise funds from interbank *Muḍārabah*, CMT, *Wakālah* or other arrangements based on approval from its SSB. An IIFS may also securitise its assets portfolio to generate funding and free up its balance sheet. In paragraphs 44–50 of the Guiding Principles, the features of various funding sources from the retail and corporate markets have already been explained. These features elaborate that most IIFS rely mainly on current accounts and PSIA for their fund generation. From one point of view, most current account holders and IAH are loyal to their IIFS due to the *Shari'ah*-compliant features of such institutions. Nevertheless, both types of fund providers are volatile in the sense that current accounts are allowed to withdraw their funds from the IIFS on demand, as IIFS mostly use *Qarḍ* contracts to offer such products. For PSIA, IAH prefer the higher returns offered by the fixed-time feature of such accounts, but funds are able to be withdrawn by the IAH on short notice subject to their waiver of the profit share for the most recent period, based on the principle of *Mubāra'at*.

73. An IIFS should also take into consideration the features and risks of the various products and mechanisms being used in the Islamic interbank market for generating funds and investing surplus resources; they include, among others, interbank *Muḍārabah*, commodity *Murābahah* and *Wakālah*. Here we analyse the features of these products and mechanisms as a funding source for an IIFS.

74. Interbank *Muḍārabah* is one of the most commonly used products by IIFS in a number of jurisdictions. As highlighted in IFSB GN-3, interbank *Muḍārabah* investments are usually short-term in nature, with the profit-sharing ratio being negotiated between the parties. It is a low-cost but non-tradable

²⁶ In a survey exercise conducted by the IFSB as a part of due process for preparation of this standard, only 8% of IIFS (more than 115 respondents from 15 jurisdictions) stated that securitisation has been used as funding source in their institution. Among other things, *Shari'ah* rulings on permissible securitisation structures may vary between jurisdictions.

instrument. The negotiated profit-sharing ratio is commonly fixed to achieve the target return that the investing IIFS is seeking from its investments, keeping in view the income generated in previous periods by various investment pools (general or specific) maintained by the IIFS receiving the funds. The IFSB GN-3 notes that smoothing techniques used for retail and small business PSIA are largely not used in the case of interbank *Muḍārabah*-based investment accounts. Nevertheless, the Guiding Principles stress that counterparty risk remains in such transactions because it is a non-collateralised transaction. An IIFS receiving the funds through such an investment should clearly set out the agreed-upon profit-sharing ratios and treatment of funds in the case of loss, including any techniques used for covering the loss, such as IRR.

75. CMT is a *Murābahah*-based purchase and sale transaction of *Sharī`ah*-compliant commodities, whether on cash or deferred payment terms. As explained in IFSB GN-2 (*Guidance Note on the CMT*, issued in December 2010), an IIFS can seek funds from other parties using this structure by buying the commodity from an individual or financial institution on credit and selling it on spot to a third party to obtain funds. As a funding source, CMT is a liability of the IIFS. CMT is often a short-term instrument where maturities can be extended simply by building a roll-over mechanism and duplication in the longer run of a series of short-term *Murābahah* transactions. An IIFS can also face possible liquidity (maturity) mismatches and its lack of tradability is itself a source of liquidity risk. Therefore, the IIFS should be able to estimate the cash flows accurately, in order to manage and reduce the liquidity risk. Management of funding liquidity risks (including possible liquidity mismatches) may be difficult for an IIFS, especially in situations that combine increasing requests for withdrawals and illiquid asset markets. Regardless of the commodities and markets in which an IIFS conducts CMT, it should have appropriate processes in place to measure and manage this type of risk whenever it deals with larger positions. GN-2 also explains a number of other risks, including credit risk, market risk, operational risk, *Sharī`ah* non-compliance risk and rate of return risk with respect to CMT, and highlights the importance of having a robust risk management process in place in order to effectively manage various risks and their interactions while dealing with CMT.

76. *Wakālah* is an investment management contract where the investor agrees to provide the IIFS with funds to invest in different assets. The IIFS would be, in effect, the investor's agent and will be paid a fee for its services, while the investor receives the returns. It entails lower transaction costs due to the non-involvement of a broker, but it tends to be more risky due to the counterparty exposure and its uncollateralised nature. It is also a non-tradable and over-the-counter transaction where market makers are not available. The IIFS should be aware that its *Wakālah*-based placements may be quite volatile in case of any concern about its soundness or *Sharī`ah* compliance practices. The IIFS should also evaluate the impact of any general market disruption on such placements. In order to reduce any documentation risk attached to *Wakālah* funds, an IIFS should seek to prepare and standardise its contract documentation on the basis of international best practices.

77. Preserving market access is an important element of achieving diversification in the funding base of an IIFS. Access to various funding markets ensures that an IIFS is able to raise new funds and sell its *Sharī`ah*-compliant assets and *Sukūk* with ease and without a major price distortion. From time to time, the relationship with critical fund providers should be tested and communication channels should be maintained. An IIFS should also be able to spot alternative funding sources in order to meet any situation of market duress and should be made part of its CFP. Possible sources of such funding in the IIFS may be an expansion of its deposits and investment accounts, securitisation, the sale of unencumbered *Sharī`ah*-compliant assets, the drawing down of committed lines of financing,²⁷ accessing the local Islamic interbank market, international commodity *Murābahah*, secured financing through a *Sharī`ah*-compliant alternative to a repurchase agreement, etc.

²⁷ As mentioned in footnote 13, committed lines of financing may be a very unreliable source of funding in a market stress situation; therefore, dependence on such committed lines should be at a minimal level, if any.

Principle 8

If an IIFS is part of a financial group (e.g. a fully fledged Islamic bank or Islamic investment bank) or part of a conventional bank (e.g. an Islamic window operation) which has a centralised structure for managing liquidity risk, the board and senior management at the group/parent level should prepare a strategy, policies and procedures for the Islamic operations taking into account the position of such operations within the overall group/parent, with due consideration to mutual independencies and constraints in transfers of liquidity on a *Sharī'ah*-compliant basis between the group entities.

78. A large number of IIFS are either part of a financial group (e.g. an Islamic commercial or investment bank can be part of a group which has both Islamic and conventional institutions, within or across jurisdictions) or are being run by a conventional bank (in the form of an Islamic window operation). Liquidity risk management structures in these arrangements may be centralised or decentralised depending upon the structure, size, business model and risk management policies of the group or parent. In the case of the former, a decentralised or combined centralised–decentralised structure is used. In the case of the latter, a common structure is centralised liquidity risk management at the parent level. In a centralised structure, there are a number of characteristics that should be present in the overall framework for liquidity risk while fully taking into account legal, regulatory and *Sharī'ah* compliance considerations.

79. In a centralised liquidity risk management structure, the parent has primary responsibility for monitoring and controlling liquidity risk at the level of Islamic operations and the group/head office. This process should incorporate processes that aggregate data across multiple systems so as to achieve a group/entity-wide view of liquidity risk exposure. The risk management process should also take into account the size, role and importance of Islamic operations within the group/entity and should consider the factor of liquidity contagion due to reputational reasons. In the case of a centralised structure, the board should approve the nature and scope of centralisation, including the following:

- Where will the responsibility for governance and oversight lie?
- Where will the booking of all the incoming and outgoing flows be made?
- What will be the role and responsibilities of the various units responsible for managing liquidity on a day-to-day basis at the group/head office level and Islamic operations level?
- What will be the role of senior management at the group/head office level and Islamic operations level?
- What will be the frequency and type of reporting addressed to senior management at both levels?
- Will CFP at Islamic operations be executed by their personnel, or will the group/head office treasury and risk management functions steer the plan?
- What kind of parental support will be available to Islamic operations in the case of liquidity stress due to entity-specific or market factors?
- Who will be eligible to access supervisory support in the case of liquidity problems in Islamic operations? If Islamic operations can have direct access to funding from the supervisory authority on a *Sharī'ah*-compliant basis, what kind of support will be needed from group/head office treasury?
- What kind of limits will be imposed for liquidity transfers between Islamic operations and group/head office level?
- Which entity will maintain and have access to *Sharī'ah*-compliant collateral in case of need?

80. A major consideration in the transfer of liquidity from an Islamic entity to the conventional group/head office, or vice versa, is the issue of segregation of funds, regulatory constraints on any such transfer, and the *Sharī'ah*-compliant structures or mechanisms that can be used to facilitate the placement of funds. Many IIFS have developed such *Sharī'ah*-compliant structures which allow placement of funds from conventional group/head office with the IIFS, commonly using *Muḍārabah*, *Wakālah* and CMT structures. Nevertheless, placement of excess funds with the conventional group/head office by the Islamic operations raises certain *Sharī'ah* issues, especially with regard to payment of profit on such placements.

81. Liquidity risk management in Islamic investment banks has many key features. Islamic investment banks, like their conventional counterparts, do not have access to customer deposits and investment accounts. Mostly, these are not eligible for liquidity support from supervisory authorities in normal times, as well as in stressed market conditions in the form of *Sharī'ah*-compliant LOLR. As a result of their business model, these banks rely heavily on market sources for funding mostly through CMT and *Wakālah* structures. For Islamic investment banks that are part of a banking group, intra-group funding plays a key role in their soundness and stability.²⁸ The problem, however, may arise in times of group-wide or system-wide liquidity stress, when there will not be much surplus liquidity in other parts of the group. Further, any liquidity support from other parts of the group will depend on the willingness and ability to transfer liquidity using *Sharī'ah*-compliant mechanisms. Therefore, while formulating the strategy, policies and procedures for liquidity risk management in Islamic investment banks, the board and senior management at group level should give due consideration to the IIFS's business model and possible constraints on the transfer of liquidity for external (due to legal, regulatory or settlement systems requirements) or internal (limits, policies or exposure limits within group) reasons.

Principle 9

An IIFS should maintain a liquidity buffer, composed of cash and other highly liquid *Sharī'ah*-compliant assets, in order to withstand a prolonged period of potential stress conditions. There should be minimal legal, regulatory or operational obstacles to the sale or pledge of such assets in order to generate funding in a variety of market stress situations. The magnitude and composition of these assets should be in line with the IIFS's risk tolerance, decided by its BOD, and its liquidity requirements as estimated by its stress testing exercises.

82. An IIFS should maintain a liquidity buffer as the first line of defence in the event of a liquidity disruption. A liquidity buffer consists of cash and other highly liquid unencumbered *Sharī'ah*-compliant assets and is an important tool in disruptive market conditions when an IIFS may need to generate liquidity in a short span of time and normal funding sources become dry or are unable to provide liquidity. Such a buffer should be sufficient for an IIFS to withstand a prolonged period of liquidity stress according to its risk tolerance without any changes in its business plan or normal operational activities. The availability of this excess liquidity precludes the need for an IIFS to take extraordinary measures during initial periods of stress.

83. An IIFS should calibrate the magnitude of its liquidity buffer on the basis of its funding gap and stress testing exercise over specific time horizons. The calibration of a liquidity buffer is highly dependent on assumptions used for defining the stress conditions. These assumptions incorporate the factors such as net and cumulative funding requirements in various time buckets, as well as encompassing both contractual and non-contractual cash flows. Assumptions should also include factors such as the length and severity of stress, the withdrawal of funding by IAH and depositors, and the non-availability of funding on an unsecured basis (including interbank *Muḍārabah*, *Wakālah* and CMT) as well as on a secured basis (using any structure for *Sharī'ah*-compliant alternatives to a repurchase agreement) from modestly liquid assets. The board and senior management of the IIFS should try to balance the "cost" of maintaining a liquidity buffer with the "benefit" in terms of better ability to meet any contingency due to its presence. A bigger liquidity buffer that is not justifiable by the risk tolerance of the IIFS can impact its financing ability, raise the cost of financing, and might lead to reduced economic activity.

84. An IIFS should consider maintaining a liquidity buffer to cover three phases of stress. In the first phase, the buffer should be sufficient to meet the liquidity requirements for severe market stress lasting one to two weeks. In the second phase, the buffer should be able to endure a less severe stress of two to eight weeks. In the third phase of persistent liquidity problems, an IIFS's CFP should become operational

²⁸ Many Islamic investment banks in the GCC countries that survived the global financial crisis were part of a financial group, and thus capital and liquidity support was available from the parent to these banks in difficult times. The sticky deposit base and safer funding mix made available by the strong parent enabled such Islamic investment banks to weather more easily the unexpected rupture in the economic cycle.

and measures should be taken according to pre-planned steps. In this stage, an IIFS may also consider more strategic steps, such as a change in business model or readjusting the balance sheet portfolio.

85. The liquidity buffer in an IIFS should comprise cash and highly liquid assets which can be sold or used as collateral for a *Sharī'ah*-compliant alternative to a repurchase agreement in disruptive market conditions. In addition to the highly liquid instruments, other instruments which may need a relatively longer time in liquidation may be considered, provided the IIFS can demonstrate the ability to generate the liquidity from such instruments in an agreed time frame. The core component of this buffer should be eligible as collateral for generating liquidity from a supervisory authority on a *Sharī'ah*-compliant basis. The IIFS can also include statutory reserves with the supervisory authority in its calculation of a liquidity buffer provided it can demonstrate that such reserves can be withdrawn in case of need without any regulatory repercussions. The criteria for specifying an instrument's eligibility as a liquidity buffer include its issuer, size, maturity, depth of the market, tradability from a *Sharī'ah* perspective, and the range of investors holding such instrument. An IIFS should also ensure that its liquidity buffer is reasonably diversified, and that there are no constraints – whether legal, regulatory or operational – on the utilisation of these assets. The IIFS should also consider maintaining buffers of highly liquid assets in other major currencies, especially in cases where the local currency is non-convertible.

86. An IIFS should also test and be active in each market in which it keeps *Sharī'ah*-compliant assets as liquidity buffers. This will provide an assurance to the IIFS about the liquidity of such instruments in various market conditions and will provide an opportunity to test its assumptions. It will also reduce the potentially adverse reputational effects that can result from being active in the market in difficult times, and sending the wrong market signals about the condition of its liquidity, financial condition and soundness to various stakeholders. If an IIFS is part of a group with a group liquidity risk management strategy, or if it relies on the transfer of liquid assets from its parent or other group entities in times of stress, it should be aware of and take measures to address any legal, cross-sector or cross-border regulatory restrictions in such transferability. The IIFS should also be mindful of supervisory requirements that may change over time in providing liquidity support to IIFS.

87. IIFS in many jurisdictions face difficulties in finding *Sharī'ah*-compliant highly liquid assets in sufficient number and volume which can be included in their liquidity buffer. It is even more challenging in these jurisdictions to find an asset that is eligible as collateral for seeking liquidity support from a supervisory authority. While acknowledging these problems, these Guiding Principles emphasise that IIFS facing such constraints need to make concerted efforts to ensure the availability of such instruments to help them sustain a prolonged period of stress. Collaboration between industry players, major corporate entities and public sector enterprises, as well as the supervisory authority in the jurisdiction, is a key to resolution of this problem. Impediments in market conditions do not preclude the need for IIFS to be sufficiently resilient to withstand liquidity and market shocks, and to be prepared to discharge their fiduciary responsibilities towards their fund providers, especially PSIA.

Principle 10

All IIFS, regardless of their nature and complexity, should have a contingency funding plan that delineates the action plan and procedures for dealing with liquidity stress events. Such a plan should be prepared with input from all relevant functions of the IIFS, while carefully incorporating the results from stress tests, including scenario analyses. The plan should establish a clear designation of roles and responsibilities and backup of key functions, with a suitable internal and external communication plan addressing various stages of stress events. The plan should include regular monitoring of related triggers, with appropriate escalation procedures. It should be reviewed as the business and market environment changes.

88. An IIFS should have a CFP that delineates its action plan, policies and procedures for dealing with any liquidity emergency situation. CFP is usually customised to circumstances that affect an IIFS's liquidity position due to idiosyncratic shocks, market disruption, or a combination of these. Key objectives of a CFP are to reduce the effects of liquidity shocks, maintain going-concern status, and send market signals that the IIFS is in reasonable health. The main components of a CFP include: (i) definition of the

triggering events that will activate the CFP; (ii) governance of the CFP during the various stages of stress events, including describing the roles and responsibilities of various functions and committees; (iii) escalation procedures explaining when to consider, and how to take, additional measures for generating funds; (iv) internal and external communication plans, including major counterparties, customers, IAH, auditors, media and supervisory authorities; and (v) the frequency and parameters used as a basis for revising the CFP.

89. The CFP should be closely integrated with the overall strategy, policies and procedures for managing liquidity risk and should be proportionate with the IIFS's size, nature of products, risk profile and level of tolerance. It should also address constraints on obtaining *Shari'ah*-compliant funding from market sources as well as from the supervisory authority. The CFP should clearly spell out the available funding sources in the various stages of crisis and the magnitude of funds that can be generated from such sources, including the expected time needed to exploit the additional funding. It should be reasonably flexible and strike a balance between the importance of having pre-planned procedures to address the disruption, and the need to provide flexibility that can augment the speed of response in a variety of expected and unexpected situations. In addition, the CFP should include a plan to meet significant payments on an intraday basis, with full acknowledgement of the payment and settlement system conventions and collateral requirements in this regard. During the process of preparation of the CFP, an IIFS should take input from all relevant functions and bodies, and most importantly from the senior management, treasury, and risk management and finance departments. It should be then formally approved by the board of the IIFS. Some IIFS may also consult their information systems and communications departments or supervisory authority during the preparatory stage.

90. An IIFS should also define the triggering events that will activate the various stages of the CFP. Such events may include events related to the IIFS, such as a downgrade in its credit rating or that of *Sukūk* that it has originated or for which it is an obligor, problems in specific products or lines of business (e.g. a crisis affecting an important market segment resulting in a reduction of cash flows to the IIFS from losses of customers and collectability problems), the default or a rating downgrade of *Sukūk* it is holding, etc. There might be some external events that can cause the need for activation of CFP, such as a lower rating or defaults in its holding of *Sukūk* or other *Shari'ah*-compliant securities, deterioration of overall market conditions or national economic variables thus affecting country risk, negative publicity about its *Shari'ah* compliance, or changes in legal, accounting and tax regulations that might impact negatively on the IIFS's liquidity position.

91. An IIFS should clearly designate the roles and responsibilities of the various personnel involved in the management of CFP during various stages of the liquidity crisis. An IIFS should define the classification of these stages and may consider delimiting various stages, such as: (i) recognition of various triggering events where withdrawals do not follow predictable patterns; (ii) a liquidity crunch where unsecured funding might be partially inaccessible and there is a need to liquidate assets or investments in an orderly manner; and (iii) a condition of severe liquidity shock where unsecured funding is not available and securing funding is difficult. During the course of each defined stage, an IIFS should lay down the roles and responsibilities of the relevant board and senior management committees, as well as other staff, in order to prevent any confusion and misconception about their roles. The IIFS can also consider the establishment of a crisis management team²⁹ with clearly assigned leadership roles to increase internal coordination and decision-making during a liquidity disruption. The crisis management team may look at reports from scenario simulation and stress testing exercises in addition to monitoring market information, analysing reports on liquidity positions and verifying communication plans. The IIFS should also assign responsibilities for backup of key functions and personnel during the crisis.

92. The CFP of an IIFS should illustrate the decision-making process to be adopted at different stages of the liquidity crisis. The process should outline the nature and timing of action to be taken by each personnel responsible for managing liquidity disruptions with respect to their assigned roles. It should also elaborate parameters for escalating any issue to higher senior management, and should define the position of senior management that should be involved in each stage. The procedures should

²⁹ See IFSB-1, paragraph 99.

explain the nature and extent of internal communication and interactions between various functions and units of the IIFS, as well as external communication with media, supervisory authorities and other stakeholders.

93. The communication plan of the IIFS, as defined in the CFP, should ensure clear, timely and regular internal communication to warrant timely decision-making and avoid any misconception or confusion about the appropriate steps and roles of the various personnel to be taken during the crisis. The objective of external communication should be to provide a degree of assurance to the various stakeholders – including market players, fund providers, employees, creditors and investors, supervisory authorities, media and shareholders – on the safety and soundness of the IIFS's liquidity and financial position. Consistent communication with market players, customers and supervisory authorities is of special significance, since a lack of confidence by these parties in the IIFS's market standing can hamper its smooth functioning during the crisis.

94. An IIFS should test and revise the CFP on a regular basis in order to assess its effectiveness and to ensure that it remains relevant and up to date in the changing market conditions. An IIFS may consider judging the application of CFP during the simulation of stress conditions. In case the results of these tests fail to meet established minimum standards, the IIFS should make appropriate changes to reflect the applicability of the CFP. The IIFS should also conduct regular contingency tests to ensure that key exposures are taken into account, contingency procedures are well understood, and relevant expectations from each function are clear during times of crisis. The testing procedure should also assess the reliability of key contacts, the effectiveness of legal and operational documentation, the availability of credit lines, and the marketability of its *Shari`ah*-compliant asset portfolio by selling or through any collateralised mechanism. The senior management of the IIFS should make appropriate revisions in the CFP on the basis of the testing and review of various assumptions and components and, thereby, should seek approval from the board of the amended CFP. The IIFS should review its CFP at least annually, irrespective of its business model and the nature of its operations. Nevertheless, if market conditions or the business model of the IIFS warrant, the CFP can be updated more frequently.

95. An IIFS may face a number of constraints which can make it difficult to run its CFP effectively during a time of liquidity crisis. Such constraints can include difficulty in selling *Shari`ah*-compliant assets/*Sukūk*, a lack or shortage of *Shari`ah*-compliant government/central bank securities which can be used as collateral, the non-availability/shortage of back-up lines, the minimal scope of securitisation as an alternate source of funding, the shortage of *Shari`ah*-compliant sources to meet intraday liquidity requirements, and incorporating the role of supervisors in providing liquidity support during times of stress. Though many of these problems are structural in nature, the management of the IIFS should attempt to overcome them through cooperation between the various players of the IFSI in the jurisdiction, as well as by working closely with their supervisory authorities. Robust and up-to-date internal processes and a readiness to meet any liquidity disruption are the key for an IIFS to successfully operate its CFP and thus ensure its smooth functioning and the viability of its franchise.

Principle 11

An IIFS should be able to identify its needs for *Shari`ah*-compliant collateral over different time horizons, and should address the *Shari`ah*, legal and operational constraints in the use of such collateral. The IIFS should actively manage its collateral positions while differentiating between encumbered and unencumbered assets, and its information system should be able to identify available unencumbered collateral by type, currency and location, in both normal and stressed times.

96. The interbank funding market for IIFS is mainly concentrated in unsecured products³⁰ such as CMT, interbank *Muḍārabah* and *Wakālah*, etc. A major cause of IIFS' low reliance on repurchase markets in many jurisdictions where they are operating, however, remains the slow progress and disagreements regarding *Sharī'ah* opinion on the possible alternatives to a repurchase agreement. Nevertheless, with the increased focus on development of these alternatives, it is expected that, with the passage of time, IIFS will expand their operations in the secured funding market for managing their liquidity, which will increase the importance of maintaining and monitoring high-quality collateral in the form of unencumbered assets.

97. In order to ensure adequate management of *Sharī'ah*-compliant collateral, an IIFS should have strategy, policies and procedures in place in order to ascertain its collateral needs over various time horizons in both normal and stressed times. The IIFS should also determine the *Sharī'ah*, legal, regulatory and operational constraints on utilisation and transfer of collateral over different jurisdictions and currencies, and according to the nature of assets. The IIFS should also estimate the level of collateral according to its liquidity buffer requirements and in consideration of the various stages of liquidity crisis stated in its CFP. The IIFS should also explore the opportunity to expand the range of collateral it is holding, which can be diversified in terms of currency, jurisdiction, type and tenor.

98. An IIFS should actively manage its collateral positions while differentiating between encumbered and unencumbered assets. The IIFS should have a robust management information system (MIS) that can meet the requirements and challenges of liquidity risk management and keep track of expected cash flows in the light of contractual and behavioural profiles of assets, liabilities and off-balance sheet items. The MIS should also be able to locate the legal entity and physical location where the collateral is held or pledged.³¹ The IIFS should also diversify its range of assets eligible for use as collateral in order to meet its cash-flow needs for intraday, overnight or longer terms. The MIS should also be able to calculate the estimated time to liquidate the encumbered assets in the case of an emergency or on maturity in the normal course of business. Keeping in view the differences in the acceptability and tradability of various kinds of *Sharī'ah*-compliant assets and *Sukūk*, an IIFS should especially assess the acceptability of available assets in its chosen secured funding markets. The IIFS should also keep track of the pricing of its collateral holdings, which largely depends on the demand for collateral in the market. Such demands can impact the prices both at the time of primary issuance and during the life of the asset. Any significant price declines in the collateral positions will impact the amount of liquidity that an IIFS can raise, and thus will affect its profitability.

Principle 12

With due attention to the lack of well-developed Islamic interbank markets for effective liquidity risk management in a number of jurisdictions, IIFS should closely cooperate among themselves in order to develop *Sharī'ah*-compliant arrangements, solutions and trading mechanisms for liquidity management purposes. Such collaboration may involve Islamic banking industry associations in the jurisdiction. These and other arrangements may be supported by the supervisory authorities in order to provide a robust platform and harmonised agreements for active trading between the IIFS, with availability of market makers in various trading instruments and mechanisms.

99. A major constraint on the effective management of liquidity risk by IIFS in many jurisdictions is to the fact that less-developed Islamic interbank markets consist of few players, little volume and a small

³⁰ Conventional financial institutions globally have increased their reliance over the years on the use of secured wholesale funding through repurchase agreements, and thus the importance of maintaining high-quality collateral for these institutions has increased manifold. The availability and regular use of collateral has become an important element in the funding and liquidity structure of many internationally active financial institutions, due to structural changes related to retail funding markets and increased sophistication and significant expansion in their operational capabilities. Nonetheless, this change has so far not affected most IIFS where the business model still relies mainly on retail funding from PSIA and other accounts, which are inherently more stable than wholesale funding markets. It reduces the vulnerability of the IIFS to market liquidity shocks and increases the soundness of their funding and balance sheet structure.

³¹ For further explanation, see the metric on "Available Unencumbered Assets" in the Appendix.

number of mechanisms for investing and financing funds, especially for a short-term duration. These constraints make it difficult for IIFS in these jurisdictions to effectively manage their liquidity, which impacts their competitiveness and resilience, and their ability to face any liquidity and market stress situation. Despite these limitations, IIFS cannot absolve themselves from their responsibility to effectively manage their funds, and be competitive and profitable as fiduciary agents of their fund providers, especially the IAH.

100. In view of the above, IIFS should be working closely with other IIFS, especially within the same jurisdiction, and preferably at the platform of Islamic banking industry associations, if any. The supervisory authority may also help IIFS in its jurisdiction to collaborate and interact in order to find *Sharī'ah*-compliant arrangements, solutions and trading mechanisms to effectively manage their liquidity and provide them with a level playing field. IIFS should also work collectively to secure agreements on standardised contracts for various kinds of *Sharī'ah*-compliant transactions between themselves in order to reduce documentation risk, the time involved and the cost of transactions. IIFS should also explore the possibility of expanding the range and type of collateral that are acceptable in their jurisdiction.³² If not present currently, IIFS may consider the establishment of an association of the IIFS in their jurisdiction, which can play an important role in improving coordination between the industry players and become a catalyst for various collaborative measures.

101. A number of proposals have been put forward by academics, industry practitioners and other stakeholders for managing liquidity risk by the IIFS at the interbank level, in addition to the already existing options discussed in the explanation to Principle 7. Some of these proposals have already been implemented/tested in various jurisdictions.³³ The alternatives include mutual financing facilities under profit-sharing (*Muḍārabah* or *Mushārah*) arrangements, reciprocal accommodation arrangements with net use of zero over the given period,³⁴ a common pool of funds at the supervisor level to provide mutual accommodation,³⁵ investment of clearing accounts in shares with daily valuation on a net asset value (NAV) basis,³⁶ purchasing units of real estate assets for a specified period,³⁷ time multiple counter loans,³⁸ etc. Depending upon the number and size of the IIFS, as well as the applicable *Sharī'ah* requirements, IIFS should explore the possibility of mutual cooperation and accommodation to apply the aforementioned and other innovative *Sharī'ah*-compliant solutions and arrangements for increasing the volume, size and depth of their Islamic interbank markets and the availability of market makers in various trading instruments and mechanisms.

³² Such collateral will help facilitate secured funding transactions between the IIFS, which is normally provided on the basis of some *Sharī'ah*-compliant alternative to a repurchase (repo) transaction.

³³ Some of these arrangements and proposals, however, may have been put forward by IIFS and other industry players that have a commercial interest attached to such arrangements. The reference to these arrangements has been made only to enlighten the reader about some industry initiatives for overcoming liquidity problems in the IFSI. To make any endorsement of these proposals would in any case be outside the remit of the IFSB, and their reference in these Guiding Principles should not be considered as a recommendation.

³⁴ In this mechanism, the IIFS can make an interbank cooperative arrangement to extend reciprocal accommodation to each other on the condition that the net use of this facility is zero over a given period. In this way, mutual borrowing will cancel out mutual financing over an agreed time period.

³⁵ Under this arrangement, the IIFS in a jurisdiction can contribute to a common pool of funds that is managed by the supervisory authority. The IIFS can seek funding from this pool in case of need, with agreed-upon controls on the amount and tenor of such accommodation.

³⁶ This structured vehicle product receives credit balances of the client clearing account on a daily basis and purchases blocks of participation shares in a clearing company. The shares are valued on a daily basis by reference to the NAV. If the customer's shares in the company fall in value, the parent IIFS provides irrevocable and unconditional guarantees, as a third party, that on redemption of the shares, the customer will receive an amount equal to the price paid for the shares. Thus, customers' shares are hedged against a fall in value of the clearing company's shares.

³⁷ Under this procedure, the mechanism of a *Sharī'ah*-compliant overnight fund is used, which is established on the back of an underlying real estate fund.

³⁸ A time multiple counter loan transaction between two parties comprises two simultaneously exchanged interest-free loans such that the multiple of the amount and period of one loan equals the multiple of the amount and period of the other loan. It facilitates interest-free lending of large sums against counter-loans of smaller sums advanced for proportionately longer periods. For example, an entrepreneur requiring a loan of USD10 million for one year can get an interest-free loan of USD10 million (against collateral, as usual) for one year by advancing an interest-free counter-loan of USD1 million to the IIFS for ten years. Thus, such a transaction can fulfil the client's need for funds for the required period and also enables the IIFS to earn a profit from the long-term investment of the counter-loan money.

Principle 13

Irrespective of whether an IIFS uses a net or a gross payment and settlement system, it should be able to manage short-term (overnight and intraday) liquidity in order to meet on a timely basis its payment and settlement obligations in all circumstances. In view of the interdependencies and interconnectedness between payment and settlement systems, an IIFS should ensure that its critical payments are always made on a timely basis in order to avoid any potential systemic disruptions which could prevent the smooth functioning of other payment systems and money markets.

102. Liquidity risk in IIFS is deeply linked to the payment and settlement system in which they operate and make their major transactions. The amount of liquidity required for payment by an IIFS is commonly impacted by the speed and conventions of the settlement system. Other practices – such as the number of days between transaction and settlement, net³⁹ or gross⁴⁰ settlement, deferred or real-time processing, timing limits and the availability of an intraday *Shari`ah*-compliant financing facility – can also have a number of consequences for the overall liquidity risk management strategy, policies and procedures adopted by an IIFS.

103. So far, most IIFS have not faced any significant problem in adjusting their liquidity risk management strategy, policies and procedures to the settlement system in which they operate, due to the relatively small size and volume of their operations. Nevertheless, the growing size of their operations and, increasingly, the significant volume and size of their transactions will require them to take into account the practices and conventions of the payment and settlement systems in which they operate. Further, many IIFS are now expanding their operations beyond their primary jurisdiction of operations and are gradually becoming more involved in additional cross-border transactions with varied payment and settlement systems. All these developments have made it all the more important for the IIFS to fully adapt and synchronise their liquidity risk management strategy with their settlement systems.

104. Payment and settlement systems have direct implications for the management of collateral and the intraday liquidity of an IIFS, and this raises a number of related legal, documentation and operational issues. Most importantly, the inability of an IIFS to manage its intraday liquidity in an effective manner can lead it to fail to pay in at the due time, which will affect its liquidity position and that of its counterparties. These developments might lead to systemic repercussions. Irrespective of whether a gross or net system is used, an IIFS should be able to maintain a sufficient amount of liquidity – and have the necessary *Shari`ah*-compliant collateral to generate that liquidity – throughout the day for settlement of its transactions. To facilitate the calculation of intraday and overnight liquidity requirements, an IIFS should monitor its treasury accounts on a real-time and continuous basis, as well as the highly liquid unencumbered assets that can be used as collateral for generating liquidity. Such monitoring will make it possible for an IIFS to keep track of the volume and timings of both critical and non-critical payments during the day, helping it to better utilise and synchronise its cash inflows. The IIFS should be able to suitably plan and forecast its cash inflows and outflows during the day, to ensure that cash and collateral will be available at all times to meet its critical obligations.

105. An important consideration in the intraday management of liquidity is the coordination between the front and back offices of the IIFS treasury. Both should be working together to monitor important liquidity flows and should directly contact the counterparties in the case of any late payments. An IIFS should also assign clear roles and responsibilities with respect to the intraday management of liquidity. Looking at the time-critical nature of intraday liquidity management, an IIFS should be able to formalise its decision-making and follow-up process so that settlements can be monitored on a continuous basis with proper internal controls and fixation of responsibilities. The MIS systems should be facilitative enough to

³⁹ “Net settlement system” refers to a settlement system in which final settlement of transfer instructions occurs on a net basis at one or more discrete, pre-specified times during the processing day. (See *A glossary of terms used in payments and settlement systems*, March 2003, issued by the BIS Committee on Payment and Settlement Systems.)

⁴⁰ “Gross settlement system” refers to a transfer system in which the settlement of funds or securities-transfer instructions occurs individually (on an instruction-by-instruction basis).

provide the senior management and other relevant personnel with information on the IIFS's liquidity and collateral positions, with flexibility to provide more detailed information when needed, especially during stressed market conditions. An IIFS should also take back-up measures in order to reduce any operational problems, such as problems with trading and settlement systems, information system networks and unauthorised access to the systems, etc. The IIFS should also take account of intraday considerations in its stress testing and scenario analysis exercise, the results of which should be incorporated into its CFP. An IIFS should include the possibility of any unforeseen interruption in its intraday liquidity flows as a part its liquidity risk planning.

106. Securities settlement systems, often called “central depository”, also have implications for the liquidity risk management of an IIFS. With the introduction of *Sharī`ah*-compliant securities or *Sukūk* in many jurisdictions – which are considered eligible for maintaining statutory reserves and have the status of approved collateral for liquidity support from supervisory authorities – it has been increasingly important for an IIFS to consider the practices, conventions and steps involved in the settlement of such *Sharī`ah*-compliant securities or *Sukūk*. Commonly, securities settlement systems involve matching and confirmation of transaction details by the parties, calculation of the clearance or settlement amount, and final clearance of the payment, with the seller transferring the securities and the buyer making the payment. In order to manage the liquidity risk involved in such transactions, the seller should be able to hold the underlying security and the buyer should be able to fulfil its obligations during the course of the transaction.

3.8 Foreign Exchange Liquidity Risk

Principle 14

An IIFS should have a measurement, monitoring and control mechanism for liquidity positions in each currency with a significant exposure. An IIFS should assess, monitor and, where appropriate, limit the size of its cash-flow mismatches over particular time horizons for foreign currencies in aggregate and for each significant individual currency in which it operates, especially with respect to its domestic currency (or, where different, its functional currency). The IIFS should employ appropriate stress tests and make use of *Sharī`ah*-compliant hedging strategies for limit setting and controlling currency risk. The IIFS should especially limit its exposures in currencies that are not highly liquid or have low convertibility.

107. An IIFS should have a mechanism for the measurement, monitoring and mitigation of its foreign exchange liquidity risk and currency mismatches. Liquidity risk management becomes more complex for an IIFS that operates in a number of currencies, due to the extra vulnerability of its foreign currency depositors or IAH and its reliance on the smooth functioning of foreign exchange markets. In a situation of liquidity stress in foreign exchange markets, it becomes difficult to generate domestic liquidity to fund foreign exchange liabilities. The general illiquidity of many currencies in which an IIFS may be active can complicate its task of managing liquidity risk.

108. When unmatched or unhedged, a long or short position in a foreign currency might result in liquidity risk for an IIFS in the event of adverse movements in the relevant exchange rates. Similarly, any changes in the market liquidity of foreign currency assets may impact an IIFS's liquidity risk by widening the liquidity mismatches being run and making it difficult to sell foreign currency assets at acceptable prices. Foreign exchange risk might arise due to local market and economic factors, or from the contagion effects of developments in other markets and jurisdictions.

109. The importance of managing foreign currency liquidity depends on the nature of an IIFS's operations, and the products and markets in which it is active. Some IIFS fund domestic currency assets with foreign currency liabilities, PSIA or credit lines. Some other IIFS mostly fund their foreign currency assets from domestic currency liabilities, PSIA or credit lines. In these cases, the role of hedging techniques, including *Sharī`ah*-compliant derivatives (the swap market, in particular), remains a key feature of managing such exposures. As a part of the overall stress testing exercise of the IIFS, foreign exchange liquidity should also be analysed under normal and stressed market conditions.

110. Where an IIFS provides financing facilities in foreign currencies, it can face a number of risks that should be considered as a part of its overall liquidity risk management strategy and policies. An IIFS should consider the impact of changes in foreign currency exchange rates with respect to the domestic currency and the likely convertibility of these currencies in the event of need. In the case of an unexpected currency devaluation, local customers will be unable or will find it difficult to pay back their foreign currency financing, resulting in cash-flow problems for the IIFS providing such financing. As a part of its foreign currency liquidity strategy, an IIFS should evaluate the profile of its customers in terms of the nature of its business and the sources of earnings, which can impact its ability to settle the foreign currency financing.

111. Where an IIFS provides a certain portion of its domestic currency financing which has been funded by foreign currency, it is exposed to liquidity risk in case of adverse movements in exchange rates and profits rates offered on foreign currency deposits and PSIA. Such adverse changes can result in withdrawal of its foreign currency deposits and PSIA. As a mitigation tool, an IIFS should explore the possibility of alternate sources of funding to pay back foreign currency liabilities. An IIFS can also mitigate that risk by utilising *Shari`ah*-compliant alternatives to a foreign currency swap. These mitigation measures are relevant and applicable only when foreign currency markets are accessible and convertible in the event of market disruption. An IIFS should fully take into account the profile of its foreign currency fund providers – whether retail, wholesale or credit lines – and their likely behaviour in case of unexpected exchange rate movements. Any rumours about its inability to pay back foreign currency funds, reputational or *Shari`ah* compliance issues, or a run on a currency can impact its solvency if withdrawals become significant.

112. An IIFS should apply suitable limits on mismatches and positions in various foreign currencies on the basis of appropriate stress tests and scenario analysis. Commonly, such limits may also be imposed on the basis of regulatory guidelines (e.g. open position limits) and market best practices. While assessing the foreign currency mismatches, an IIFS should consider its ability to generate funds in foreign currencies and the backup facilities for generating foreign exchange funding from the domestic operations, and vice versa. Consequently, an IIFS should take into consideration its ability to shift liquidity surplus from one currency to another and across jurisdictions. While doing so, an IIFS should consider market characteristics and the liquidity risk of positions where fully developed foreign exchange and *Shari`ah*-compliant swap markets do not exist. An IIFS should also evaluate the possibility of loss of access to the foreign exchange markets, as well as the inability or difficulty in swapping currencies in the case of market disruption.

113. Most IIFS use correspondent settlement methods to settle their foreign exchange trading activities. Activities of many IIFS in CMT and *Wakālah* investments with international partners also raise foreign exchange settlement risk, which can impact an IIFS's liquidity position and even its solvency. Foreign exchange settlement risk arises when an IIFS finds itself in unexpected positions in currencies as the result of a counterparty's failure to settle its payments in time. In the correspondent settlement of foreign exchange, the full amount of settlement is at risk until the counterparty fulfils its foreign currency obligations. An IIFS should establish effective control measures and communications channels in order to mitigate any such settlement risk.⁴¹

⁴¹ Studies carried out by the liquidity risk management working group show that a shortage of *Shari`ah*-compliant foreign currency hedging instruments or derivatives is one of the major constraints faced by IIFS in the effective management of their foreign currency liquidity risk. Though a large number of IIFS are using Islamic foreign currency swaps as well as forward transactions to hedge their foreign currency exposure, the volume and acceptability of such mitigation tools remain limited. These Guiding Principles expect that with the growing focus of the individual IIFS, Islamic banking industry associations and standard-setting organisations on the development of *Shari`ah*-compliant hedging tools to cover foreign exchange and other risks, more innovative and widely acceptable instruments will be introduced in future. Such hedging tools should also take into consideration variations in legal, regulatory and operational areas across various jurisdictions.

3.9 Reporting and Disclosure of Liquidity Risk

Principle 15

An IIFS should have a fully integrated information system, commensurate with its nature, size and complexity of operations, that provides clear, timely and accurate liquidity risk reports to its relevant functional units and senior management. The information system should, at suitable intervals, present to senior management and the BOD a clear understanding of the IIFS's liquidity risk exposures, its compliance with established policies and limits, as well as the appropriateness of management strategies with respect to approved risk tolerance. The IIFS should make appropriate disclosures of qualitative and quantitative information about its liquidity position and liquidity risk management practices through suitable channels.

114. An IIFS should have an adequate MIS, commensurate with its nature and size and the complexity of its operations, fully integrated with its overall banking platform. This MIS should be able to provide the board, senior management and other relevant personnel with timely, comprehensive and up-to-date reports on the management of the liquidity risk and the liquidity position of the IIFS, in both normal and stressed conditions. The MIS should cover all sources of risk for the IIFS both on- and off-balance sheet, and provide further analyses by currencies, products, funding sources and intra-group transfers (including any transfers of funds between an Islamic subsidiary/window and its parent/head office). It should be flexible enough to provide more detailed information to management and relevant personnel in case of idiosyncratic or market-wide liquidity stress, helping the IIFS to effectively execute its CFP.

115. The MIS in an IIFS should provide an adequate frequency of reports, taking into account time horizons in intraday, overnight and short-to-long-term positions, and support various scenarios that might capture stress events. It should provide information on the changing position of liquidity gaps over different maturity buckets and be in compliance with various internal and regulatory limits. The positions with respect to statutory liquidity requirements and the liquidity buffer maintained by the IIFS should also be accessible through the MIS. Further, as explained in Principle 11, the MIS should keep track of expected cash flows in the light of the expected and behavioural profile of assets, liabilities and off-balance sheet items. It should also be able to locate the legal entity and physical location where the collateral is held or pledged.

116. Senior management of an IIFS should define the types, contents, scope and frequencies of reporting to different levels of management and the board, including various committees such as ALCO and risk management committee. Liquidity risk reports should provide aggregate information with adequate supporting granularity to enable the recipients to assess the liquidity risk position of the IIFS in changing market conditions. The reports should pick up any "early warning signals" and provide enough information to the recipients for them to make informed decisions and appropriate changes in policies, procedures and associated thresholds. The reports should also provide information on compliance with the IIFS's established policies and procedures, along with details of any breaches and exceptions. The reporting should enable the management to evaluate trends in the aggregate liquidity risk exposure of the IIFS, as well as its components, in order to provide a basis for timely decision-making and corrective actions.

117. Based on the nature of their business and products, the size of their operations and the regulatory environment, IIFS prepare various reports for internal (the board, senior management, and board and executive management committees) and external (supervisory authorities, external auditors, rating agencies, etc.) utilisation, with frequencies ranging from daily to yearly. These Guiding Principles do not intend to provide a "one size fits all" approach by suggesting any prescriptive reporting formats and requirements which should be commensurate with individual institution-specific conditions. Nevertheless, it is expected that IIFS will follow the requirements provided in these principles and will establish their reporting and information systems based on the suggested elements.

118. An IIFS should ensure that there is appropriate disclosure of qualitative and quantitative information about its liquidity position and its practices in managing liquidity risk. Information helps market participants, including the general public, to assess the capacity of each IIFS to manage liquidity

effectively. IIFS may provide disclosure in compliance with accounting and regulatory requirements, as well as in relation to their risk management strategy and policies. There is, however, an issue as to what makes some information too confidential for an IIFS to disclose. Some IIFS may restrict potentially price-sensitive information disclosures which provide proprietary information⁴² to their market competitors. IFSB-4 (*Disclosures to Promote Transparency and Market Discipline*) discusses various issues and viewpoints on the disclosure of proprietary information. IFSB-4 adopts the view that an appropriate balance needs to be achieved between the desirability of meaningful disclosure and the protection of proprietary and confidential information. In circumstances where a particular detailed disclosure might significantly jeopardise the position of the IIFS, a more general but adequately informative disclosure would be appropriate, subject to supervisory discretion. In addition to proprietary information, there are concerns about disclosure portraying a positive picture of the risk management practices and policies of an IIFS, which itself can be considered as a type of “misinformation”.

119. IIFS in various jurisdictions vary considerably in their disclosure of risk management practices in financial reports and other media, so that annual reports remain the main source of such disclosures. These differences are based on many factors internal to IIFS, including the size and sophistication of operations, risk management culture and practices, regulatory requirements, accounting regime followed, market competition, and management’s philosophy towards transparency. The majority of IIFS provide information in their annual reports on the functions, roles and responsibilities of the relevant committees, as well as quantitative information about liquidity ratios, maturity mismatches, and cumulative liquidity gap positions.

120. Nevertheless, many IIFS are still not providing disclosures in a number of important areas, such as techniques used to mitigate liquidity risk, policies on maintaining liquidity buffers, major scenarios tested in stress testing liquidity risk, the degree to which the liquidity risk management function is centralised or decentralised, strategies for diversifying the funding base, key metrics monitored by senior management, the frequency and type of internal liquidity reporting, limit setting and monitoring mechanism, outline of CFP and intra-group financing strategies, etc. IFSB-4 proposed a number of qualitative and quantitative disclosures⁴³ related to liquidity risk management, which should be used as minimum requirements for disclosures by IIFS. These recommended disclosures include:

- a summary of the liquidity risk management framework in addressing risk exposure for each category of funding (current accounts, unrestricted and restricted PSIA), as well as on an aggregate basis;
- general information on policies to address liquidity risk, taking into account the ease of access to *Shari`ah*-compliant funds and the diversity of funding sources;
- indicators of exposure to liquidity risk, such as the ratio of short-term assets to short-term liabilities and investment accounts, liquid asset ratios or funding volatility;⁴⁴ and
- maturity analysis of financing and various categories of funding (current account, unrestricted and restricted PSIA) by different maturity buckets.

⁴² Proprietary information encompasses information that is competition sensitive and, if shared, would jeopardise an IIFS’s competitive position. (See IFSB-4, paragraphs 18 and 19 for further details.)

⁴³ See IFSB-4, section 1.3 (paragraphs 53 and 54).

⁴⁴ “Funding volatility” refers to the sensitivity of depositors, IAH and creditors to events that may undermine their confidence and result in rapid withdrawal of funds. Funding volatility can be measured by a variety of balance sheet indicators, such as liquid assets to overall funding, or volatile liabilities net of liquid assets to total illiquid assets, and by using cash-flow estimates at various maturities, if such estimates were available (see IFSB-4, footnote 44).

SECTION IV: GUIDING PRINCIPLES FOR SUPERVISORY AUTHORITIES

4.1 Responsibility for Supervision of Liquidity Risk Management and Liquidity Position

Principle 16

Supervisory authorities should make a regular evaluation of the overall liquidity positions and the liquidity risk management framework of an IIFS so as to ensure that it maintains an adequate level of liquidity at all times, and can withstand a period of liquidity stress. As a part of supervisory assessment, special emphasis should be given to the application of appropriate stress tests, the composition and robustness of liquidity buffers, and the effectiveness of contingency funding plans.

121. Supervisory authorities should make a regular evaluation of the integrated liquidity positions and liquidity risk management framework of IIFS in their jurisdiction in order to avoid failure of any IIFS and to decrease the potential of liquidity contagion to other IIFS and financial institutions. During this process, the supervisory authorities should take into account the specificities of the IIFS which can impact their liquidity risk profile, as outlined in Principles 1–15 in Section III of these Guiding Principles. Among others, these specificities of IIFS include a distinct funding structure, the risk-absorbing profile of PSIA, the unique nature of *Sharī`ah*-compliant modes of finance, and the special nature of *Sharī`ah*-compliant investment instruments and *Sukūk*. Supervisory authorities should also take into consideration the various constraints experienced by IIFS in effectively managing their liquidity risk in the jurisdiction, especially with respect to market infrastructure as discussed in Section II above. Supervisory authorities should make these evaluations on the basis of on-site inspections as well as off-site surveillance. The results of these evaluations – and any deficiencies therein – should be communicated to senior management and the board of the IIFS, along with the supervisory authorities' expectations in regard to taking corrective action.

122. Supervisory authorities should assess the liquidity risk profile of an IIFS from two points of view. First, they should evaluate the risk tolerance of the IIFS and ensure that it is commensurate with the nature of its business, the mix of funding structure, and the range of financing and investment products, while taking into account any constraints on managing liquidity in a *Sharī`ah*-compliant manner. Second, supervisory authorities should evaluate the size of the IIFS's operations, its market share, growth plans, role in the payment and settlement system, and its client base, from a systemic perspective. While performing this evaluation, the supervisory authorities should examine the possibility of any liquidity contagion from the IIFS to other market players. Supervisory authorities should also examine the interaction of liquidity risk with other risks, including credit risk, market risk, operational risk, rate of return risk, *Sharī`ah* non-compliance risk and reputational risk, and should incorporate the possibility that other risks can transform into liquidity risk in various circumstances and market stress situations.

123. Supervisory authorities should analyse the identification process of liquidity risk in an IIFS and ensure that it takes into consideration any concentration of funding sources, the level of maturity transformation, reliance on wholesale funding and the *Sharī`ah*-compliant structures of financing products, etc. The authorities should also check whether the liquidity risk policies of the IIFS implement segregation of duties between operational and monitoring functions, in order to preclude any conflict of interest. The liquidity risk strategy and policies of the IIFS should cover the full range of maturities, including intraday, overnight, short-term and long-term funding risk, and take into account the interaction between funding and market liquidity.

124. Supervisory authorities should further evaluate an IIFS's process of measuring and mitigating liquidity risk. They should assess the composition of the IIFS's liquidity buffer and ensure that it is able to provide adequate liquidity in a range of liquidity stress events, taking into consideration the effect of failures of an IIFS on the IFSI and the broader financial system as a whole. The marketability of *Sharī`ah*-compliant assets and *Sukūk* should also be evaluated. Supervisory authorities should verify that an IIFS has specific policies and procedures in place for crisis management. The authorities should focus especially on the stress testing exercise and ensure that its results are incorporated into the liquidity risk

framework, including the CFP, the size and composition of *Sharī'ah*-compliant collateral, and so on. The underlying assumptions used to perform stress testing and to estimate future net funding requirements should also be examined in order to ensure that they continue to remain valid in normal as well as stressed events, due to changes in the internal or external environment. The supervisory authorities should themselves verify that stress testing of an IIFS covers a broad range of plausible and extensive scenarios, and should suggest enhancements to an IIFS's scenarios if the need arise. Supervisory authorities should also evaluate the practice of incorporating the results of stress testing into the liquidity risk framework and ensure that appropriate amendments are made in relevant areas, including the liquidity buffer, funding profile, CFP and collateral.

125. The supervisory authorities should also verify that IIFS do not transform their liquidity risk management practices into a profit-making exercise. Liquidity risk management should be, and continue to be, a cost centre. The current practice of IIFS relying heavily on CMT as an exclusive tool of liquidity risk management could lead to excessive leveraging that is inconsistent with *Sharī'ah* principles. As highlighted in GN-2,⁴⁵ this could be a source of serious concern, and may demand the intervention of supervisory authorities from a prudential perspective (especially when the use of CMT is not supported by proper risk management and corporate governance principles).

126. Supervisory authorities should also confirm that the MIS is adequate and commensurate with the IIFS's nature, size and complexity of operations. The MIS should also be fully integrated with the IIFS's overall banking platform and should be able to provide to the relevant personnel timely, comprehensive, real-time and consolidated reports on the IIFS's liquidity risk management and liquidity position. Supervisory authorities normally allow smaller domestic IIFS to use a simple standardised, quantitative-based approach, such as maintaining liquid ratios for liquidity risk measurement and monitoring. Nevertheless, supervisory authorities may allow larger, internationally active IIFS to use their internal methodologies. In such a case, the authorities should assess that internal methodologies have adequate governance, suitable and correct methodologies, a timely review process, robust stress testing and confirmation that the IIFS will be resilient in the event of a liquidity crisis. Some IIFS may also use a transfer pricing mechanism to incorporate liquidity costs, benefits and risks in the internal pricing. In such a case, the supervisory authorities should verify that such a process involves performance measurement of various functions in the IIFS and has been incorporated in the new-product approval process in all significant business activities. This process should be transparent and reviewed to reflect changing market conditions.

4.2 Supervision of Liquidity Risk in those IIFS that are Part of a Financial Group or the Islamic Operations of a Conventional Bank

Principle 17

In cases where fully fledged Islamic banks are part of a financial group, or where a conventional bank offers Islamic operations through Islamic windows, supervisory authorities should fully evaluate the liquidity risk management framework at both the group/parent level and Islamic entity level. The supervisory authorities should ensure that there is sufficient liquidity at both the levels to meet the funding needs during normal and stressed times. Supervisory authorities should also ensure that risk of liquidity and reputational contagion from Islamic to other operations, or vice versa, has been properly considered and suitably mitigated.

127. Efforts are being made by supervisory authorities and standard-setting bodies in Islamic finance to fully integrate the Islamic financial services industry into the global financial industry, while taking care of its specificities. With this increasing integration and growing market share of the Islamic financial sector worldwide, in many jurisdictions the IFSI is gaining market share. From the perspective of the supervisory authorities, the interconnections and interdependencies between the conventional and Islamic financial sectors should be fully analysed from the point of view of systemic risk. One area of these linkages and interdependencies is related to the IIFS, which are either: (i) fully fledged Islamic banks that are part of a banking group (including an Islamic commercial bank, Islamic investment bank, Islamic wholesale bank,

⁴⁵ See IFSB GN-2, paragraphs 25 and 26, for details.

Islamic microfinance bank, etc.); or (ii) Islamic operations of a conventional bank (Islamic window operations). From a liquidity risk management point of view, the supervisory authorities should analyse and take measures to reduce the possibility of liquidity and reputational contagion between the IIFS and other group entities in the former case, and between Islamic operations and the parent in the latter case.

128. When an IIFS is part of a banking group, the supervisory authorities should assess the size, significance, nature of operations and overall share of the IIFS in the banking group. Normally, if the banking group has both conventional and Islamic institutions, due to *Sharī'ah* compliance considerations, the responsibility for managing liquidity risk in the IIFS is decentralised and the board and senior management of the IIFS are made responsible for managing its liquidity within the sphere of group strategy and policies. On the other hand, if a banking group is made up of all the Islamic institutions, the responsibility for managing liquidity risk may or may not be centralised at the group level. Supervisory authorities should take full account of these models and incorporate them in their supervisory evaluation and surveillance. Supervisory authorities should also assess the strategy and policies of the IIFS in relying on other group entities for liquidity support in normal times and stress events, on a *Sharī'ah*-compliant basis. The authorities should evaluate, on the basis of previous data and other evidence, the reliability of such liquidity support from other group entities in case of need. Supervisory authorities should analyse the possibility of reputational contagion in the case of liquidity problems in the IIFS to other group entities, and vice versa, and should suggest appropriate measures to reduce such contagion. The authorities should note that at a time when other group entities face severe liquidity or solvency concerns, the IIFS will suffer due to the domino effect of the collapse of other entities, eroding the confidence of fund providers and creating economic uncertainties.

129. Supervisory authorities should fully consider the specificities of various IIFS when they are part of a banking group. In the case of fully fledged Islamic commercial banks, their funding base is usually stable because they have access to unremunerated current account and retail-based unrestricted PSIA. On the other hand, Islamic investment banks/Islamic wholesale banks do not have access to customer deposits and investment accounts and thus rely heavily on market sources for funding. To generate funding, most such banks utilise CMT and *Wakālah* structures, among others. Similarly, such banks are normally not eligible for liquidity support from supervisory authorities in normal times, as well as in stressed market conditions in the form of *Sharī'ah*-compliant LOLR. Therefore, in a period of liquidity disruption, such banks may depend too heavily on liquidity support from other group entities, and such support may be the most significant support available to them in a crisis situation. Supervisory authorities should assess the important features of such interdependencies and evaluate the possibility that liquidity support from other group entities might not be forthcoming in the event of a liquidity crunch at their level. Supervisory authorities should give due consideration to the possible constraints on the transfer of liquidity between group entities for external (due to legal, regulatory, settlement systems' requirements or *Sharī'ah* compliance) or internal (limits, policies or exposure limits within the group) reasons.

130. When a conventional bank offers Islamic products and services through Islamic window operations, the responsibility for managing liquidity risk normally rests with the personnel at the head office level, along with the involvement of some relevant staff from the Islamic operations. Supervisory authorities should ensure that an IIFS's risk management strategy and policies at the overall bank level take into account the peculiar nature of funding, financing and investment portfolios of Islamic operations. The authorities should analyse the liquidity position at the level of both the head office and Islamic operations and ensure that both maintain sufficient liquidity at all times.

131. Normally, in the case of Islamic window operations, a dedicated funding line is made available from the head office treasury to meet any liquidity shortfalls in normal and stressed times, on a *Sharī'ah*-compliant basis. These Guiding Principles note that in many jurisdictions where supervisory authorities have not prescribed any requirements for segregation of funds between conventional and Islamic operations of a bank, some IIFS do not fully take into account these requirements in their process of managing liquidity risk. In some jurisdictions, requirements have been prescribed for Islamic windows to maintain separate statutory liquidity requirements and to follow other restrictions on maturity mismatches, etc. In such cases, the supervisory authorities should assess the requirements on separate and joint bases.

4.3 Need for Supervisory Regulations for IIFS with respect to Liquidity Risk Management

Principle 18

Supervisory authorities should develop regulations and guidelines for management of liquidity risk by IIFS, taking into account their specificities related to funding structure, financing and investment products, access to *Shari`ah*-compliant securities, as well as the stage of development of the Islamic money market in their jurisdiction. Supervisory authorities should provide maximum clarity of their roles as provider of liquidity support, in compliance with the *Shari`ah*, in both normal and stressed times, simultaneously seeking to harmonise and expand the eligibility of *Shari`ah*-compliant collateral for providing such liquidity support to IIFS.

132. Keeping in view the role of supervisory authorities to ensure the safety and soundness of all the regulated entities and the financial system as whole, they have a huge stake in preventing illiquidity in financial institutions, including IIFS, for several reasons, including depositor and IAH protection, systemic repercussions of the failure or illiquidity of one financial institution on other market players, and to protect the general confidence of stakeholders in the soundness and stability of the financial system. Thus, the regulation of liquidity risk is part of the toolkit that supervisory authorities utilise to minimise the frequency and severity of liquidity strains in financial institutions and to protect against systemic crisis. The importance of liquidity regulation is even more compelling for IIFS, keeping in view the infant nature of the industry in many jurisdictions and a huge reputational risk for the IFSI where the insolvency of one IIFS may be considered a drawback in terms of the business model for the whole industry. As discussed earlier, the reliance of many IIFS on *Muḍārabah*-based PSIA also impacts their liquidity risk, because in principle the IAH bear the commercial risk associated with the assets financed by their funds. Therefore, the IIFS are responsible for managing the investment of PSIA funds and are under a fiduciary obligation to safeguard the interests of the IAH through the establishment of sound and prudent policies in the management of the assets funded by the IAH. Any shortcomings in the risk management framework of the IIFS might result in losses for the IAH, which can damage the reputation of that IIFS and the industry as a whole.

133. Supervisory authorities should lay down regulations and guidelines for risk management by the IIFS, including liquidity risk, taking into account their specificities related to funding structure, financing and investment products, access to *Shari`ah*-compliant securities, and conditions in the Islamic money market in the jurisdiction. Some supervisory authorities regulating the IIFS have a quantitative regime for supervising liquidity risk management, using a range of stipulations related to cash-flow projection based on a contractual and behavioural profile of balance sheet components, core deposits, liquidity ratios, statutory cash reserve and liquidity requirements, maturity mismatch limits (either positive or negative), investment in *Shari`ah*-compliant securities and *Sukūk*, etc. In doing so, these supervisory authorities require regular reporting by IIFS on their compliance with the authorities' requirements, ranging from weekly to quarterly reporting.

134. Some other supervisory authorities consider quantitative approaches as a first step, and as a supplement to qualitative requirements. These authorities consider that, beyond a certain level, the quantitative approach is not that helpful in analysing the quality of the risk management framework in the IIFS. Consequently, many supervisory authorities have specified requirements related to establishing a liquidity risk management strategy and policies, the role of the board and senior management, the importance of systems and controls, the performance of stress testing and scenario analysis and having a CFP, etc. In both cases, generally, the quantitative and qualitative requirements are applied to all the institutions that are subject to liquidity risk regulation, notwithstanding they are conventional banks or IIFS. This approach helps the supervisory authorities to make useful comparisons between both types of institutions.

135. Nevertheless, there are only a few supervisory authorities that have tried to address particular features and constraints of the IIFS in their regulatory instructions. These areas include the balance sheet components and constraints related to various areas, including diversification of their funding base,

access to *Sharī`ah*-compliant securities and *Sukūk*, preparation of a CFP, maintaining a liquidity buffer, and other areas mentioned in the previous section. With the issuance of these Guiding Principles, it is expected that more supervisory authorities will make a thorough analysis of the specific conditions and environment in which their IIFS are operating and will provide a more comprehensive set of regulations and guidelines to their IIFS.

136. It may be noted that in addition to specific quantitative and qualitative regulations, supervisory authorities may allow more sophisticated and complex IIFS to use internal methodologies. In such a case, before providing any form of recognition to these methodologies, supervisory authorities should assess the methodologies and analyse their robustness and adequacy to the regulatory approach for liquidity risk supervision. This assessment process should cover the areas specified in paragraph 126, as a minimum.

137. Country experiences have shown that a standing liquidity facility from the supervisory authority, both in normal and stressed market conditions, offers valuable flexibility with which to deal with temporary liquidity disruptions, which may be institution-specific or market-wide. Further, in times of stress, even the solvent financial institutions can face liquidity difficulties which necessitate supervisory liquidity support. Most importantly, the LOLR facility at supervisory authorities helps to prevent widespread panic withdrawal, protect IAH and depositors, and otherwise avoid disruption in productive financing to the entire economy caused by the collapse of one or a handful of institutions in a time of crisis. In a number of jurisdictions, supervisory liquidity support facilities on a *Sharī`ah*-compliant basis are either not available to the IIFS, or its terms and conditions are not explicitly defined by the supervisory authorities. The structures used for providing such a facility include CMT, sale and buyback of eligible collateral (mostly government *Sukūk*), *Qard* or free loans, etc. Supervisory authorities should provide such facilities to the IIFS where they are not available on a *Sharī`ah*-compliant basis, though finding suitable structures for providing such a facility remain an ongoing problem and is subject to further research.

138. In providing *Sharī`ah*-compliant liquidity support facilities to the IIFS, supervisory authorities should provide greater clarity of their roles in both normal and stressed times. Generally, it is considered appropriate that access to LOLR facilities should be made uncertain in order to reduce moral hazard, so that market players do not take it for granted. Therefore, many supervisory authorities take the decision to provide such support on a case-by-case basis and it is not considered a "right" of the institution involved. Nevertheless, in order to create a balance, supervisory authorities should be more explicit regarding their handling of a liquidity crisis situation, such as defining the type of *Sharī`ah*-compliant collateral that can be pledged, the limits applicable to various types of eligible *Sharī`ah*-compliant collateral, and possible durations of the financing.

139. A closely linked aspect of a supervisory liquidity facility, whether *Sharī`ah*-compliant LOLR or in normal times, is the availability of eligible *Sharī`ah*-compliant collateral for seeking such support. In fact, in many jurisdictions where IIFS are operating, *Sharī`ah*-compliant instruments or *Sukūk* issued by the governments or supervisory authorities are either in short supply or not available at all. Although in many cases it is outside the remit of supervisory authorities to issue new or expand the range and volume of available *Sharī`ah*-compliant instruments or *Sukūk*, supervisory authorities may seek to expand the range of eligible collateral for providing their liquidity support to IIFS. These measures may include accepting the *Sharī`ah*-compliant instruments or *Sukūk* issued by public sector enterprises, major national corporate bodies, multilateral institutions⁴⁶ such as the Islamic Development Bank, or other sovereigns.

140. In most cases, Islamic investment banks and other specialised Islamic finance institutions are not eligible to seek liquidity support on a *Sharī`ah*-compliant basis from supervisory authorities due to their non-acceptance of retail deposits and investment funds. Nonetheless, as the experience in many developed and developing countries shows, different types of financial institutions are closely interlinked and interconnected due to the changing nature of the financial system. This has resulted in higher systemic risk and increased chances of reputational contagion from one type of institution to another. Further, many Islamic investment banks and other specialised Islamic financial institutions are part of a

⁴⁶For the future, *Sukūk* issued by the International Islamic Liquidity Management Corporation (IILM) may also be included in the list of eligible collateral.

group, and any presumed or actual problems with such institutions can spread to other entities in the group. Keeping this in view, supervisory authorities should consider expansion of their liquidity support facilities to such institutions, in both normal and stressed times.

141. As a part of global reforms in the international regulatory framework for banking institutions, the BCBS issued a set of updates in December 2010, commonly known as Basel III. One of the publication, titled “Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring”, has introduced two internationally harmonised global liquidity standards which are aimed at becoming necessary components of the global regulatory framework, similar to the capital adequacy requirements. According to this publication, these liquidity standards will establish minimum requirements and will promote an international level playing field. The IFSB is studying these liquidity standards, as well as other quantitative tools being used by IIFS in various jurisdictions, for possible adoption and will issue a separate Guidance Note. The BCBS has also developed a set of common metrics that are the minimum types of information on which supervisory authorities should base their regulatory supervision toolkit. These Guiding Principles have adopted some of these metrics for the IIFS, details of which can be found in the Appendix.

4.4 Compilation of Information from the IIFS and Corrective Action in Case of Need

Principle 19

Supervisory authorities should require the IIFS to submit precise and timely qualitative and quantitative information to evaluate the liquidity risk profile and framework adopted by the IIFS in their jurisdiction. If the supervisory authority becomes aware of any major shortcomings in the liquidity position or liquidity risk management framework of an IIFS, it should require the IIFS to take timely corrective action to address the detected problems. Supervisory authorities should make use of other tools at their disposal, with appropriate escalation procedures, for ensuring that suitable corrective action is taken by the IIFS.

142. Supervisory authorities should require the IIFS to submit regular quantitative and qualitative information which allows them to measure the IIFS’s level of liquidity risk, analyse its liquidity position and evaluate its framework for managing liquidity risk. Supervisors should develop a minimum set of reporting requirements, which should be suitable for each category of the IIFS (e.g. fully fledged Islamic commercial banks, Islamic investment banks, Islamic subsidiaries or windows). Such reporting should provide clear definitions and take into account the peculiarities of the IIFS’s products and balance sheet structure, as well as the type of *Sharī’ah*-compliant instruments and *Sukūk* in which they are allowed to invest. As highlighted in a previous principle, more complex and large institutions (which have been allowed by supervisory authorities to use internal methodologies) may submit the information in their own pre-approved format. The supervisory authorities may consider utilising some or all of the metrics suggested in the Appendix to these Guiding Principles which have been tailored to analyse the potential sources of vulnerabilities in the IIFS.

143. In addition to the reporting by the IIFS, an important tool of liquidity risk supervision is publicly available information.⁴⁷ Supervisory authorities can monitor information related to the position of equity and *Sukūk* markets, new primary issues of *Sukūk*, foreign exchange markets, including *Sharī’ah*-compliant swap markets, and commodities markets. Supervisory authorities should also collect specific information on each IIFS using various sources, including its share price, profit rates paid in Islamic money markets at different maturities, the overall confidence of other market players in providing funding to the IIFS, etc. To analyse the information, supervisory authorities should make use of peer-review methods utilising IIFS of a similar size and with similar business models.

144. The frequency and coverage of supervisory reporting should be commensurate with the nature of the business and related risk of the IIFS. For example, some Islamic investment banks may have a restricted licence or business model where they may be conducting activities on behalf of third parties.

⁴⁷ For further explanation, see the metric on “Market-Related Monitoring Tools” in the Appendix.

Similarly, in the case of an Islamic banking subsidiary or Islamic window operation where liquidity risk management may be centralised at the parent level, the reporting requirements to the Islamic operations should be less extensive. Supervisory authorities may also consider increasing the frequency or depth of regular reporting in liquidity stress situations, if the need arise. The IIFS may also be asked to provide additional information, not previously sought by the supervisory authorities, in the case of stress events.

145. On the basis of all the collected information and analysis, supervisory authorities should recognise potential liquidity problems in one or a group of IIFS. When such a potential problem is detected, supervisory authorities should evaluate the resilience of the IIFS to such potential shocks and determine the most appropriate action. These corrective actions should be commensurate with the level of potential risk identified and should take into account the size and significance of the IIFS for the IFSI and the overall financial system. As a starting point, the supervisory authority may require the IIFS to improve its internal governance of liquidity risk so that the internal control systems are able to recognise the changing market environment and its vulnerabilities and make adjustments in internal policies, procedures, and reporting to senior management and the board. Supervisory authorities may expect the IIFS to reduce any substantial positive or negative gap in its various maturity buckets within a specific number of days, or may advise it to increase its liquidity buffer. In a more severe liquidity situation, the supervisory authorities may restrict the financing activities of the IIFS or require it to offload some of its investments. If the supervisory authorities consider that the liquidity position of the IIFS is being affected due to its deteriorating capital position, resulting in market rumours about its solvency and stability, they may require it to raise additional capital. Similarly, where liquidity is under stress due to reputational contagion from problems with other group entities, the supervisory authorities may ask the IIFS to improve the frequency and effectiveness of its communication to various stakeholders.

146. A liquidity stress situation with an IIFS should be handled swiftly, possibly requiring close interaction and communication between the supervisory authorities, finance ministries and other relevant national bodies. The supervisory authorities should focus especially on liquidity problems in systemically important IIFS with a large market share and broad customer base, and ensure that problems in such IIFS are dealt with promptly and adequately. Further, supervisory authorities should have a proper follow-up plan with those IIFS that have been advised to take corrective measures. Supervisory authorities should also escalate the level of monitoring and required corrective actions if an IIFS fails to improve the problems in its liquidity position, internal controls and management of liquidity risk within a specified time frame.

4.5 Home-Host and Cross-Sector Supervision of Liquidity Risk in IIFS

Principle 20

For IIFS having cross-border operations, home and host supervisory authorities should collaborate and communicate their assessments of the consolidated liquidity position and the framework for managing liquidity risk by the respective entities. Through mutual cooperation, home and host supervisory authorities should take measures which can protect their financial systems against any liquidity contagion due to idiosyncratic or market-wide stress situations. Supervisory authorities within a jurisdiction that monitor different business lines of IIFS should also take steps for coordinated supervision and information sharing on the liquidity positions and levels of risk of these entities.

147. With the rising acceptability and growth of Islamic finance, many IIFS are expanding their operations outside their countries of origin. Some large IIFS are managing their daily liquidity needs across several jurisdictions in a centralised manner. These cross-border interdependencies raise the prospect of liquidity disruptions that could impact various financial systems and markets. Keeping in view these factors, supervisory authorities of those IIFS which have cross-border operations should cooperate and coordinate their activities in order to better understand the liquidity risk profiles of these IIFS and enhance the exchange of information in a crisis situation. Normally, an IIFS is subject to regular monitoring on a consolidated basis by its home supervisory authority and on a legal entity basis by the host supervisory authority. Many areas of monitoring and supervision may overlap between the two authorities. There may be other inconsistencies between the supervisor frameworks, such as the type

and frequencies of liquidity reporting, a focus on quantitative or qualitative aspects, and the acceptability of various *Sukūk* from a *Sharī'ah* perspective by the home and host supervisory authorities. Nevertheless, such differences may be resolved with a proper appreciation of each other's supervisory practices and regular communications. Further, the IIFS should assist their supervisory authorities to understand how differences in practices across jurisdictions can be bridged.

148. Home and host supervisory authorities can exchange various types of information, with the frequency of exchange depending on the nature of the information and the liquidity environment in the respective national jurisdictions. One area is general assessment of the liquidity position of the IIFS, which is normally performed by the home supervisory authority on a consolidated basis, with regular information provided to the home supervisory authority. In the case of a decentralised structure of liquidity risk management in the IIFS, the host supervisory authority will have a major role but consolidated information from the home supervisory authority will still be important. Quantitative and qualitative reporting by the subsidiary IIFS is submitted to the host supervisory authority, a summary of which can be communicated to the home supervisory authority on an annual basis, or more frequently if agreed between them. Major findings of the on-site or special inspections by the host supervisory authority can be shared after the conclusion of the exercise. Nevertheless, in the case of a market-wide liquidity stress situation in the home or host jurisdiction, or otherwise if there are IIFS-specific liquidity problems in local operations or at the level of the parent, the supervisory authorities should act swiftly, with more frequent communication, in order to thwart any problems regarding the solvency of the IIFS involved.

149. Many IIFS offer different types of services that may cross supervisory boundaries within the same jurisdiction, such as offering restricted investment accounts which are akin to funds management and thus may be regulated by the securities market's supervisory authorities. Some IIFS offer Islamic collective investment schemes or *Takāful* operations which may be supervised by some other supervisory bodies within the jurisdiction. Some fully fledged Islamic banks have Islamic investment banks as their subsidiaries. In jurisdictions where these activities are supervised by separate supervisory authorities, problems in liquidity risk management with the parent or the line of business may be transmitted to the other side if they are not properly coordinated and supervised by the relevant supervisory authorities. The supervisory authority responsible for monitoring the parent should assess the overall risk, including liquidity risk, on a consolidated basis.

150. As suggested in IFSB-5,⁴⁸ various measures can be taken to increase coordination between the supervisory authorities that are overseeing the different entities of an IIFS within a jurisdiction. These measures can also be extended to the home and host supervisory authorities. The measures include frequent dialogues, and bilateral or multi-party agreements on memoranda of understanding so as to clearly designate the parties' respective roles and responsibilities in normal times and expectations in periods of stress. Supervisory authorities may also establish a "central point of contact", which is a collection of designated officials in each supervisory authority responsible for collecting relevant information related to the IIFS under their supervision and for sharing it with other supervisory authorities in case of need. In addition, more informal, oral communication channels may be considered appropriate means of communication in certain cases – for example, conference calls, video conferencing and face-to-face meetings. Nevertheless, supervisory authorities need to remain flexible in terms of the format of their information sharing, whether written or oral. Further, based on the relative size and significance of the involved IIFS, they should discuss the best possible options for such communication and information sharing.

4.6 Supervisors' Contingency Planning for the IIFS

Principle 21

Supervisory authorities should have a plan for identifying and dealing with liquidity stress in the IIFS sector as a part of their macroprudential liquidity contingency framework for the financial sector. Such a framework should be supported by macro-level stress testing by the supervisory

⁴⁸ See IFSB-5, paragraphs 50 and 51.

authorities, taking into consideration the balance sheet exposures submitted by IIFS as well as other relevant macroeconomic, geographic and political factors.

151. In order to promote macroprudential supervision and ensure the soundness and stability of the financial system, supervisory authorities should have a contingency plan for dealing with liquidity stress at the individual institution and market-wide level, and they should include the IIFS sector in such a plan. Supervisory authorities that already have a contingency plan for dealing with a liquidity crisis in their financial/banking markets, but which have not made IIFS part of such a plan due to some constraints, should consider including the IIFS in such an arrangement.

152. As pointed out in a number of principles related to supervisory authorities included in *IIFSB Guiding Principles on Stress Testing*, supervisory authorities should conduct macro-level stress testing taking into consideration the balance sheet exposures submitted by the financial institutions, including the IIFS, and other relevant macroeconomic, geographic and political factors necessary for building appropriate scenarios. The results of such stress testing should be the basis of the financial sector liquidity contingency framework at the jurisdiction level. Supervisory authorities should, however, determine the time horizon and frequency of stress testing that is proportionate to the risks covered and the rationale for conducting stress testing. The supervisory stress testing programme should also allow supervisory authorities to conduct ad-hoc stress tests when deemed necessary ahead of any financial disorder to verify whether certain shocks will bring any significant change in the whole financial system (including the IFSI).

153. While conducting macro-level stress testing as an input to preparing a macro-prudential liquidity contingency plan, supervisory authorities should also consider a number of intricacies in performing this exercise. Such complications include: (i) using institution-specific data to address system-wide stability concerns; (ii) measuring interdependences and interactions between the financial and real sectors; (iii) trying to incorporate the majority of the risk borne by the financial institutions, including the IIFS; (iv) taking account of correlations between the different risk factors that can impact their balance sheets; (v) gauging the impact of systemically important financial institutions, including the IIFS, with diversified activities; and (vi) the cross-sectoral nature of many IIFS which might result in financial and reputation contagion between the various sections of the financial sector.

4.7 Supervisors' Role in the Development of Infrastructure for Liquidity Risk Management

Principle 22

In order to provide a conducive environment for liquidity risk management by the IIFS, supervisory authorities should work closely with other relevant official or public sector bodies (e.g. the finance ministry and the deposit insurance provider) to facilitate the issuance of *Sharī'ah*-compliant instruments/*Sukūk* by the government and the provision of *Sharī'ah*-compliant deposit insurance. Supervisory authorities, together with other relevant bodies, should facilitate the availability of market makers in *Sharī'ah*-compliant instruments/*Sukūk* in their jurisdictions so as to develop secondary markets in such instruments and to increase market liquidity.

154. Supervisory authorities should note that as the size of the IFSI grows, its exposure to macro-level shocks also increases. Therefore, supervisory authorities should endeavour to provide a level playing field to IIFS by leveraging its influence with other relevant official-sector bodies in the jurisdiction to ensure they fulfil their role of helping to reduce obstacles to their effective liquidity risk management. These Guiding Principles acknowledge that it is not the primary role of supervisory authorities to provide supporting building blocks for the said purpose; nevertheless, as elaborated in Section II of this standard, supervisory authorities can play quite a significant role in persuading the relevant bodies to support the IIFS sector. In the following paragraphs, the Guiding Principles illustrate some major hindrances to liquidity risk management of IIFS that can be resolved with the active support of and liaison by the supervisory authorities.

155. The importance for IIFS of *Sharī`ah*-compliant instruments and *Sukūk* issued by the government cannot be overemphasised, for a number of reasons. First, government *Sukūk* serve as IIFS' prime securities for maintaining statutory liquidity requirements with the supervisory authorities. Second, such *Sukūk* are the main instruments that can be used as collateral for regular or LOLR support from supervisory authorities. Third, in Islamic money market trading, government *Sukūk* are readily acceptable in the local market and help IIFS to manage their liquidity more effectively. Fourth, such *Sukūk* provide a low-risk investment avenue for IIFS. Fifth, government *Sukūk* form the basis of the Islamic capital market by providing the necessary benchmarks for trading. For these reasons, supervisory authorities should liaise with the Ministry of Finance and the national public debt office for issuance of a regular program of *Sukūk* in various maturities and using a range of *Sharī`ah*-compliant structures. Such cooperation can be in the form of providing support to finalise the nature of the *Sukūk* structure, possible maturities, and the volume and timing of issuance. Governments might be reluctant to issue *Sukūk* for reasons such as lack of borrowing needs from the markets due to a fiscal surplus or a more stringent requirement for issuing *Sukūk* vis-à-vis bonds. Governments need to be reminded of the key role that the government *Sukūk* market can play in providing the benchmark for the rest of the Islamic capital market. Many governments around the world are maintaining their conventional government bond market solely for this purpose.

156. In many jurisdictions, deposit insurance authorities either do not provide deposit insurance to IIFS at all, or do not provide it on a *Sharī`ah*-compliant basis. From a conventional banking perspective, it is widely accepted that providing a safety net in the form of a deposit insurance scheme to deposit-taking institutions helps to maintain public confidence in such institutions, as well as more broadly in the financial system. The same applies to IIFS that seek funding through current and saving accounts, as well as PSIA. Supervisory authorities should coordinate with deposit insurance authorities so that an explicit deposit insurance scheme can be offered to the IIFS on a *Sharī`ah*-compliant basis. Supervisory authorities can also provide assistance to national deposit insurance authorities in a number of areas – for example: (a) deciding the maximum coverage amount under the scheme for the deposits and PSIA; (b) finding ways to decrease moral hazard and to address *Sharī`ah* issues in providing insurance to PSIA funds; (c) devising the policy and procedures for the resolution process of insolvent IIFS; (d) suggesting appropriate ways to separately invest premiums received from the IIFS and conventional banks; and (e) recommending the treatment of various fund providers from a *Sharī`ah* and legal perspective in the event of an IIFS's insolvency.

157. The non-availability of market makers in *Sharī`ah*-compliant instruments or *Sukūk* is a major handicap in the liquidity management of IIFS in many jurisdictions. The availability of market makers provides an exit route for both investors and issuers in *Sukūk*. Market makers help the IIFS involved in the issuance of such instruments to go beyond their role as issuers and be able to generate liquidity through the sale or pledge of these instruments. The IIFS in a jurisdiction need to collectively work for the availability of market makers in their jurisdictions in *Sharī`ah*-compliant instruments. Supervisory authorities can also support such efforts. Alternatively, a separate institution/body may be established by supervisory authorities that can play this role.

DEFINITIONS

The following definitions are intended to assist readers in their general understanding of the terms used in the Guiding Principles. The list is by no means exhaustive.

Asset–liability management	The ongoing process of formulating, implementing, monitoring and revising strategies related to assets and liabilities to achieve the financial objectives, given the risk tolerances and other constraints.
Diminishing <i>Mushārah</i>	Diminishing <i>Mushārah</i> is a form of partnership in which one of the partner promises to buy the equity share of the other partner over a period of time until the title to the equity is completely transferred to the buying partner. The transaction starts with the formation of a partnership, after which buying and selling of the other partner’s equity takes place at market value or the price agreed upon at the time of entering into the contract. The “buying and selling” is independent of the partnership contract and should not be stipulated in the partnership contract, since the buying partner is only allowed to promise to buy. It is also not permitted that one contract be entered into as a condition for concluding the other.
<i>Hibah</i>	A unilateral transfer of ownership of a property or its benefit to another without any counter-value from the recipient.
<i>Ijārah</i>	An agreement made by an institution offering Islamic financial services to lease to a customer an asset specified by the customer for an agreed period against specified instalments of lease rental. An <i>Ijārah</i> contract commences with a promise to lease that is binding on the part of the potential lessee prior to entering the <i>Ijārah</i> contract.
<i>Ijārah Muntahia Bittamlīk</i> (or <i>Ijārah wa Iqtina</i>)	A form of lease contract that offers the lessee an option to own the asset at the end of the lease period either by purchase of the asset through a token consideration or payment of the market value, or by means of a <i>Hibah</i> contract.
Investment risk reserve (IRR)	The amount appropriated by the institution offering Islamic financial services out of the income of investment account holders (IAH), after allocating the <i>Mudārib</i> 's share, in order to cushion against future investment losses for the IAH.
Islamic collective investment scheme (ICIS)	Any structured financial scheme that, fundamentally, meets ALL the following criteria: a) investors have pooled their capital contributions in a fund (whether that fund is in a separate legal entity, or is held pursuant to a contractual arrangement) by subscribing to units or shares of equal value. Such units or shares constitute, in effect, claims of ownership of the undivided assets of the fund (which can consist of financial or non-financial assets), and give rise to the right or obligation to share in the profits or losses derived from those assets; b) the fund is established and managed in accordance with <i>Sharī`ah</i> rules and principles; and c) whether or not the ICIS is managed by the institutions that established or sponsored it, it is financially accountable separately from those institutions (i.e. it has its own assets and liabilities profile), but excluding <i>Sukūk</i> .
Islamic window	An Islamic window is part of a conventional financial institution (which may be a branch or dedicated unit of that institution) that provides both fund management (investment accounts) and financing and investment that are <i>Sharī`ah</i> compliant.

<i>Istisnā`</i>	An <i>Istisnā`</i> contract refers to an agreement to sell to a customer a non-existent asset, which is to be manufactured or built according to the buyer's specifications and is to be delivered on a specified future date at a predetermined selling price.
<i>Mubāra'at</i>	An agreement between the institution offering Islamic financial services and its customer whereby the customer will waive a certain portion of his profits earned during the investment period.
<i>Muḍārabah</i>	A partnership contract between the capital provider (<i>Rabb al-Māl</i>) and an entrepreneur (<i>Muḍārib</i>) whereby the capital provider would contribute capital to an enterprise or activity that is to be managed by the entrepreneur. Profits generated by that enterprise or activity are shared in accordance with the percentage specified in the contract, while losses are to be borne solely by the capital provider unless the losses are due to the entrepreneur's misconduct, negligence or breach of contracted terms.
<i>Murābahah</i>	A sale contract whereby the institution offering Islamic financial services sells to a customer at an agreed profit margin plus cost (selling price) a specified kind of asset that is already in their possession.
<i>Murābahah</i> for the purchase orderer (MPO)	A sale contract whereby the institution offering Islamic financial services (IIFS) sells to a customer at cost plus an agreed profit margin (selling price) a specified kind of asset that has been purchased and acquired by the IIFS based on a promise to purchase from the customer, which can be binding or non-binding.
<i>Mushārahah</i>	A <i>Mushārahah</i> is a contract between the IIFS and a customer whereby both would contribute capital to an enterprise, whether existing or new, or to ownership of a real estate or moveable asset, either on a temporary or permanent basis. Profits generated by that enterprise or real estate/asset are shared in accordance with the terms of the <i>Mushārahah</i> agreement, while losses are shared in proportion to each partner's share of capital.
Profit equalisation reserve (PER)	The amount appropriated by the institution offering Islamic financial services out of the <i>Muḍārabah</i> income, before allocating the <i>Muḍārib</i> 's share, in order to maintain a certain level of return on investment for investment account holders and to increase owners' equity.
<i>Qarḍ</i>	A non-interest-bearing loan intended to allow the borrower to use the funds for a period with the understanding that this would be repaid at the end of the period.
Restricted investment accounts	The account holders authorise the institution offering Islamic financial services to invest their funds based on <i>Muḍārabah</i> or agency contracts with certain restrictions as to where, how and for what purpose these funds are to be invested.
<i>Salam</i>	A <i>Salam</i> contract refers to an agreement to purchase, at a predetermined price, a specified kind of commodity not available with the seller, which is to be delivered on a specified future date in a specified quantity and quality. The institution offering Islamic financial services as the buyers make full payment of the purchase price upon execution of a <i>Salam</i> contract. The commodity may or may not be traded over the counter or on an exchange.
<i>Sharī'ah</i>	Divine Islamic law as revealed in the <i>Qur'an</i> and the <i>Sunnah</i> .
<i>Sharī'ah</i> supervisory board	A specific body set up or engaged by the institution offering Islamic financial services to supervise its <i>Sharī'ah</i> compliance and governance system.
<i>Sukūk</i> (sing. <i>Sakk</i>)	Certificates that represent a proportional undivided ownership right in tangible assets, or a pool of assets that are <i>Sharī'ah</i> compliant.

<i>Takāful</i>	<i>Takāful</i> is derived from an Arabic word which means solidarity, whereby a group of participants agree among themselves to support one another jointly against a defined loss. In a <i>Takāful</i> arrangement, the participants contribute a sum of money as wholly or partially <i>Tabarru'</i> (donation) into a common fund, which will be used for mutual assistance for the members against a defined loss or damage.
Unrestricted investment accounts	The account holders authorise the institution offering Islamic financial services (IIFS) to invest their funds based on <i>Mudārabah</i> or <i>Wakālah</i> (agency) contracts without imposing any restrictions. The IIFS can commingle these funds with their own funds and invest them in a pooled portfolio.
<i>Wadī`ah</i>	<i>Wadī`ah</i> means custody or safekeeping. In a <i>Wadī`ah</i> arrangement, the safe-keeper guarantees the safety of the items or funds kept by it. The safe-keeper may charge a fee for looking after the items or funds and may pay <i>Hibah</i> (gift) to the principal.
<i>Wakālah</i>	An agency contract where the customer (principal) appoints the IIFS as agent (<i>Wakīl</i>) to carry out the business on their behalf and where a fee (or no fee) is charged to the principal based on the contract agreement.

APPENDIX: SUGGESTED METRICS AND MONITORING TOOLS

1. This Appendix includes a number of metrics that can be used by supervisory authorities for assessing and monitoring the liquidity position and framework for liquidity risk management of the IIFS. These metrics help supervisory authorities to acquire information related to an IIFS's balance sheet structure, maturity mismatch, cash flows, available unencumbered assets, and certain indicators related to the financial market and a particular IIFS.

2. Depending on the needs of the IIFS sector and the experience of the supervisors in monitoring and assessing their liquidity risk, supervisory authorities may use additional metrics or monitoring tools. Supervisory authorities may also make appropriate modifications to the suggested metrics that suit the elements of liquidity risk specific to their jurisdictions. Supervisory authorities should monitor the information collected through these and other related metrics, and should seek timely corrective action from an IIFS in the event of current or potential problems being identified in its liquidity position or its capacity to manage liquidity risk effectively, as outlined in Principle 19. These metrics and monitoring tools can also provide supervisory authorities some "early warning signals" related to liquidity position of a particular IIFS or IIFS/banking sector as a whole. These signals can guide supervisory authorities not only to take timely corrective regulatory steps, but also to make appropriate changes in its policies and regulations.

3. The following metrics are included in this Appendix as guidance for supervisory authorities:

- I. Contractual maturity mismatch
- II. Concentration of funding
- III. Available unencumbered assets
- IV. Market-related monitoring tools

I. Contractual Maturity Mismatch

4. The contractual maturity mismatch profile of an IIFS indicates the gaps between the contractual liquidity inflows and outflows for selected time bands. These gaps in maturity mismatches signify potential liquidity needs of an IIFS that need to be raised in respective time bands if all outflows occurred at the earliest possible date.

5. This metric will include all contractual cash and security inflows and outflows from all on- and off-balance sheet items, segregated into selected time bands based on their respective maturities. Supervisory authorities should provide details of the required template to the IIFS, stipulating the range of time buckets for reporting the data. This template should require preparing the cash-flow mismatches for a range of time bands which can help the supervisor to analyse an IIFS's cash-flow position. These time bands may range from overnight to 7 days, 14 days, 1, 2, 3, 6 and 9 months, and 1, 2, 3, 5 and beyond 5 years.

6. The calculation of these maturity mismatches should be governed by the following parameters, among others:

- i) Instruments/products without any particular maturity should be reported separately with related details. Assumptions about possible maturity can be required by supervisory authorities, at their discretion.
- ii) The metric should also include all securities flows. Supervisory authorities should evaluate the corresponding cash flows that can impact the liquidity position of an IIFS.
- iii) Potential cash flows arising from *Shari'ah*-compliant derivatives should also be reported as a part of this metric, if their contractual maturities have a meaningful impact on the cash flows of an IIFS.
- iv) Information related to capital or non-performing financing should be reported separately.

- v) Separate reporting will be required for mismatches in customer collateral.
- vi) The existing liabilities will not be assumed to roll over. Similarly, for assets, the IIFS will not be assumed to enter into new financing contracts.
- vii) Contingent liability exposures that may be impacted by triggers such as a change in the prices of relevant instruments or a downgrade in the credit rating of the IIFS should be clearly explained.

7. Supervisory authorities will stipulate the frequency of reporting raw data on a contractual maturity mismatch. Depending upon the size and sophistication of the IIFS in the jurisdiction, this frequency may range from 1, 2 weeks to 1, 2, 3 months. No assumptions should be included in the data.

8. Supervisory authorities should be mindful of the limitations of mismatch data based on contractual maturities, without any behavioural assumptions. The data will not reflect actual future forecasted flows under a going-concern scenario. Such data also does not include outflows that an IIFS may need to incur to retain its franchise value, even without any contractual obligations for making such transfers. Supervisory authorities should supplement the contractual maturity mismatch data with their own assumptions in order to analyse the possible impact of any behavioural changes.

9. As delineated in Principle 6, IIFS are expected to perform their own maturity mismatch analyses, based on contractual as well as behavioural assumptions. These analyses should include all the on- and off-balance sheet inflows and outflows of funds, in both normal and stressed market conditions. IIFS should incorporate their strategic and business plans in the analyses, and should encompass any new product offering, change or addition of business lines, expansion into new jurisdictions, etc. IIFS should also share these analyses with their supervisory authorities, along with appropriate comparison to reported contractual mismatch data.

10. Supervisory authorities should evaluate the appropriateness of assumptions made by the IIFS for behavioural examination of maturity mismatches and should challenge them in case of need. An IIFS should be able to explain to the supervisory authority its funding plans to bridge the identified gaps in normal and stressed market conditions, as explained in Principles 7, 9 and 10 of these Guiding Principles.

II. Concentration of Funding

11. This metric aims to encourage diversification of funding sources and assists in identifying sources of wholesale funding the withdrawal of which can have a significant impact on the liquidity position of an IIFS. In line with the guidance included in Principle 7, this metric supports funding diversification by each significant counterparty, product/instrument and currency. Funding liabilities sourced from each significant counterparty and product/instrument are calculated as a percentage of the IIFS's balance sheet total. For currencies, lists of assets and liabilities in each significant currency will be calculated. These metrics should be reported separately for the time horizons of less than 1 month, 1–3 months, 3–6 months, 6–12 months and for longer than 12 months.

12. For calculating funding concentration with respect to significant counterparties, the numerator is calculated by aggregating the total of all types of funding from a single counterparty or group of connected or affiliated counterparties. The total should include both secured and unsecured funding from the counterparty. A “significant counterparty” is defined as a single counterparty or group of connected or affiliated counterparties that account in aggregate for more than 1% of the IIFS's total balance sheet. The group of connected counterparties should be defined in line with the “Large Exposure” regulation of the jurisdiction. Deposits and funding generated from intra-group institutions and related parties should be identified separately.

13. For calculating the funding concentrations metric related to significant instruments/products, the numerator should be calculated for each significant funding instrument/product, both on a stand-alone basis and a group of similar types of instruments/products basis. An instrument/product or their group will be considered “significant” if its aggregate amount is more than 1% of the IIFS's total balance sheet.

14. The funding concentration by currency metric is aimed at identifying a structural currency mismatch in an IIFS's assets and liabilities. A currency shall be considered "significant" if the aggregate funding/liabilities denominated in that currency amount to 5% or more of the IIFS's total funding/liabilities.

15. Supervisory authorities should consider the potential of herding behaviour by funding counterparties in the case of an institution-specific problem. Furthermore, in the case of market-wide stress, even the well-diversified funding sources may not assist in sustaining funding due to liquidity stress impacting multiple funding counterparties and the IIFS itself. Supervisory authorities should also take into account the existence of bilateral funding transactions that may affect the net outflow. For analysing funding concentrations by significant currency, supervisory authorities should focus on techniques being used by the IIFS to manage currency mismatches, including *Sharī`ah*-compliant hedging.

III. Unencumbered Assets

16. This metric is intended to provide supervisory authorities with information on the available unencumbered assets of an IIFS. Corresponding to Principle 11, IIFS should submit the data relating to the quantity, currency and location of their available unencumbered assets. These assets can be potentially used as collateral to generate additional secured funding from both central banks and the Islamic interbank money market.

17. An IIFS should report the collateral received from customers that can be delivered or re-pledged. The reporting should also classify the available unencumbered assets by significant currency and location. For the purpose of this metric, a "significant" currency refers to that currency in which the aggregate stock of available unencumbered assets is more than 5% of the total stock of collateral. If applicable, an IIFS should also report the estimated haircut to be applied on each asset by the central bank and/or Islamic interbank market.

18. In analysing the information from this metric, supervisory authorities should take into account various systemic and institution-specific factors that can impact the value and potential benefit of available unencumbered assets. In stress situations, counterparties may change their haircuts and financing policies that can effectively erode the comfort attached to such unencumbered collateral.

IV. Market-Related Monitoring Tools

19. Supervisory authorities should also make regular use of market data that can provide early warning indicators regarding liquidity problems in the IIFS and overall banking sector. For this metric, supervisory authorities can make use of information related to: (i) markets; (ii) the financial sector; and (iii) individual IIFS.

20. Supervisory authorities can monitor available information related to various markets including, but not limited to, equity prices of the overall stock market and related indices of IIFS, *Sukūk* and government securities market in *Sharī`ah*-compliant instruments, foreign exchange market, commodities markets and major indices. This information should be analysed both in terms of the absolute level, and the direction of, the major markets. Such analyses will help supervisory authorities to assess the potential effect of movements in markets' indicators both on the overall financial sector and on a particular IIFS.

21. Information on a financial sector may include indicators of equity and *Sukūk* markets; indices of specific sub-sets of the financial sector; the liquidity or financial difficulty of a financial institution; and insolvencies and non-performing financing of the overall banking sector, as well as of the IIFS sector as a whole. IIFS-specific information may include, but is not limited to, the liquidity position of an IIFS and its market reputation regarding repayment capacity; equity prices of the IIFS; Islamic money market trading profits; the frequency and capacity to roll over funding; profits being paid on various lengths of funding; and the credit rating of IIFS and its issued *Sukūk*.