بسم الله الرحمن الرحيم

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مؤسسة النقد العربي السعودي

المركز الرئيسي

إدارة السياسات البنكية

الرقم : _____

المرفقات : _____

تعميم

سعادة /

المحترم

بعد التحية:

الموضوع: إجراءات التقييم الداخلية لكفاية السيولة

إشارة إلى تعليمات بازل ٣ الصادرة عن لجنة بازل للإشراف البنكي والتي تؤكد على ضرورة قياس ومراقبة مخاطر السيولة، فقد قررت المؤسسة استحداث إجراءات التقييم الداخلية لكفاية السيولة (Internal Liquidity Adequacy Assessment Process) وتتضمن معلومات عن مخاطر السيولة ونتائج اختبارات التحمل، بالإضافة إلى خطة التمويل الطارئ، وعلى البنك الاحتفاظ بكافة المعلومات الفنية عن المنهجيات المتبعة في قياس المخاطر ونماذج المخاطر وغيرها من الإجراءات التي يتم اتباعها وأي معلومات ذات الصلة ليتم التحقق منها من قبل المؤسسة في الزيارات الميدانية أو متى ما استدعت الحاجة.

تجدون مرفق بطيه دليل إرشادي لإجراءات التقييم الداخلية لكفاية السيولة والذي سيدخل حيز التنفيذ في يناير ٢٠١٨م (باعتبار السنة المنتهية في ٣١ ديسمبر ٢٠١٧ كسنة أساس)

وفي حال وجود استفسار يمكنكم التواصل مع الأستاذ/ سليمان بن رشيد الجبرين (saljabrin@sama.gov.sa) أو الأستاذ/ طارق جاويد (t_javed@sama.gov.sa).

وتقبلوا تحياتي،

علي بن محمد الحميدان

مدير إدارة السياسات البنكية

نطاق التوزيع:

- البنوك المحلية العاملة في المملكة.

ص.ب ٢٩٩٢ الرياض ١١١٦٩ ، العنوان البرقي : مركزي ، تلكس ٤٠٤٤٠٠ هاتف ٤٦٣٣٠٠٠ فاكس ٤٦٦٢٤١٤

السياري

SAMA GUIDELINES ON THE INTERNAL LIQUIDITY ADEQUACY ASSESSMENT PLAN (ILAAP)

SAMA
BANKING POLICY DEPARTMENT
August 2017

TABLE OF CONTENTS

I. PROCESS FOR CONSTRUCTING AN ILAAP

1. Introduction and Overview:

Basel III's structure is built upon three pillars. Under Pillar 1, minimum liquidity requirements are calculated based on explicit calculation rules in respect of Liquidity Coverage Ratio and Net Stable Funding Ratio. However, in Pillar 2, other risks are to be identified and risk management processes and risk mitigation are assessed from a wider perspective, to supplement the liquidity requirements calculated within the scope of Pillar 1. Pillar 2 involves a proactive assessment of unexpected losses and a methodology to set aside sufficient liquidity in the form of High Quality Liquid assets and additional liquid assets needed as part of SREP to fulfill cash flows needs on a short, medium and long-term basis fulfilling regulatory minimum requirements.

One of the cornerstones of the Basel III framework (liquidity monitoring requirements and principles for sound liquidity risk management and supervision) is the requirement that, within the scope of Pillar 2, the banks develop their own Internal Liquidity Adequacy Assessment Plan (ILAAP). This is a tool, which ensures that the banks possess sufficient liquidity, which is commensurate with their selected risk profile and risk appetite, as well as appropriate governance and control functions, and business strategies. Consequently, the ILAAP process includes a strategic review of a bank's liquidity needs and as to how these liquidity requirements are to be funded, i.e. through internal profits, deposits, money market transactions, IPOs, SUKUKs, right issues and other debt issues etc.

It is essential that the ILAAP process involve an assessment of a bank's liquidity needs beyond its minimum liquidity requirements per LCR, NSFR and SAMA liquidity ratio. Accordingly, it assesses risk beyond the Pillar I risks and therefore, addresses both additional Pillar I and Pillar II risks.

While SAMA has formulated these guidelines with which banks must comply within the scope of their internal liquidity adequacy assessment process, it is the banks themselves that are to select and design the manner in which these requirements are met. Consequently, SAMA will not prescribe any standard methodology but a set of minimum requirements with respect to the process and disclosure requirements.

2. Objectives:

The main purpose of the ILAAP is for a bank's senior managers to proactively make a strategic assessment of its liquidity requirements considering its strategies, business plans, all risks, acquisitions and dividend policies etc. Further, the ILAAP also establishes the liquidity required for regulatory and risk purposes and helps identify planned sources of liquidity to meet these objectives. In addition, an ILAAP benefits include greater corporate governance and improved risk assessment in banks and thereby increases the stability of the financial system.

Another important purpose of the ILAAP document is for senior management to inform the Board of Directors and subsequently SAMA on the ongoing assessment of the bank's liquidity risk profile, liquidity risk appetite, strategic plan and liquidity adequacy. It also includes the documentation as to how the bank intends to manage these risks, and how much current and future liquidity is necessary for its future plan.

3. Major Building Blocks of the ILAAP:

3.1 Banks' Role and Responsibility for the ILAAP

Banks should be able to demonstrate to SAMA that their ILAAP process is comprehensive, rigorous and includes liquidity commensurate with their risk profile as well as their strategic and operational planning. The banks must compose and assemble a specific ILAAP process and methodology based on the requirements imposed by SAMA and on specific strategic and operational plans set by their Board of Directors.

3.2 SAMA's Role and Responsibility in the ILAAP Process

SAMA is responsible for establishing guidelines governing the frequency and nature of the ILAAP process and for reviewing and making risk-based assessments of banks' ILAAPs and the frameworks established by banks to govern the creation of these documents. Banks are responsible for establishing their own actual implementation processes and methodology in line with SAMA guidelines.

While the two processes involved are closely integrated through the Supervisory Review Process, at the same time there is an express division of responsibilities.

Following risk assessment of a bank, SAMA may, where necessary, impose additional liquidity requirements on the bank or require enhanced risk management systems and additional stress testing etc. to be implemented.

One of the alternative courses of action available to SAMA is to establish a higher liquidity requirement (additional buffers on top of SAMA liquidity ratio, LCR and NSFR) than that established by the Basel standards and local rules and regulations. The level of liquidity needed is based on the calculation of the liquidity requirement based on the explicitly established calculation rules as per LCR and NSFR. However, a supplement could be required as additional liquidity in light of other types of risks (Pillar 2), that may be identified during the internal liquidity adequacy assessment process.

3.3 ILAAP as a part of Pillar 2

The basic idea is that banks shall, within the framework of Pillar 2, identify all of the material (to be defined by the bank) liquidity related risks to which they are exposed. This involves a wider spectrum of risks than those that form the basis for the minimum liquidity adequacy calculation within Pillar 1, i.e. LCR, NSFR. It involves, among other things, at least the following:

- Liquidity risk – the risks of difficulties in raising liquidity in general or liquidity in certain situations
- Deposit concentration risk – exposures concentrated on a limited number of customers, industries, certain sectors or geographic area, etc. entailing vulnerability
- Macro Economic and Business cycle risk – through lending or otherwise a bank may be vulnerable to business cycle risks or environmental changes in terms of insufficient liquidity
- Balance sheet mismatch risk

- Liquidity correlation factors associated with other risks i.e. reputational risk, asset concentration risk, PRRBB risk, strategic risks etc. which have a bearing on Bank's overall liquidity position.

These risks, as well as the risks that are addressed within the scope of Pillar 1 are to a certain degree inter-dependent and to a certain extent capture various aspects of the same risk classification.

4. Major Challenges in Building an ILAAP:

The major challenge in the internal liquidity adequacy assessment is to identify and accurately assess the significance of all of the risks faced by a bank and which may have consequences as regards to its liquidity situation. Subsequently, the risks identified, must be quantified by translating these into a liquidity requirement.

In all of these stages, there are both conceptual difficulties and measurement problems. These include:

1. What constitutes a relevant risk?
2. What is the reasonable possibility that such a risk will actually happen?
3. If such a risk occurs, how large is the damage that it might lead to?
4. Do various risks arise independently or are they co-related with each other?
5. How is the assessed risk to be priced in terms of liquidity requirements?

While there have been developments for analyzing and measuring risks, assessment and risk management are not an exact science in which models and systems automatically provide quantified answers. Analysis, assumptions, methods and models are important tools in order to obtain reasonable answers.

It is up to each bank, based on its own operations, its scope of business and risks to formulate an internal liquidity adequacy assessment process which is suitably adapted and which meets the requirements of SAMA. This means also that the size of the operations is not the sole criterion; rather, it is the complexity and risk level of the operations, which should be the main driver.

5. The ILAAP Process:

5.1 Board and Senior Management Responsibility in the ILAAP Process

It is important that an internal liquidity adequacy assessment process, as an activity, remains the responsibility of senior management and ultimately the Board and ownership (based on powers delegated by the Board) should be clearly identified in the document.

In this regard, the senior management (Treasurers, Chief Risk Officer, Chief Financial Officer) based on powers delegated by the Board should be clearly involved in its development, the process itself, data collection and reconciliation, planning and forecasting and its integration into the business operations. The Board should ensure that the ILAAP is embedded in the bank's business and organizational processes. The Board's responsibility in the ILAAP process should be documented and clarified throughout the organisation.

5.2 Strategic and Liquidity Planning in the ILAAP Process

As a part of the ILAAP process, the board of directors and senior management (based on powers delegated by the Board) must also establish clear goals with respect to the long-term level and composition of liquidity and integrate it as an element in the bank's strategic planning. There must also be a preparedness to handle unforeseen events that may detrimentally affect the liquidity adequacy situation.

Consequently, bank's senior management as a significant responsibility must have a process for assessing its liquidity adequacy relative to its risk profile. In this regard, the ILAAP's design should be in congruence with a bank's liquidity policy and strategy that should be fully documented.

The initial point for a bank's liquidity requirement and strategic plans must be to identify all of the risks to which it is exposed and which may be of significance. Also, the objective is that a well thought-out and a clear decision emerges as to how these risks are to be managed. This requires an approach, which includes an assessment of the following:

- The various markets in which the bank operates (Please note that this is not required in the first submission which will be on a group wide consolidated basis only)
- The products it offers
- The organizational structure
- Its liquidity position
- Its experience from various disruptions and problems previously experienced, and assessments of what might happen to the bank if such risk materialize
- Reviews and analyses of data as well as qualitative assessments
- For complex banks, this entails extensive reviews of the risks to which it is exposed on a continuing basis. Stress tests/sensitivity analyses are required in order to be able to measure the effects of a particular disruption. Regular analysis and assessments are required of the manner in which risks are managed, controlled and quantified and how they should be managed in the future. It is also important to identify the connections and links such as co-relations, which may exist between various types of risks. This should lead to a bank's liquidity requirements including any additional control measures.
- For a bank with more straight forward operations, the analysis work is obviously simpler as there are fewer and less significant factors.

For a complex operation with many branches of the business, it may be difficult to achieve a comprehensive grasp of the total risk structure, as well as all the factors that affect it. In a more limited operation, the negative aspect is the risks may be dependent on one or a small number of products, perhaps on a limited number of customers and perhaps a limited geographical area. For such operations, it may also be more difficult to raise liquidity rapidly at a reasonable cost.

5.3 Documentation and Corporate Governance in the ILAAP Process

The requirement regarding documentation is very significant. This is because in order to be able to evaluate the process it must be verifiable and it is possible for both the banks and SAMA to do a follow-up. Further, the manner in which the process is conducted as well as the decisions to which it leads to must be set forth in business plans, the Board minutes, as well as in various strategy and policy documents.

5.4 Frequency of ILAAP Review

The ILAAP should form an integral part of the management process and of a decision-making culture, and it should be reviewed regularly by a bank's board or the board's executive committee. SAMA requires that this must take place at least once a year. Additionally, the internal liquidity adequacy assessment process must be reviewed and a document submitted when significant changes have taken place, whether in relation to the bank's own decisions or external changes. The first formal ILAAP should be for the year 31 December 2017 as a base year along with forward looking information and should be submitted to SAMA by 31 March 2018. The overall document should not exceed 50 pages with an executive summary not to exceed 10 pages.

Also, in this regard, for a bank which operates in a number of financial sectors and perhaps also in various national markets, it may require a review of the ILAAP more frequently than once a year. SAMA will inform these Banks where a submission other than the annual submission is required. Consequently, for banks that operate within a single and simpler market segments, and where no dramatic changes take place in the market structure, a yearly review may represent an acceptable frequency.

5.5 Risk Based and Comprehensive

The ILAAP should be risk based, comprehensive and forward-looking and take into consideration a bank's strategic plans and external changes. Further, it should also be based on adequate measurement and assessment process.

The basis of the internal liquidity adequacy assessment process lies in the measurement of a bank's minimum liquidity requirements, which is the product of the calculated assessment of LCR, NSFR and SAMA liquidity ratio along with liquidity monitoring tools. Additional liquidity may also be required as a result of stress testing results. The internal liquidity adequacy assessment process challenges banks that they must take a broader approach and perspective of assessing other risks. In this respect, materiality (to be defined by each bank individually) is an important aspect. However, it is important to understand that all banks - large as well as small, complex and non-complex - must comply with the SAMA requirements.

5.6 Models and Stress Testing

Assessments of risks may be made both by using sophisticated methods, models and also using perhaps simpler measures and methods. What is appropriate and relevant is determined by a bank's operations in question. In case of a large bank, it might be natural to use extensive stress tests, which provide quantitative measurements of the impact due to a specified disruption. Generally, larger banks have external analyses with respect to economic and business cycles and financial market trends, including the use of economic liquidity models and measurements. This type of approach can constitute an important element of the internal liquidity adequacy assessment process. However, it is limited by the fact that generally it only deals with risks that are quantifiable.

Should a Bank utilize models, relevant and appropriate disclosure of the model such as its generic name, application or use within the risk management process, validation results and internal logic should be provided.

5.7 Reasonable Results

The ILAAP should produce a reasonable outcome vis-à-vis liquidity requirements. The process involves weighing together the importance of the risks which a bank encounters, the extent to which it exposes itself to these risks, and how it organizes itself and works in order to address them. This "bottom line" can crystallize into a minimum amount of liquidity after discussion with SAMA, as well as additional control systems necessary to cover the risks the bank is exposed to.

While liquidity requirements constitute a minimum requirement, banks in their interest operate above this minimum level as a consequence of their strategic objectives. The reason for this includes higher rating and thereby lower funding costs. Consequently, banks, as well as SAMA expect that bank liquidity stays above the minimum level of LCR and NSFR.

Generally, if a bank's internal liquidity adequacy assessment process result in an assessed level of required liquidity, which is the same, or below, the minimum as determined under the Pillar 1, is an indication that the internal liquidity adequacy assessment process has not functioned in a satisfactory manner.

II. REPORTING FORMAT AND CONTENTS

1. Overview of the Reporting Format and Contents:

This section on reporting format and contents is to provide guidance to banks to describe in a logical format the main assumptions and results of the ILAAP process. Consequently, the ILAAP document should bring into one place an assessment of the liquidity requirements in relation to a bank's risk profile, strategies, business plans, major risks, acquisitions, governance (banks' liquidity risk tolerance) and internal risk management systems, etc. It also must establish the level of liquidity required for economic, regulatory and risk purposes and help identify planned sources of liquidity to meet its objectives. Further, all relevant assessments and information should be covered and documented in the ILAAP with detailed focus on liquidity risk appetite.

Specifically, the ILAAP objectives of the bank and its related entities that are included should be specified. The main results of the ILAAP effort may be presented in a tabular format indicating the major components of liquidity requirements, liquidity available, liquidity buffers and proposed funding plans. Furthermore, the adequacy of the governance and bank's internal control and risk management processes should be included.

It is also important to document the strategic position of the bank, its balance sheet strength, planned growth in major assets based on its Business plans for the next 12 months indicating the likely consumption in liquidity for this growth by major category.

Further, the results of major stress tests on liquidity requirements and liquidity supply for additional risks deterioration in the economic environment, recessionary periods, or other economic/political downturns are important aspects to be covered.

2. Executive Summary:

The major purpose of the Executive Summary (not to exceed 10 pages) is to describe in a summary form the main results of the ILAAP effort. This brings into one place objectives of the ILAAP, the assessment of the liquidity requirements for strategies, business plans, all risks, acquisitions, etc. Also presented and described should be the liquidity required for economic, regulatory and risk purposes and identification of planned sources of liquidity to meet these objectives. The following information should be briefly described and where appropriate, relevant amounts are quantified and presented in a tabular format:

A. 1. Liquidity Required
- Pillar 1 Liquidity Requirements per LCR, NSFR and SAMA liquidity ratio
- Pillar 2 Liquidity Requirements
- Business Plans (Summarized)
  - Growth Rate and amounts by business lines
  - Liquidity requirements by business lines
- Strategic Initiatives
- Liquidity costs
- Stress testing
- Total liquidity requirements

2. Liquidity Available
- Current Availability in form of high quality unencumbered conventional and Shariah Compliant assets that are marketable or realizable
- Ability to generate funds from those assets in timely manner

- Prudent funding profile of assets
- Ability to generate unsecured funding of appropriate tenors in a timely manner
- IPOs
- Qualifying SUKUKs and Morabaha facility with SAMA
- Qualifying Debt issues
- Rights issue
- Repos and repoability
- Other liquidity sources

3. Buffer Available (1-2)

B. Description covering number of specific areas such as:
   - Pricing liquidity risk
   - Intraday management of liquidity
   - Management of collateral
   - Funding diversification and market access

C. Contingency Funding Plan over the Time Horizon along with testing of the plan. Please note that this could be produced as a separate document attached in the annexure.

D. Liquidity requirement for each legal entity, business line and currency in each subsidiary or affiliate. The first ILAAP should be prepared on a Group level and subsequently in later years, based on materiality defined by each bank, additional ILAAP at other levels should be prepared accordingly.

E. Liquidity & Fund Transfer Pricing:
A bank should incorporate liquidity costs, benefits and risks in the product pricing, performance measurement and new product approval process for all significant business activities (both on- and off-balance sheet), thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole.

F. Other information that may be included in the Executive Summary are comments on significant matters on any of the items above.

3. Objectives of an ILAAP:

A description of the bank's specific objectives is desirable. In this regard, the differing purposes that liquidity serves: shareholder returns, rating objectives for the bank as a whole or for certain securities being issued, avoidance of regulatory intervention, protection against uncertain events, depositor protection, working liquidity and liquidity held for strategic acquisitions etc. along with sufficient liquidity resources to cover:

1. the nature and level of the liquidity risk to which it is or might be exposed
2. the risk that the bank cannot meet its liabilities as they fall due and
3. the risk that its liquidity resources might in the future fall below the level, or differ from the quality and funding profile from those advised as appropriate by SAMA.

4. **Summary of Bank's Strategies including its Current and Projected Financial and Liquidity Positions:**

This section would be a major component of a bank's strategic and operational plans. It would include the present financial position of the bank and expected changes to the current business profile, the environment in which it expects to operate, its projected business plans (by appropriate lines of business), projected financial position and cash flow positions, and future planned sources of liquidity.

Major aspects to be considered in formulating a business plan and the bank's strategies and initiatives including the political, economic and legal aspects and their likely impact over the planning period of the Bank. This may consider aspects such as oil prices, new legislation and regulations related to the Bank such as foreign investments, consumer banking, liquidity markets, mortgages, leasing and installment companies etc.

The starting balance sheet, cash flow statement and the date over which the assessment is carried out should be disclosed.

The projected balance sheet and cash flow statement (for 1 year horizon) should clearly indicate the major lines of business which are going to be attested by the Bank's strategic initiatives, environmental changes and assumption over the planning period and the impact on liquidity requirements by major lines of business.

Also included would be the projected financial position, the projected liquidity available and projected liquidity resource required based on expected plans. These might then provide a baseline against which adverse scenarios might be compared.

5. **Liquidity Adequacy and ILAAP:**

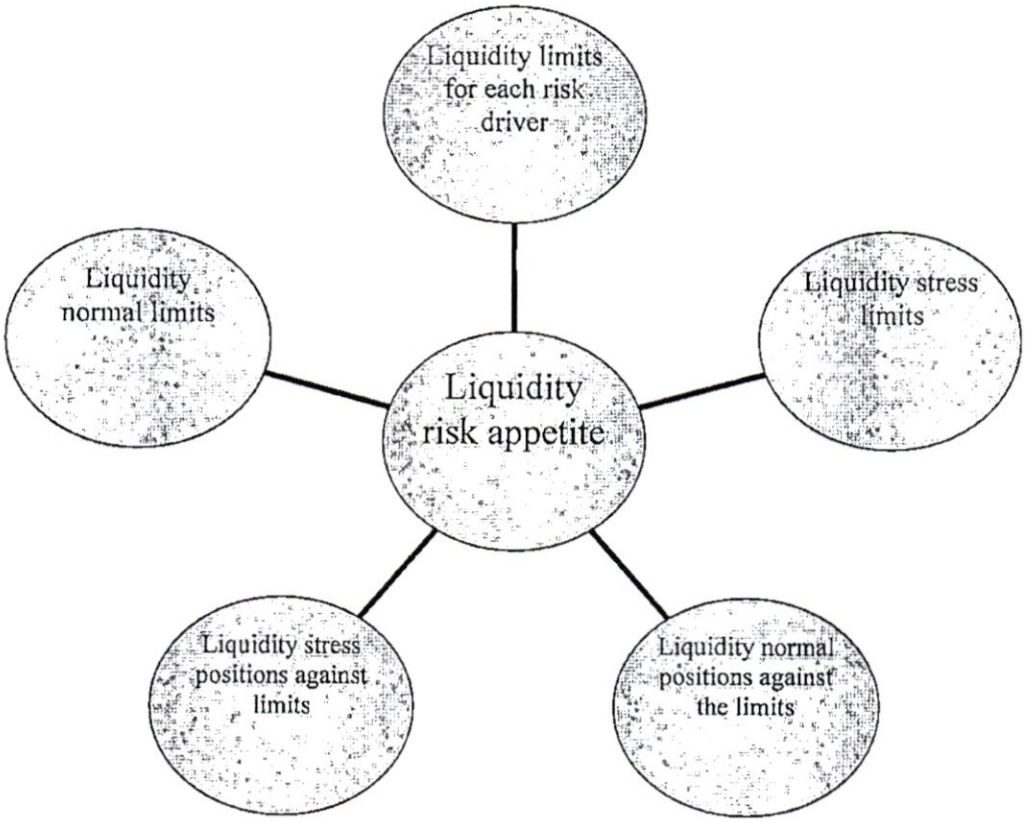
This section should include the following:

Liquidity risk appetite

- The banks must provide a statement of its liquidity risk appetite
  - A full and clear articulation of the bank's liquidity risk appetite and a discussion of why the risk appetite is correct.

- The bank should describe its liquidity risk appetite and discuss how it is used to define and assess liquidity levels and limits. At minimum, it should have the following:
  - An outline of all relevant liquidity risk management limits as derived from the risk appetite and a discussion of how the limits support the risk appetite
  - A bank is expected to have limits for each of the liquidity risk drivers it assesses. However, not all limits will necessarily be quantitative; some may be qualitative and describe subjective risk metrics;
  - A summary table outlining the bank's risk appetite and liquidity risk limits, its position against the liquidity limits as at the date of the LCR, NSFR, LDR and SAMA liquidity ratio and a demonstration of how the liquidity limits are reflected in the returns.
  - The limits and positions against limits under "normal" and "stressed" liquidity environments should also be summarized as a table in this

section of the ILAAP (with a full and complete discussion of positions against limits included in the appendices).



Disclosure of various types of Liquidity

An ILAAP establishes a framework for economic, legal, regulatory and risk purposes and helps identify planned sources of liquidity to meet these needs. Consequently, this section should provide a distinction from the bank's perspective of the following liquidity classification indicating their purpose, minimum requirements and other attributes.

1. Regulatory Liquidity requirements under LCR and NSFR
2. Liquidity requirements internally specified by Treasurer based on limits
3. Domestic Liquidity requirements by SAMA (SAMA liquidity ratio)
4. Economic Liquidity (if relevant)

Additionally, a bank will need to describe its position with respect to its definition, assimilation and usage within the bank's risk and performance assessment framework.

Consequently, this section should elaborate on a bank's view of the amount of liquidity it requires to meet its minimum regulatory needs and disclosure requirements under Pillar 3. Where economic liquidity models are used this would include the time horizon, economic description, scenario analyses, etc. including a description of how the severity of scenarios have been chosen.

Funding strategy

A 3 year funding strategy incorporating a funding plan with detailed plan to be included in the annexure. The first 12-18 months of this strategy should be more detailed. This strategy should be approved by the Board or its designated authority. This should include qualitative and quantitative items, key outcomes and strategies and should combine expected funding outcomes with sensitivity analysis. The strategy should include the base case balance sheet projection consistent with the bank's medium term business plan/budget that represents the bank's best estimate of its future funding needs and sources as well as key sensitivities in the base case consistent with the bank's ICAAP. Particular focus should be given to wholesale funding reliance, multiple currencies and second order effects of funding sources. The bank should also document in its funding strategy how it intends to maintain an active presence in the markets in which it obtains funding by clearly demonstrating its commitment and investment in adequate and appropriate infrastructures, processes and information collection.

Timing of the ILAAP

Generally, the ILAAP is prepared on an annual basis as at the end of each calendar year, i.e. 31 December 2017 and is due in SAMA as at 31 March of the following year. However, should there be any variation to this timing; additional details will need to be provided. This will include the reasons for the effective date of the ILAAP. Other information to be provided will also include an analysis and consideration for any events between the effective date and the date of submission, which could materially impact the ILAAP and the rationale for the time period over which ILAAP has been assessed.

Risk Covered in the ILAAP

The sources of risk are:

(1) wholesale secured and unsecured funding risk (identification, behavior under normal and stress conditions)
(2) retail funding risk (gross retail outflows under liquidity stresses and higher than average likelihood of withdrawal)
(3) intra-day liquidity risk (net amount of collateral and cash requirement under stresses) – Please note that this is not required for the first submission.
(4) intra-group liquidity risk (access to other groups, central bank funding, parent company and other commitments)
(5) cross-currency liquidity risk (significant outflows and inflows with respect to maturities under stress)
(6) off-balance sheet liquidity risk (impact on cash flows arising from derivatives, contingent liabilities, commitments and liquidity facilities)
(7) franchise-viability risk (stresses where the bank does not have sufficient liquidity resources to maintain its core business and reputation)
(8) marketable assets risk (under normal and stressed forced sale conditions)
(9) non-marketable assets risk (under normal and stressed forced sale conditions) and
(10) funding concentration risk (flexible funding strategy according to instrument type, currency, counterparty, liability term structure and market for their realization)

Quantification of liquidity risk should fully incorporate the following:

- Product pricing – include significant business activities – on and off
- Performance measurement and pricing incentives
- Clear and transparent attribution to business lines

- Sufficient intraday management of liquidity (not required for first submission) to:
  (a) measure expected daily gross liquidity inflows and outflows, anticipate the intra-day timing of these flows where possible, and forecast the range of potential net funding shortfalls that might arise at different points during the day;
  (b) monitor its intra-day liquidity positions against expected activities and available resources;
  (c) identify gross liquidity inflows and outflows attributable to any correspondent, custodian or settlement agency services provided by that bank;
  (d) manage the timing of its liquidity outflows such that priority is given to that bank's most time-critical obligations;
  (e) deal with unexpected disruptions to its intra-day liquidity flows;
  (f) acquire sufficient intra
  -day funding such that it is able to meet its most time-critical obligations when expected and other less time critical obligations as soon as possible thereafter; and
  (g) manage and mobilise collateral as necessary for the purposes of achieving the aim in (f).

- Management of collateral – clearly distinguishing between pledged and unencumbered assets
- Management of liquidity risks between intra-day, overnight keeping in view uncertainty or potential disruption
- Managing liquidity across legal entities, business lines and currencies
- Funding diversification and market access keeping in view:
  - Business planning process
  - Correlations between market conditions and ability to access funds
  - Adequate diversification keeping in view limits according to maturity, nature of depositor, level of secured and unsecured funding, instrument type, currency and geographic market
- Regular testing the capacity to raise funds quickly from choosing funding sources to provide short, medium and long term liquidity
- An explanation of how each of the above risks have been identified, assessed, measured and the methodology and or models currently or to be employed in the future, and the quantitative results of that assessment;
- where relevant, a comparison of that assessment with the results of the LCR and NSFR calculations;
- a clear articulation of the bank's risk appetite by risk category; and
- where relevant, an explanation of method used to mitigate these risks.

6. Approach and Methodology:

Current Methodology

A description of how models and assessments for each of the major risks have been approached and the main assumptions made.

For instance, banks may choose to base their ILAAP on the results of LCR, NSFR and SAMA liquidity ratio calculation with additional risks assessed separately and added as a buffer on top of LCR, NSFR and SAMA liquidity ratio.

The description would make clear which risks are covered by which modeling calculation or approach. This would include details of the models, methodology and

process used to calculate risks in each of the categories identified and reason for choosing the models and method used in each case.

Future Approach and Methodology

Banks may provide a summary on the future models and methodologies being considered and developed including their strengths and weaknesses.

Internal Models: Pillar 1 and ILAAP comparisons

Should the internal models vary from any regulatory models approved for LCR and NSFR purposes, this section would provide a detailed comparison explaining both the methodological and parameterization differences between the internal models and the regulatory models and how those affect the liquidity measures for ILAAP purposes.

7. Details on Models Employed:

A list of models utilized in the formulation of the ILAAP should be provided giving relevant and appropriate details as given below:

- The key assumptions and parameters within the liquidity modeling work and background information on the derivation of any key assumptions.
- How parameters have been chosen including the historical period used and the calibration process.
- The limitations of the model.
- The sensitivity of the model to changes in the key assumptions or parameters chosen.
- The validation work undertaken to ensure the continuing adequacy of the model.
- Whether the model is internally or externally developed. If externally acquired its generic name and details on the model developer.
- Details should also be provided as to the extent of its acceptance by other regulatory bodies, users in the international treasurers' community, overall reputation and market acceptance.
- Specific details on the applications within the Bank.
- Major merits and demerits of the chosen models.
- Results of the model validation obtained through
  - Back testing / Scenario testing
  - Analysis of the internal logic
- Major methodologies or statistical technique used, i.e. value at risk models employing methods such as variance/co-variance; historical simulation, Monte Carlo method, etc.
- Confidence levels embedded for regulatory liquidity or economic liquidity purposes

Further, the explanation of the differences between results of the internal models for LCR, NSFR would be set out at the level at which the ILAAP is applied. Therefore, if the firm's ILAAP document breaks downs the calculation by major legal regulated entities, an explanation for each of those individual entities would be appropriate.

SAMA would expect the explanation to be sufficiently granular to show the differences at the level of each of the Pillar 1 – LCR and NSFR risks.

Data definition, i.e. whether the source is external or internal and if any data, manipulation of external data has been done for it to conform with the internal data.

8. Stress and Scenario Tests Applied:

Where stress tests or scenario analyses have been used to validate the results of modeling approaches, the following should be provided:

- information on the quantitative results of stress tests and scenario analyses the bank carried out and the confidence levels and key assumptions behind those analyses, including, the distribution of outcomes
- information on the range of adverse scenarios which have been applied, how these were derived and the resulting liquidity requirements and
- where applicable, details of any additional business-unit specific or business plan specific stress tests selected.

Details on Stress and Scenario Testing:

This section should explain how a bank would be affected by an economic recession or downswings in the business or market relevant to its activities. SAMA is interested in how a bank would manage its business and liquidity to survive for example a recession whilst meeting minimum regulatory standards. The analysis would include financial projections for one year based on business plans and solvency calculations.

The severity of recession may typically be one that occurs only once in a 15 year period. The time horizon would be from the present day to at least the deepest part of the recession.

Typical scenarios would include:

- how an economic downturn would affect
  - the bank's liquidity resources and future earnings and
  - the bank's strategy takes into account future changes in its projected liquidity, cash flow statement and impact on its financial assets etc.
- In both cases, it would be helpful if these projections showed separately the effects of management actions to changes in a bank's business strategy and the implementation of any contingency plans.
- an assessment by the bank of any other liquidity planning actions to enable it to continue to meet its regulatory liquidity requirements through a recession. These actions may include new liquidity injections from related companies, new share issues through existing shareholders, IPO's, floatation of long term debt and SUKUKs etc.
- For further details, please refer to Attachment 1.

9. Liquidity Transferability Between Legal Entities:

Details of any restrictions on the management's ability to transfer liquidity during stressed conditions into or out of the businesses covered. These restrictions, for example, may include contractual, commercial, regulatory or statutory nature. A regulatory restriction could be the minimum regulatory liquidity ratio acceptable to SAMA.

10. Aggregation and Diversification:

This section would describe how the results of the various risk assessments are brought together and an overall view taken on liquidity adequacy. This requires an acceptable methodology to combine risks using quantitative techniques. At the general level, the overall reasonableness or the detailed quantification approaches might be compared with the results of an analysis of liquidity planning and a view taken by senior management as to the overall level of liquidity that is appropriate.

- Dealing with the technical aggregation, the following may be described:
  i. any allowance made for diversification, including any assumed correlations within risks and between risks and how such correlations have been assessed including in stressed conditions;
  ii. the justification for diversification benefits between and within legal entities, and the justification for the free movement of liquidity between legal entities in times of financial stress.

11. Challenge and Adoption of the ILAAP:

This section would describe the extent of challenge and testing of the ILAAP. Accordingly, it would include the testing and control processes applied to the ILAAP models or calculations, and the senior management or board review and sign off procedures.

In making an overall assessment of a bank's liquidity needs, matters described below should be addressed:

i. the inherent uncertainty in any modeling approach
ii. weaknesses in bank's risk management procedures, systems or controls
iii. the differences between regulatory liquidity and available liquidity
iv. the reliance placed on external consultants
v. an assessment made by an external reviewer or internal audit.

12. Use of the ILAAP within the Bank:

This area should demonstrate the extent to which liquidity management is embedded within the bank's operational and strategic planning. This would include the extent and use of ILAAP results and recommendation in the strategic, operational and liquidity planning process. Important elements of ILAAP including growth and profitability targets, scenario analysis, and stress testing may be used in setting of business plans, management policy and in pricing decisions.

This could also include a statement of the actual operating philosophy and strategy on liquidity management and how this links to the ILAAP submitted.

13. Future Refinements of ILAAP:

A bank should detail any anticipated future refinements within the ILAAP (highlighting those aspects which are work-in-progress) and provide any other information that will help SAMA review a bank's ILAAP.

III. STRESS TESTING AND CONTINGENCY FUNDING PLAN

Details on Stress Testing and Contingency Funding Plan

Stress Testing is a generic term for the assessment of vulnerability of individual financial institutions and the financial system to internal and external shocks. Typically, it applies 'What if' scenarios and attempts to estimate expected losses from shocks, including capturing the impact of 'large, but plausible events'. Stress testing methods include scenario tests based on historical events and information on hypothetical future events. They may also include sensitivity tests. A good stress test should have attributes of plausibility and consistency and ease of reporting for managerial decisions.

Stress Testing under Pillar 1 rules:

- A Bank must:
  (1) conduct on a regular basis appropriate stress tests so as to:
    (a) identify sources of potential liquidity strain;
    (b) ensure that current liquidity exposures continue to conform to the liquidity risk tolerance established by that firm's governing body; and
    (c) identify the effects on that firm's assumptions about pricing; and
  (2) analyse the separate and combined impact of possible future liquidity stresses on its:
    (a) cash flows;
    (b) liquidity position;
    (c) profitability; and
    (d) solvency.

- A bank must consider the potential impact of
  1. institution-specific,
  2. market-wide and
  3. combined alternative scenarios.

- In conducting its stress testing, a bank should also, where relevant, consider the impact of its chosen stresses on the appropriateness of its assumptions relating to:
  (1) correlations between funding markets;
  (2) the effectiveness of diversification across its chosen sources of funding;
  (3) additional margin calls and collateral requirements;
  (4) contingent claims, including potential draws on committed lines extended to third parties or to other entities in that firm's group;
  (5) liquidity absorbed by off-balance sheet activities
  (6) the transferability of liquidity resources;
  (7) access to central bank market operations and liquidity facilities;
  (8) estimates of future balance sheet growth;
  (9) the continued availability of market liquidity in a number of currently highly liquid markets;
  (10) ability to access secured and unsecured funding (including retail deposits);
  (11) currency convertibility; and
  (12) access to payment or settlement systems on which the firm relies

- A Bank should ensure that the results of its stress tests are:
  (a) reviewed by its senior managers;
  (b) reported to that bank's governing body, specifically highlighting any vulnerabilities identified and proposing appropriate remedial action;
  (c) reflected in the processes, strategies and systems

(d) used to develop effective contingency funding plans;
(e) integrated into that firm's business planning process and day-today risk management; and
(f) taken into account when setting internal limits for the management of that firm's liquidity risk exposure.

- Among more qualitative criteria that banks would have to meet before they are permitted to use a models based approach are the following:

  - Rigorous and comprehensive stress testing program should be in place.
  - Cover a range of factors that can create extraordinary losses or gains in trading portfolios.
  - Major goals of stress testing are to evaluate the capacity of the bank's liquidity to absorb potential large losses and to identify steps the bank can take to reduce its risk and conserve liquidity.
  - Results of stress testing should be routinely communicated to senior management and periodically, to the bank's board of directors.

- Results of stress tests should be reflected in the policies and limits set by the management.

- Scenarios to be employed:
  - Historical without simulation
  - Historical with simulation – this means relating to specific profile and idiosyncratic nature of the bank. e.g. if deposit is highly concentrated with top 3 customers, if 1 customer goes for an early withdrawal or partial withdrawal, how this simulation would affect historical analysis?
  - Adverse events, based on individual portfolio characteristics of institutions

Stress testing under Pillar 2:

Under the Supervisory Review Process, SAMA will initially review the Pillar 1 stress testing requirement for LCR and NSFR. However, SAMA will also assess stress testing under Pillar 2 with specific reference to detailed Contingency Funding Plan. Some of the scenarios which can be used are:

Example of first liquidity stress

An unforeseen, name-specific, liquidity stress in which:
(1) financial market participants and retail depositors consider that in the short-term the firm will be or is likely to be unable to meet its liabilities as they fall due;
(2) the bank's counterparties reduce the amount of intra-day credit which they are willing to extend to it;
(3) the bank ceases to have access to foreign currency spot and swap markets; and
(4) over the longer-term the bank's obligations linked to its credit rating crystallize as a result of a reduction in that credit rating. For the purpose, a firm must assume that the initial, short-term, period of stress lasts for at least two weeks.

Example of second liquidity stress

An unforeseen, market-wide liquidity stress of three months duration. A bank must assume that the second liquidity stress is characterised by:

(1) uncertainty as to the accuracy of the valuation attributed to that bank's assets and those of its counterparties;
(2) inability to realise, or ability to realise only at excessive cost, particular classes of assets, including those which represent claims on other participants in the financial markets or which were originated by them;
(3) uncertainty as to the ability of a significant number of banks to ensure that they can meet their liabilities as they fall due; and
(4) risk aversion among participants in the markets on which the bank relies for funding.

Other aspects related to stress testing:

- SAMA expects all banks to closely review the above recommendations on stress testing and develop specific strategies and methodologies to implement those that are relevant and appropriate for their operations. SAMA in its evaluation of banks method and systems under Pillar I and Pillar II will examine the implementation of these stress test requirements. It will also review the stress test methodologies and systems as part of its Supervisory Review Process.

- As a minimum bank should carryout stress tests at least on an annual basis.

Early warning indicators

An important component of liquidity risk management and the contingency funding plan is the early warning indicators including:

- Growing concentrations in assets or liabilities
- Increases in currency mismatches
- Repeated incidents of positions approaching or breaching internal or regulatory limits
- Decrease of weighted average maturity of liabilities
- Significant deterioration in the bank's earnings, asset quality, and overall financial condition
- Credit rating downgrade
- Widening debt or credit-default-swap spreads
- Rising wholesale or retail funding costs compared to other banks
- Counterparties requesting or increasing request for collateral for credit exposures or resisting to enter into new transactions
- increasing retail deposit outflows
- Difficulty accessing longer-term funding

Contingency Funding Plan (This may be prepared as a standalone document and attested as an annexure to the ILAAP)

A bank must ensure that its contingency funding plan:

(1) outlines strategies, policies and plans to manage a range of stresses; (2) establishes a clear allocation of roles and clear lines of management responsibility;
(3) is formally documented;
(4) includes clear invocation and escalation procedures;
(5) is regularly tested and updated to ensure that it remains operationally robust; This testing is mainly qualitative in nature which tests process, procedures, appropriate governance to undertaken action on timely basis. This should test the following:
a. Composition of Liquidity Crisis Management Team (LCMT)
b. Roles and responsibilities of LCMT

c. Early warning signals using benchmark indicators i.e. availability of credit lines, collection efficiency, positive cumulative outflow. These signals should have triggers based on 30% or 50% decline in collections for continuous 3 months etc.
d. Liquidity stress test consisting of 4 early warning signals
e. Minimum logistics and contact information.
f. Communication strategy with SAMA
g. Undertaking only 2 transactions in interbank market or with SAMA to demonstrate it is working effectively.

(6) outlines how that firm will meet time-critical payments on an intraday basis in circumstances where intra-day liquidity resources become scarce
(7) outlines that bank's operational arrangements for managing a retail funding run
(8) in relation to each of the sources of funding identified for use in emergency situations, is based on a sufficiently accurate assessment of the amount of funding that can be raised from that source; and the time needed to raise funding from that source
(9) is sufficiently robust to withstand simultaneous disruptions in a range of payment and settlement systems
(10) outlines how that bank will manage both internal communications and those with its external stakeholders and
(11) establishes mechanisms to ensure that the bank's governing body and senior managers receive management information that is both relevant and timely.

(11) Clear escalation/prioritization procedures detailing when and how each of the actions can and should be activated
(12) Lead time needed to tap additional funds from each of the contingency sources

In designing a contingency funding plan a bank should ensure that it takes into account:
(a) the impact of stressed market conditions on its ability to sell or securitise assets;
(b) the impact of extensive or complete loss of typically available market funding options;
(c) the financial, reputational and any other additional consequences for that bank arising from the execution of the contingency funding plan itself; (d) its ability to transfer liquid assets having regard to any legal, regulatory or operational constraints; and (e) its ability to raise additional funding from central bank market operations and liquidity facilities.