Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

October 2011

# Discussion Paper

# Review of the Requirements for the Management of Liquidity Risk

# Contents


Page

**Section 1: Introduction** 4

Box 1: Overview of the LCR and NSFR 5

Box 2: Overview of CRD IV 6

**Section 2: Scope** 9

**Section 3: Qualitative Requirements** 10

- Governance 10
- Board of Directors Role 11
- Asset and Liability Committee (ALCO) 13
- Liquidity Risk Appetite 14
- Liquidity Cost Benefit Allocation Mechanism 15

**Section 4: Asset & Liability Management Requirements** 17

- Diversified Funding 17
- Active Collateral and Intraday Funding Management 18
- Stress Testing 20

Box 3: Intraday Liquidity Risk 20

**Section 5: Quantitative Requirements** 22

- Liquidity Limits 22
- Foreign Currency Mismatch 23
- Eligible Liquid Assets 23
- Liquidity Buffer 25
- Internal Models 26

**Section 6: Liquidity Reporting Requirements** 28

**Section 7: Supervisory Engagement Approach** 30

**Section 8: Summary List of Questions** 31

**Section 9: Glossary** 34

This Discussion Paper raises a range of issues related to liquidity risk management and regulation which are under consideration within the Central Bank and internationally.

The Central Bank will, in due course, review its Requirements for the Management of Liquidity Risk and will consult on any proposed revisions. However, the timing and content of such a review is dependent on the outcome of the co-decision process on the proposed Directive and Regulation (collectively known as CRD IV), issued by the European Commission on 20 July 2011. The Commission has indicated that it hopes the text will be agreed by mid-2012. In the interim, submissions to this paper will be considered both in the context of our own review and in formulating our policy position in discussions with regulatory colleagues (e.g. within the European Banking Authority).

The paper contains specific questions on areas where the Central Bank would particularly welcome views. In addition, respondents may also raise issues that they deem relevant that have not been covered by the questions.

The Central Bank invites written replies to the paper. These should be forwarded ideally by e-mail to liquiditydp@centralbank.ie by 30 December 2011. Alternatively, send comments in writing to:

Ciaran Rogers
Prudential Policy Division
Central Bank of Ireland
PO Box 559
Dame Street
Dublin 2

Please note that the Central Bank will publish a feedback statement summarising submissions. Individual submissions will not be published on our website.

# Section 1: Introduction

**1.0** The financial crisis has brought into focus the need to adequately and proactively manage liquidity risks within credit institutions. The need for regulating liquidity risk is easily justified on the grounds of externalities. The danger of an individual liquidity crisis becoming a self-amplifying market spiral that disrupts funding supply for all market participants is clear.

**1.1** The major EU/international initiatives that deal with liquidity risk are:

- The Basel Committee of Banking Supervisors (BCBS) proposals on liquidity risk management (the so-called Basel III proposals) published in December 2010 that proposed the Net Stable Funding Requirement (NSFR) and the Liquidity Coverage Ratio (LCR) as internationally accepted quantitative standards for managing liquidity risk (see Box 1);
- In 2009, the Directive 2009/111/EC (colloquially known as Capital Requirements Directive (CRD) II) introduced a number of qualitative requirements for the management and supervision of liquidity risk;
- The Committee of European Banking Supervisors[1] (CEBS) issued a series of guidelines from 2008 onwards on aspects of liquidity risk (i.e. transfer pricing, stress tests and liquidity buffers);
- In July 2011, the European Commission ('the Commission') published its proposals to revise and consolidate the CRD into a directive and regulation[2] (hereafter collectively referred to as CRD IV). In addition to implementing Basel III, the proposal contains initiatives on the supervision of branch liquidity risk, joint regulatory decision making and liquidity reporting. CRD IV also provides for the development by the European

[1] Constituted as the European Banking Authority since 1 January 2011.

[2] http://ec.europa.eu/internal_market/bank/docs/regcapital/CRD4_reform/IA_directive_en.pdf; http://ec.europa.eu/internal_market/bank/docs/regcapital/CRD4_reform/IA_regulation_en.pdf

Banking Authority (EBA) of Binding Technical Standards (BTS)[3] dealing with various aspects of liquidity risk management, regulation and supervision.

**Box 1 - Overview of the LCR and NSFR**

The Basel Committee set out to address liquidity risk as part of Basel III in its paper "Basel III: International framework for liquidity risk measurement, standards and monitoring". The Committee proposed two quantitative tests that should be met by credit institutions to ensure prudent management of liquidity risk. The two tests are:

**Liquidity Coverage Ratio (LCR)**

- LCR aims to ensure credit institutions hold a sufficient reserve of high quality unencumbered liquid assets which can be converted into cash at a minimum loss of value to cover obligations (cash outflows) for a period of 30 days under stressed conditions;
- The stressed scenario takes into account deposit outflows, limited access to wholesale funding, other contingent liquidity risks arising from rating triggers, margin and collateral calls, closure of structured financing markets and unscheduled drawings on committed facilities;
- The LCR is designed so that liquid assets cover the deficit between cumulative cash inflows and outflows over the 30 day stressed period.

**Net Stable Funding Ratio (NSFR)**

- NSFR aims to ensure that credit institutions have stable funding in place to support operations during a stressed period of one year;
- The required amount of stable funding is obtained by applying haircuts to asset types depending on their liquidity characteristics. The component of each asset type judged to be illiquid must be covered by available stable funding;
- Only very high quality liquid assets such as cash, securities and loans to financial institutions with maturities of less than one year, will require no stable funding to support them. A proportion of all other assets will be considered illiquid and will need stable funding in place to support them;
- Stable funding consists of types of equity and debt financing which are expected to be reliable sources of funds over a one year period of stress e.g. unsecured bank bonds with a remaining maturity greater than one year; and
- The NSFR complements the LCR as it looks beyond the 30-day time frame of the short-term metrics and aims to reduce the use of short-term funding to finance less-liquid assets.

Basel III proposes that the LCR will be in a monitoring phase from the start of 2012 and will be applied as a requirement from January 2015. It is proposed that the NSFR will be in monitoring phase from the start of 2015 until January 2018 when it will become a requirement.

[3] The EBA will be mandated by CRD IV to produce a number of binding technical standards on a number of different areas of regulation. These standards will supplement the regulatory provisions contained in CRD IV.

**1.2** The Central Bank plans to review its Requirements for the Management of Liquidity Risk ("the current Requirements") in light of the above initiatives, market developments and its own experience of the supervision of liquidity risk. The scope of the Central Bank's responsibilities, powers and discretion with respect to liquidity risk regulation depends, to a large extent, on the shape of the CRD IV when finalised by both the European Council and Parliament (see Box 2). The issues explored in this Discussion Paper will also inform the Central Bank's engagement in EU fora, including EBA discussions on BTS and relevant guidance.

**Box 2 - Overview of CRD IV**

The Commission proposes to implement the Basel III Accord proposals through the use of a Regulation and Directive. In this regard, the Commission has recently published their proposals for the Capital Requirements Regulation (CRR) and amended CRD (collectively known as CRD IV) which are subject to the co-decision legislative process. The CRR together with the restructured directive text will go before the Council of Ministers and the European Parliament for endorsement. An agreed text is expected in the first half of 2012 with a planned implementation date of start 2013.

The new CRR based on Basel III covers the following key areas:

- Raising the quality and quantity of capital, with a much greater focus on common equity to absorb losses;
- Introducing two new liquidity ratios (i.e. the Liquidity Coverage Ratio and Net Stable Funding Ratio);
- Enhancing risk coverage by amending requirements for counterparty credit risk;
- Reducing pro-cyclicality by introducing both a conservation and countercyclical capital buffer; and
- Supplementing the risk-based capital requirements with a leverage ratio.

In addition to Basel III implementation, the Commission proposal introduces a number of important changes to the regulatory framework. For example, the draft Directive includes proposals relating to:

- Corporate governance arrangements and processes for institutions;
- The sanctions available to supervisors e.g. administrative fines;
- Enhanced supervision on the basis of a specific risk assessment; and
- The reduction of possible reliance by credit institutions on external credit ratings.

**1.3** The content and timing of the proposed new liquidity requirements depend on the finalisation of the CRD IV text. The Commission proposal to complete this by mid-2012 is ambitious. The ultimate legislative proposal emerging from the CRD IV debate will, alongside the Central Bank's revised Liquidity Requirements, collectively form the Regulatory Liquidity Framework ('the Framework') for credit institutions in Ireland.

**1.4** The Framework, in whatever combination of EU legislation and national requirements or guidance, should ensure that liquidity risk is properly identified, measured and reported. In addition, appropriate mitigants at the firm level, should be put in place. Ideally, a credit institution should fund itself without excessive reliance on central bank funding. However, we recognise that funding markets are still suffering from significant dislocation and broader issues such as the volatility in sovereign debt markets are preventing a proper opening up of funding markets albeit that there is no expectation of a return to pre-2007 conditions. Nonetheless, the Central Bank needs to plan to review the current Requirements in keeping with EU proposals and to facilitate credit institutions in planning for implementation. The key principle underlying our regulatory approach is that a credit institution shall, on an on-going basis, as a minimum standard maintain adequate liquidity resources, both in terms of quantity and quality, to ensure that in a normal and stressed environment there is no significant risk that liabilities cannot be met as they fall due. The requirements imposed shall be appropriate to a credit institution's business model, business strategy and the jurisdictions and currencies in which it operates while being proportionate to the nature, scale and complexity of the institution.

**1.5** The new regulatory framework will entail some costs for the Irish banking system. However, targeting a calibration of the requirements that delivers benefits such as reduced systemic liquidity risk which exceed the inevitable costs should be an objective that both industry and regulator can share.

***Question 1: Do you have any comments on the overall approach?***

***Question 2: If industry wide minimum requirements are not to be prescribed, how would you categorise credit institutions for the purposes of applying different requirements? Please indicate which requirements you consider appropriate for the different categories of credit institutions.***

## Section 2: Scope

**2.0** The current Requirements apply exclusively to credit institutions. Although, the proposed CRD IV provisions will apply to credit institutions and investment firms, the extent to which investment firms will be covered by the CRD liquidity provisions is unclear[4]. CRD IV proposes that the liquidity supervision of branches, operating under the freedom of establishment provisions of the CRD, becomes a responsibility of home state supervisors. At present, liquidity supervision is a responsibility of the host state supervisor, in co-operation with the home state supervisor.

**2.1** If agreed, this would mean that branches of a credit institution authorised elsewhere in the EU or EEA located in Ireland would come under the full supervisory remit of the home state supervisor with respect to liquidity. This is subject to satisfactory information sharing between the two supervisory authorities. The current proposal sees this change taking place at the start of 2015. In revising the Requirements, two options emerge to address the interim period to 2015: (1) maintain the current approach for branches or (2) introduce new interim requirements for branches, aligned to any new requirements which may be introduced for licensed credit institutions.

***Question 3: Which of the two options do you favour with respect to the regulation of branch liquidity pending any transfer of responsibility to the home state supervisor?***

[4] Draft CRD IV proposes that by end-2014, the Commission shall report on whether and how the LCR should apply to investment firms.

## Section 3: Qualitative Requirements

### Governance

**3.0** A credit institution should have robust governance arrangements to manage liquidity risk and to create the appropriate risk culture. These arrangements should be appropriate to a credit institution's business model, business strategy and proportionate to the nature, scale and complexity of the credit institution. They include:

- A clear organisational structure with well defined, transparent and consistent lines of responsibility;
- Effective processes to identify, manage, monitor and report on liquidity risk together with adequate resources, processes, systems; and
- Control mechanisms that are consistent with and promote sound and effective liquidity risk management.

**3.1** Directive 2009/111/EC (CRD 11) specifies a number of qualitative requirements with respect to the oversight, management and control of liquidity risk[5]. However, these neither prescribe a particular governance structure nor assign specific responsibilities within a governance framework. The Central Bank's current Requirements set out, at a high level, the role of the Board of Directors, require the establishment of an Asset and Liability Committee ("ALCO") and outline minimum responsibilities for senior management. The Prudential Liquidity Assessment Review ("PLAR") 2011, which established funding targets for credit institutions participating in the Prudential Capital Adequacy Review ("PCAR") in order to reduce leverage in the banking system, also created its own demands in terms of governance arrangements for the relevant credit institutions. The PLAR related requirements will continue to apply to credit institutions and are beyond the scope of this Discussion Paper.

[5] Annex V Part 10 Directive 2006/48/EC refers.

**3.2** Revised Requirements could seek to impose more detailed minimum requirements on the key decision making bodies in credit institutions. For example:

- Key decisions and functions could be assigned to different levels within the board and management hierarchy limiting an institution's ability to delegate responsibilities;
- Membership of the ALCO and minimum criteria for its chairmanship could be established; and
- Additional mandatory reporting and reporting frequencies could be set out.

***Question 4: Do you agree that greater prescription is required on the role and responsibilities of the key decision making bodies?***

**Board of Directors Role**

**3.3** The Board of Directors ('the Board') plays a crucial role in the governance of liquidity risk. The current CRD sets out relatively high level qualitative requirements which should be addressed by an institution's policies and internal controls over liquidity risk. The proposed CRD IV text develops this theme and includes greater detail on internal governance. The CRD IV draft sets out the principles as to how the Board "oversees the implementation of the governance arrangements that ensure effective and prudent management of an institution, including segregation of duties in the organisation and prevention of conflicts of interest".

**3.4** While the Central Bank's current Requirements enumerate some of the responsibilities of the Board, these could be more prescriptive both in terms of matters which must be decided at Board level and the minimum intervals for review of key policies, systems and controls. For example, the Board could be required to:

- Approve a limit for liquidity risk, the associated limits policy, an annual funding plan, a contingency funding plan and any new business plans which may impact on the liquidity risk appetite;
- Approve the liquidity stress test scenarios and the liquidity stress test reports prepared for submission to the Central Bank;
- Undertake regular (e.g. at least 6 monthly) review of plans to reflect changes in the operating, market or economic environment;
- Undertake regular review and approval (e.g. at least annually) of the internal controls in place over the management of liquidity;
- Instigate more proactive oversight of the ALCO including reviewing the minutes of the ALCO at least on a quarterly basis; and
- Ensure that further action is taken where necessary to address liquidity risk.

**3.5** It is acknowledged that the quality of a Board's consideration of, and decisions on, liquidity risk management is dependent, inter alia, on the calibre of the directors, their expertise and experience. These aspects are addressed by the Central Bank's Fitness and Probity Framework and the Corporate Governance Code for Credit Institutions. Moving beyond these "cornerstones" of regulation, prescribing certain responsibilities which must be dealt with at the most senior levels within an institution gives clarity on responsibilities and accountability.

***Question 5: What do you see as the role of the Board with respect to the management of liquidity risk?***

***Question 6: Do you agree with the additional requirements outlined? Are there other requirements that should be imposed?***

**Asset and Liability Committee (ALCO)**

**3.6** The Central Bank believes that an effective ALCO is crucial to the proper management of liquidity risk within a credit institution. The ALCO must comprise senior management drawn from areas of the credit institution that significantly influence liquidity risk. In order to ensure the functional independence of the ALCO, the Chairman of the ALCO must be a member of senior management not directly involved in treasury/trading functions. Typical membership of the ALCO would include the Chief Financial Officer, the Chief Risk Officer, Head of Treasury and Business Line Heads.

**3.7** Expanding on the role of the ALCO beyond that set out in the current Requirements, could specify additional roles such as:

- Agreeing the contingency funding plan for Board approval and reviewing it on a quarterly basis to ensure it remains relevant;
- Putting in place an adequate internal liquidity cost/benefit allocation mechanism supported by transfer pricing;
- Assessing and recommending stress test scenarios to the Board for approval;
- At least quarterly review of the stress test scenarios to ensure continued relevance;
- At least quarterly review of the annual funding plan to include a comparison of outcome to target;
- Submission of a quarterly report on the work of the ALCO (including minutes of meetings) to the Board; and
- Prompt escalation of liquidity risk concerns (including concerns regarding the rate of balance sheet growth and the extent of funding mismatch) to the Board.

***Question 7: Do you agree that an ALCO should be mandatory?***

***Question 8: Do you agree with the membership and chairmanship of an ALCO as set out above?***

***Question 9: Do you agree with the additional roles outlined? Are there additional roles which should be prescribed?***

***Question 10: Should there be minimum meeting frequency for the ALCO and the reporting requirement to the Board?***

**Liquidity Risk Appetite**

**3.8** Following the financial crisis, the concept of risk tolerance and risk appetite, which prior to 2008 had been common in the management of market risk, has been extended to liquidity risk management. The Basel Principles for Sound Liquidity Risk Management and Supervision were amended in September 2008 to explicitly recommend including these concepts in credit institutions' risk management systems. A recent Institute of International Finance (IIF) paper also gave a useful overview of the state of play in an international context[6]. In addition to the required organisational levels with defined responsibilities, governance requires that credit institutions should be aware of their level of liquidity risk and should have a process in place that sets a limit on the liquidity risk appetite that they are prepared to accept. This could be specifically addressed in revised Requirements, by requiring that a credit institution's business plan must at all times be aligned with its risk appetite. An institution's risk appetite should be:

- Capable of being expressed quantitatively using a number of metrics;
- Aligned with business plans; and

[6] Implementing robust risk appetite frameworks to strengthen financial institutions, Institute of International Finance, June *2011*.

- Justified both in isolation and in the context of the institution's overall risk appetite.

As credit institutions have been embedding this concept and developing their expertise, it is useful to gather details of practical industry experience in the context of formulating a regulatory requirement.

***Question 11: What is your opinion on the most useful way to define liquidity risk appetite? Where applicable, what is your experience with setting a liquidity risk appetite?***

**Liquidity Cost Benefit Allocation Mechanism**

**3.9** Another area that has been highlighted for improvement is measurement and charging of liquidity risk within credit institutions and banking groups[7]. The financial crisis has highlighted that many credit institutions did not adequately charge for liquidity/funding costs of the products offered. The treasury function is generally centralised within an institution or, indeed, within a financial services group. In an era of low interest rates and ready access to market funding, many groups/institutions either did not appreciate the need to measure accurately and charge out the cost of funding to divisions or product lines or did not believe that the systems' cost justified the benefit. For example, the potential increase in cost that may occur as funding is rolled over to fund an asset was often not measured. As a result, many products were mispriced and resulted in excessive liquidity risk being taken on by some credit institutions.

**3.10** Credit institutions should have a process whereby liquidity costs (including the cost of term funding, other direct funding costs and indirect costs such as contingency support), benefits and risks are measured. These costs should be allocated in a consistent and transparent manner to business areas and, in turn, to product lines where liquidity risk is being taken. The Cost Benefit Allocation Mechanism should be communicated and clearly understood at all relevant levels of management and staff. It should inform decision making

[7] For example, see CEBS publication: Recommendations on Liquidity Risk Management (September 2008).

with respect to business activities and product approvals and give appropriate incentives to ensure prudent management of liquidity risk.

**3.11** The EBA Guidelines on Liquidity Cost Benefit Allocation[8] address this issue. As a member of the EBA, the Central Bank endorses all EBA Guidelines. Institutions should comply with this specific Guideline in designing and implementing a Liquidity Cost Benefit Allocation Mechanism. However, the issue arises as to the whether this detail should be prescribed in requirements rather than maintaining it as guidance.

***Question 12: Beyond those summarised above, do you see additional roles for a liquidity cost benefit allocation mechanism? Where applicable, what is your experience with establishing and managing such a system?***

***Question 13: Should elements of the Cost Benefit Allocation Mechanism design and implementation be prescribed in regulatory requirements?***

[8]http://www.eba.europa.eu/cebs/media/Publications/Standards%20and%20Guidelines/2010/Liquidity%20cost%20benefit%20allocation/Guidelines.pdf

# Section 4: Asset & Liability Management Requirements

## Diversified Funding

**4.0** CRD IV requires, inter alia, that institutions have "an adequately diversified funding structure and access to funding sources" and that those arrangements are reviewed regularly. One of the clear lessons from the financial crisis and the dislocation of markets is that credit institutions cannot assume that funding markets which had been used in the past will remain open to them. A credit institution's funding base should be sufficiently diversified to ensure it can withstand severe institution specific or market shocks. Therefore, an institution should plan its access to funding and maintain a continuing active presence in target markets with appropriate counterparties. It should periodically test the extent of its access to target markets and counterparties, the feasibility of accessing markets for its contingency funding plans and ensure it understands the drivers influencing such access. The sustainability of funding has become an important concept in assessing diversification.

**4.1** Institutions and regulators need to consider what adequate diversification looks like. The Central Bank's view is that an institution's funding plan should be structured with limits/ratios, based on different characteristics including maturity, geographic market, depositor/counterparty, instrument, whether funding is secured or unsecured and the granularity[9] of retail deposits. Retail funding should have a high level of granularity and ideally, such deposits should primarily be of amounts covered by the Deposit Guarantee Scheme.

**4.2** Credit institutions could satisfy the above requirements in different ways and it can be argued that, given the variety of business models and ownerships models, further prescription is inappropriate. Alternatively, the regulatory requirements could impose ratios or limits.

[9] Granularity implies having a high volume of smaller deposits rather than a few larger ones. Granularity will reduce the concentration risk in the retail deposit portfolio.

For example, a credit institution could be required not to owe more than 15% of total deposits (including interbank) to any one depositor or associated group of depositors and/or the ten largest deposits may not exceed 50% of total deposits.

***Question 14: How would you measure diversification?***

***Question 15: How would you measure the sustainability of funding?***

***Question 16: Do you agree with the imposition of industry-wide regulatory ratios/limits? If so, what ratios/limits do you believe are appropriate? If not, what difficulties do you envisage?***

**Active Collateral and Intraday Funding Management**

**4.3** An additional component of a prudent and robust funding strategy and plan is the ability to actively manage collateral positions. A credit institution needs to clearly understand:

- Any legal and operational requirements to mobilise collateral;
- The level, type, currency and location of unencumbered collateral available to it;
- The legal documentation that would permit securitisation of loans; and
- Any legal, operational or regulatory constraints on the transfer of funds or collateral both within its group and across jurisdictions.

**4.4** In addition, it should monitor the market and any proposed amendments to central bank eligibility requirements to estimate the impact on collateral and on access to either markets or central bank market operations.

**4.5** In terms of intraday funding, a credit institution must monitor and actively manage flows under both normal and stressed business conditions so as to ensure it can meet its obligations as they fall due. Maximum intraday liquidity limits should be a feature of a credit institution's controls and sufficient collateral must be available to meet peak intraday requirements (See Box 3).

***Question 17: What regulatory requirements do you believe should be set to manage collateral management risk and intraday payment risk?***

***Question 18: In establishing intraday liquidity limits and collateral requirements what ratios/limits do you believe are appropriate?***

***Question 19: Should credit institutions be required to hold a separate asset buffer to mitigate intraday payment risk?***

***Question 20: What policies and procedures should be in place to deal with the potential illiquidity of traded instruments used as collateral due to widening bid/offer spreads or longer holding (liquidation) periods during periods of stress (e.g. a liquidity adjusted Value at Risk approach) ?***

**Box 3 - Intraday Liquidity Risk**

- Credit institutions require access to intraday liquidity in order to settle obligations in payment and settlement systems e.g. large-value payment and settlement systems such as TARGET.

- Real-time gross settlement (RTGS) eliminates settlement risk between participant settlement banks as payments are settled finally and irrevocably, individually and in real time. However, participation in RTGS systems, directly or indirectly, requires that credit institutions have access to intraday liquidity.

- While credit institutions actively manage their payment flows, almost all credit institutions regularly have large intraday liquidity exposures to individual counterparties. For example, credit institutions send payments but expect to receive the funds back later in the day to meet other outgoing payment obligations.

- Settlement banks may also extend uncollateralised intraday credit to other credit institutions' customers who access the system indirectly. Such indirect participants in the payment system may be heavily reliant on their settlement bank to provide intraday liquidity.

- Since the crisis, authorities are more focused on intraday liquidity. In September 2008 the BCBS published 'Principles for Sound Liquidity Risk Management and Supervision' which provides guidance to credit institutions and supervisors on liquidity risk. Principle 8 explicitly addresses credit institutions' management of intraday liquidity risk. The Basel III liquidity framework published in December 2010 notes that the Basel Committee is reviewing how to address intraday liquidity risk.

**Stress Testing**

**4.6** The Basel Principles for the Management of Liquidity Risk require that "a bank should conduct stress tests on a regular basis for a variety of short-term and protracted institution-specific and market-wide stress scenarios (individually and in combination) to identify sources of potential liquidity strain and to ensure that current exposures remain in accordance with a bank's established liquidity risk tolerance".

**4.7** The Central Bank's current Requirements require a credit institution to conduct regular liquidity stress tests using several scenarios to simulate various degrees of stress situations and allow credit institutions to define the relevant risk scenarios which are then subject to supervisory review. A contingent funding plan should be developed using the output of the stress testing.

**4.8** More detailed requirements could prescribe the frequency of stress testing, the internal approval processes and the format of reporting; the latter would facilitate more efficient tracking and peer comparisons by the Central Bank. In addition, requirements could prescribe minimum regulatory stress tests, including time horizons and assumptions.

***Question 21: Do you agree with a prescribed minimum regulatory stress test, including both time horizons and assumptions? Which time horizon for liquidity stress testing would you consider appropriate?***

# Section 5: Quantitative Requirements

## Liquidity Limits

**5.0** The Central Bank's current Requirements specify a format for the maturity mismatch cashflow report. Associated with the report are the minimum requirements of 100% and 90% coverage of cash outflows by cash inflows and liquid assets respectively in the first two time bands (0-8 days and 8+ days to 1 month). In updating the requirements other configurations of the time bands are of course possible including the creation of an overnight time band. This may help formalise the underlying constraint at the base of all credit institution liquidity management (i.e. the need to have sufficient funds to make payments on the next business day).

**5.1** The minimum requirements for the first two timebands could also be revisited. The Basel III proposal requires a LCR of 100% out to 1 month. Requiring 100% coverage of outflows in the one week to one month time band, as opposed to the current 90% requirement, would be in keeping with the LCR.

**5.2** Experience has also shown that imposing limits out to the one month timeband and not imposing requirements further out creates a cliff-effect[10]. The possibility of imposing an element of matching requirements out to 3 months or further could counteract the cliff-effect. Two possible solutions are worth considering. The imposition of limits on further timebands could be considered on an institution specific basis. This approach has the benefit of recognising the different business models and avoids an arbitrary uniform limit. Scenario analysis could play a role here. An alternative approach would be to set a limit (e.g. 50%) in the 1-3 month timeband. The advantage of this latter approach is that it is consistent between institutions and explicitly states the Central Bank's risk appetite.

[10] The cliff-effect refers to the incentives for institutions to fund themselves with short-term funds that mature just outside the supervisory defined horizon.

***Question 22: Do you believe that the timebands in the current Requirements are appropriate?***

***Question 23: Do you agree with extending full matching to one month?***

***Question 24: What approach do you favour in addressing the cliff-effect? In your reply, please consider the relative costs and benefits of the two suggested approaches to dealing with the cliff-effect risk.***

**Foreign Currency Mismatch**

**5.3** The current Requirements require the maturity mismatch ladder to be reported in euro. In terms of Basel III LCR reporting, there is a requirement that an institution with a significant exposure in a non-euro currency should report a separate maturity mismatch ladder. However, in terms of risk mitigation, full matching in each significant currency is not required provided the institution has adequate structures in place for managing the foreign exchange liquidity risk. A currency is considered significant if the aggregate liabilities denominated in that currency amount to 5% or more of the institution's total liabilities.

***Question 25: What do you consider appropriate mitigants to the risks posed by foreign currency mismatches?***

**Eligible Liquid Assets**

**5.4** The current Requirements define liquid assets as cash and assets which can be quickly and easily converted into cash without incurring significant losses. In determining whether assets are marketable or liquid the following criteria are considered - concentration of holdings, depth of market and the risk of forced sale.

**5.5** When the LCR is introduced as a binding measure, an agreed regulatory definition of eligible liquid assets will be required across the EU[11]. This is expected to be provided in the form of a BTS from the EBA.

**5.6** In the context of the LCR, Basel III has defined eligible liquid assets as either Level 1 or Level 2 assets. Level 1 assets consists of cash, central bank reserves, and marketable securities with a zero risk weight. Level 2 assets consist of highly rated securities with a 20% risk weight, non-financial corporate bonds and covered bonds, all with an AA- rating or higher.

**5.7** The guidance on assessing marketability is whether the security experiences a maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%.

**5.8** The CRD IV proposal also provides guidance but does not precisely define liquid assets. The draft text references the Basel III criteria and requires that the portfolios of liquid assets are diversified and that at least 60% of the liquid assets are 'cash, sovereign bonds and transferable assets of extremely high liquidity and credit quality'. It also proposes that assets issued by the credit institution itself or any other financial institution would be ineligible for liquid assets purposes. The text does not provide a clear definition of 'high liquidity'. Despite this, the text requires regulators to collect monthly LCR reports from the start of 2013. The current text also mandates the EBA to report by December 2013 to the Commission on appropriate uniform definitions of high and extremely high liquidity and credit quality assets.

---

[11] CRD IV contains a provision that requires the EBA to report to the European Commission on an appropriate uniform definition of highly liquid assets by end 2013.

**5.9** There will be an interim period when an agreed EU definition of eligible assets is not available. However, the CRD proposal states that 'pending a uniform definition of high and extremely high credit and liquidity assets, competent authorities may provide general guidance'. In effect, it allows for a period of data gathering and more focused discussion on what constitutes a highly liquid asset. The Central Bank will contribute to this discussion at the EBA level. However, pending the agreement, the question arises for us as to which liquid asset definition should be used for maturity mismatch reporting pending an EU wide definition.

***Question 26: What are your views on the appropriate criteria and range of assets that should be eligible for maturity mismatch reporting? Please state the rationale for your preferences.***

***Question 27: Do you see merit in using the Basel III criteria nationally in advance of its EU implementation?***

**Liquidity Buffer**

**5.10** The liquidity buffer refers to a stock of unencumbered marketable assets that may be used to generate liquidity in stressed conditions. Pending the imposition of the LCR as a binding measure (currently proposed as start 2015), credit institutions are required to comply with the CEBS Guideline on liquidity buffers[12]. This Guideline focuses on liquidity buffers at the short end of the counterbalancing capacity. Counterbalancing capacity refers to the readily available funds that an institution has to meet its net funding gap. A liquidity buffer is defined in the Guideline as the short end of the counterbalancing capacity under a "planned stress" view. It needs to be available outright over a defined short period of time. Liquidity buffers must comprise cash and assets that ensure the generation of liquidity within a short time at a predictable value.

[12] http://www.eba.europa.eu/documents/Publications/Standards---Guidelines/2009/Liquidity-Buffers/Guidelines-on-Liquidity-Buffers.aspx

**5.11** The buffer may be used in a stress situation. However, once an institution goes below its buffer level, it must submit a restoration plan for approval to the Central Bank. The restoration plan should detail the amount of funding required, intended funding providers, maturity profile of intended funding and timescales for action.

***Question 28: Do you think that the "planned stress" assumptions used for the buffer calculation should be the same as those used to define a regulatory minimum stress test?***

***Question 29: Should the definition of eligible assets for buffer compliance match the definition used for maturity mismatch reporting?***

***Question 30: What are the most pertinent factors and possible timelines to be considered in discussing a restoration plan?***

**Internal Models**

**5.12** There has been some discussion within the banking industry on the development of internal models to calculate liquidity risks. In summary, these include sophisticated innovative stochastic approaches, often referred to as Liquidity-at-Risk (LaR) models. In a stochastic framework, the future values of risk factors are calculated under a number of randomly generated scenarios, producing probability distributions. From such distributions, a risk indicator can be drawn, namely LaR.

***Question 31: Do you support the use of internal liquidity risk models?***

***Question 32: Do you have concerns regarding the reliance which can or should be placed on Liquidity at Risk methodologies?***

***Question 33: Have you experience of using internal models to calculate liquidity risk?***

## Section 6: Liquidity Reporting Requirements

**6.0** The Central Bank requires an accurate, timely view of the liquidity risk faced by credit institutions. This view requires a suite of reports from institutions that cover the different facets of a credit institution's liquidity risk profile.

**6.1** The extent of reporting and the associated frequency will differ depending on the Central Bank's PRISM[13] designation of an institution. PRISM will segment all the institutions regulated by the Central Bank into distinct impact categories on the basis of quantitative data. Each institution will be allocated to one of four impact categories reflecting its relative impact. These categories will be used to determine reporting frequency and associated reporting deadlines.

**6.2** In the context of a revised industry wide framework, the Central Bank considers that reports covering the following aspects of liquidity risk management would be useful:

- Maturity Mismatch Ladder Report
- Funding Profile Report
- LCR and NSFR Report
- Key Liquidity Metrics Report
- Liquidity Buffer Report setting out the composition of the unencumbered marketable assets

**6.3** An issue related to reporting is the optimum level of transparency to the broader market. It is possible to argue that only those banks which are transparent about their liquidity risk profile will benefit from access to the wholesale market.

[13] PRISM refers to the Central Bank's risk model (PRISM – Probability Risk and Impact SysteM) which will help determine the correct quantity and quality of resources required to supervise institutions.

***Question 34: Do you agree that the above list of reports should represent the key regulatory liquidity risk reports?***

***Question 35: Are there other key liquidity risk metrics which you believe would be useful?***

***Question 36: Do you see merit in developing recommended minimum levels of transparency for liquidity risk data?***

## Section 7: Supervisory Engagement Approach

**7.0** The supervisory engagement process extends beyond the monitoring of compliance with reporting dates and minimum quantitative ratios. The Central Bank already engages in a forward looking dialogue with the institutions.

**7.1** As part of the engagement process, the Central Bank is considering setting target liquidity ratios on a case-by-case basis for credit institutions in the context of planning for the introduction of the NSFR and LCR. The overall objective is to ensure alignment of the liquidity/funding plans with the overall business strategy of the institution. If these plans are insufficiently aligned, a course of action with a predefined timeframe will be agreed with or imposed on the institution. An assessment of the liquidity risk being carried by an institution and its management will also be a part of the Supervisory Review Evaluation Process (SREP) exercise.

***Question 37: Do you agree with the setting of target ratios pending the introduction of the NSFR and LCR?***

***Question 38: Should these be imposed on an industry-wide or case by case basis?***

## Section 8: Summary List of Questions

***Question 1: Do you have any comments on the overall approach?***

***Question 2: If industry wide minimum requirements are not to be prescribed, how would you categorise credit institutions for the purposes of applying different requirements? Please indicate which requirements you consider appropriate for the different categories of credit institutions.***

***Question 3: Which of the two options do you favour with respect to the regulation of branch liquidity pending any transfer of responsibility to the home state supervisor?***

***Question 4: Do you agree that greater prescription is required on the role and responsibilities of the key decision making bodies?***

***Question 5: What do you see as the role of the Board with respect to the management of liquidity risk?***

***Question 6: Do you agree with the additional requirements outlined? Are there other requirements that should be imposed?***

***Question 7: Do you agree that an ALCO should be mandatory?***

***Question 8: Do you agree with the membership and chairmanship of an ALCO as set out above?***

***Question 9: Do you agree with the additional roles outlined? Are there additional roles which should be prescribed?***

***Question 10: Should there be minimum meeting frequency for the ALCO and the reporting requirement to the Board?***

***Question 11: What is your opinion on the most useful way to define liquidity risk appetite? Where applicable, what is your experience with setting a liquidity risk appetite?***

***Question 12: Beyond those summarised above, do you see additional roles for a liquidity cost benefit allocation mechanism? Where applicable, what is your experience with establishing and managing such a system?***

***Question 13: Should elements of the Cost Benefit Allocation Mechanism design and implementation be prescribed in regulatory requirements?***

***Question 14: How would you measure diversification?***

***Question 15: How would you measure the sustainability of funding?***

***Question 16: Do you agree with the imposition of industry-wide regulatory ratios/limits? If so, what ratios/limits do you believe are appropriate? If not, what difficulties do you envisage?***

***Question 17: What regulatory requirements do you believe should be set to manage collateral management risk and intraday payment risk?***

***Question 18: In establishing intraday liquidity limits and collateral requirements what ratios/limits do you believe are appropriate?***

***Question 19: Should credit institutions be required to hold a separate asset buffer to mitigate intraday payment risk?***

***Question 20: What policies and procedures should be in place to deal with the potential illiquidity of traded instruments used as collateral due to widening bid/offer spreads or longer holding (liquidation) periods during periods of stress (e.g. a liquidity adjusted Value at Risk approach) ?***

***Question 21: Do you agree with a prescribed minimum regulatory stress test, including both time horizons and assumptions? Which time horizon for liquidity stress testing would you consider appropriate?***

***Question 22: Do you believe that the timebands in the current Requirements are appropriate?***

***Question 23: Do you agree with extending full matching to one month?***

***Question 24: What approach do you favour in addressing the cliff-effect? In your reply, please consider the relative costs and benefits of the two suggested approaches to dealing with the cliff-effect risk.***

***Question 25: What do you consider appropriate mitigants to the risks posed by foreign currency mismatches?***

***Question 26: What are your views on the appropriate criteria and range of assets that should be eligible for maturity mismatch reporting? Please state the rationale for your preferences.***

***Question 27: Do you see merit in using the Basel III criteria nationally in advance of its EU implementation?***

***Question 28: Do you think that the "planned stress" assumptions used for the buffer calculation should be the same as those used to define a regulatory minimum stress test?***

***Question 29: Should the definition of eligible assets for buffer compliance match the definition used for maturity mismatch reporting?***

***Question 30: What are the most pertinent factors and possible timelines to be considered in discussing a restoration plan?***

***Question 31: Do you support the use of internal liquidity risk models?***

***Question 32: Do you have concerns regarding the reliance which can or should be placed on Liquidity at Risk methodologies?***

***Question 33: Have you experience of the using internal models to calculate liquidity risk?***

***Question 34: Do you agree that the list of reports (see paragraph 6.2) should represent the key regulatory liquidity risk reports?***

***Question 35: Are there other key liquidity risk metrics which you believe would be useful?***

***Question 36: Do you see merit in developing recommended minimum levels of transparency for liquidity risk data?***

***Question 37: Do you agree with the setting of target ratios pending the introduction of the NSFR and LCR?***

***Question 38: Should these be imposed on an industry-wide or case by case basis?***

## Section 9: Glossary

**Branch:** means a place of business which forms a legally dependent part of a credit institution and which carries out directly all or some of the transactions inherent in the business of credit institutions.

**BTS or Binding Technical Standards:** Standards developed by the European Supervisory Authorities, which after the endorsement of the Commission in the form of an EU regulation or decision, will be directly applicable in all EU Member States, without the need for national implementation.

**Current Requirements:** The Central Bank's Requirements for the Management of Liquidity Risk as updated in June 2009.

**CRD:** collectively used to refer to Directive 2006/48/EC relating to the Taking Up and Pursuit of the Business of Credit Institutions (recast) and Directive 2006/49/EC on the Capital Adequacy of Investment Firms and Credit Institutions (recast). It sets out the regulatory framework for credit institutions and investment firms in the EU.

**CRD II:** refers to Directive 2009/111/EC which amends the CRD.

**CRD IV:** collectively refers to the Commission's proposals issued 20 July 2011 providing for (i) a Directive on the Access to the Activity of Credit Institutions and the Prudential Supervision of Credit Institutions and Investments Firms and amending Directive 2002/87/EC on the Supplementary Supervision of Credit Institutions, Insurance Undertakings and Investments in a Financial Conglomerate and (2) a Regulation on Prudential Requirements for Credit Institutions and Investment Firms. See Box 2, page 6 for further information.

**Central Bank Funding**: secured and unsecured funding provided by central banks to credit institutions.

**Committed Facilities:** these represent balances of undrawn committed credit and liquidity facilities extended or received by an institution that are either irrevocable or conditionally revocable.

**EBA:** refers to European Banking Authority. The European Banking Authority was established by Regulation (EC) No. 1093/2010 of the European Parliament and of the Council of 24 November 2010. The EBA has officially come into being as of 1 January 2011 and has taken over all existing and ongoing tasks and responsibilities from the Committee of European Banking Supervisors (CEBS).

**Interbank Deposits**: deposits received from other credit institutions that do not form part of the credit institution's group and related entities.

**Home Supervisor:** means the supervisory authority in the Member State in which a credit institution has been licensed or authorised in accordance with the CRD.

**Host Supervisor:** means the supervisory authority in the Member State in which a credit institution has a branch or in which it provides services on a cross border basis.

**LCR or Liquidity Coverage Ratio:** see Box 1, Page 5 for further details.

**Marketable Securities**: these represent securities traded in large, deep and active repo or cash markets characterised by a low level of concentration and have a proven record as a reliable source of liquidity in the markets (repo or sale) even during stressed market conditions.

**NSFR or Net Stable Funding Ratio:** see Box 1, Page 5 for further details.

**Retail Deposit:** defined as deposits placed at a credit institution by a natural person, not a legal entity, and exclude deposits placed by sole proprietorships and partnerships.

**Secured Funding**: defined as funding obtained where in addition to the promise to repay, the borrower has also provided collateral to the lender.

**SREP:** refers to the Supervisory Review and Evaluation Process as required by the Capital Requirements Directive. The Supervisory Review and Evaluation Process (SREP) is one element of the larger Supervisory Review Process, the other elements being the Internal Capital Adequacy Assessment Process (ICAAP).

**Unencumbered Collateral**: means assets that are not used (either explicitly or implicitly) to secure, collateralise or credit-enhance any transaction.

**Wholesale Funding**: defined as liabilities and general obligations that are raised from non-natural persons (i.e. legal entities, including sole proprietorships and partnerships).

**T** +353 1 224 4118 **F** +353 1 224 4141 www.centralbank.ie liquiditydp@centralbank.ie