Response to the Basel Committee's request for comments on the consultative document: International framework for liquidity risk measurement, standards and monitoring

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Secretariat of the Basel Committee
on Banking Supervision
Bank for International Settlements
CH-4002 Basel
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Dear Members of the Basel Committee on Banking Supervision:

As already noted in a previous response to a Basel Committee consultation (Proposed Enhancement to the Basel II Framework, April 2009) we have been steadily devoting significant effort into understanding the development of best practice and regulations for risk management. It is our primary interest to ensure that our customers have at all times in place an effective tool allowing them to assess their risk exposures and support decision making.

In the same vein, we have aimed at contributing to the development of methodologies and practices for effective risk management as a responsibility. The documentation we have produced since 2007 on liquidity risk management should be seen as a step in this direction. This includes: two White Papers on Liquidity Risk published in the early stages of the crisis (December 2007); the above mentioned response to a Basel Committee Consultation Paper (April 2009); a response to a Financial Services Authority Consultation Paper (June 2009); and articles in our corporate magazine Th!nk. Please see the Reference section at the end of this document for full details.

Consistently following up in this spirit, we respectfully submit the following suggestions as a response to your request for comments to your consultative paper: *International framework for liquidity risk measurement, standards and monitoring*, issued for comments in December 2009.

1. International convergence towards uniform regulation of liquidity risk

The standards proposed in the consultation document witness an effort from the Basel Committee to achieve a higher degree of harmonization among supervisory regimes for liquidity risk. We strongly endorse this effort. Already in our April 2009 response to your Request for Comments we noted the need to reduce the existing differentiation in liquidity risk supervisory styles and requirements: "*We believe that as much effort as possible should be put into the convergence of local supervisory regimes of liquidity risk supervision. F. Battaglia and M. Onorato (2007) showed that local regimes currently display significant differentiation in such core dimensions as: standard quantitative requirements; reliance on firms' internal models; liquidity risk indicators used; supervisory guidance; etc. … As a matter of fact, differentiation of regulations has at least two notable implications:*

- *It generates an uneven playing field that may affect cross-border competition. In extreme cases, very tough local regulations could create a pressure for supervisory arbitrage. …*
- *From a more qualitative perspective, but even more importantly in a sense, the differentiation in supervisory styles is the sign of still lacking agreement among supervisors about best practice of liquidity risk management and tools for liquidity risk mitigation".*

A thorough debate occurred as a consequence of the crisis and has led to a much higher degree of agreement in the community of regulators and analysts regarding best practice for liquidity risk, and more uniform requirements for supervision are a natural consequence of this.

In this context, we note that reporting for liquidity risk remains entirely left to local supervisors and there are still substantial differences between reporting requirements across local jurisdictions involving very significant elements of reporting as noted above.

The UK's Financial Services Authority has taken a strong attitude by requesting banks to substantially overhaul the liquidity reporting, both in terms of amount and granularity of information and in terms of reporting frequency.

In general, we would favour a global revision of reporting requirements for liquidity risk on the basis of an internationally agreed approach where at least the following basic tasks are shared:

- Align reporting frequency and time lag requirements such that banks worldwide are in a position to obtain / provide a complete and timely set of information.

- Develop an internationally "normalized" format for the reported data that would facilitate banks operating under different jurisdictions to cope with local

regulatory requirements and at the same time allow supervisors to more easily share information at the supranational / systemic level.

- Design reporting requirements such that the reported information is not only produced in view of supervisory requests, but is also used by the reporting bank for liquidity risk management purposes. We believe this is what the UK FSA meant when stating that the new liquidity risk supervision regime was aimed at creating “a new language for liquidity management”.

2. Standard liquidity ratios

The Committee is proposing to build two standard ratios that all banks should be obliged to maintain above a defined minimum:

- Liquidity Coverage Ratio
- Net Stable Funding Ratio

2.1. General comments / suggestions

We have the following general comments / suggestions about the proposed ratios:

- The standard ratios proposed by the Basel Committee are based on uniform stress assumptions combining idiosyncratic and market-wide scenarios. This is a delicate choice as the significance of assumptions and coefficients can be very different in different economic systems and contexts, and even more importantly the impact of such assumptions on local credit conditions can be significantly differentiated. The Basel Committee has adopted a prudent approach by stating that the standard coefficients should be intended as a minimum and allowing local supervisors to tighten the requirements for banks under their jurisdictions if deemed opportune. While endorsing this approach, we believe the Quantitative Impact Studies currently in course will provide precious indications for the fine-tuning of the coefficients.

- The Committee has provided no disclosure as to the models and rationale behind the standard stress coefficients. Disclosure would be extremely useful in order for banks to understand to what extent the standard assumptions are significant for their own business models so that they can look at the ratios and resulting liquidity buffers as benchmarks.

- We suggest that disclosure is also provided regarding how interactions between the stress assumptions and the instruments to which they apply are factored in the definition of stress coefficients. For instance, if there is an assumption of rating downgrade on a certain class of marketable instruments, this assumption should also be reflected in the haircut applicable to that class

of instruments. Not properly considering interactions can lead to underestimated potential exposures in stress times and eventually to insufficient or ineffective mitigation actions.

- The standard ratios are uniform irrespective of the dimensions of the banks to which they apply. However, even if two banks show equal ratios, the potential systemic impact of a liquidity issue can be totally different depending on the aabsolute amounts of their exposures. In this view, a uniform measure can prove unnecessarily strict for smaller banks, while not providing the desired degree of protection against systemic effects for larger banks. We therefore suggest that the individual bank's dimension be taken into account in the definition of the standard requirement.

- The definition of assets eligible as High Quality Liquid Assets is the subject of extensive debate in the community under a number of respects, including for instance: international harmonization of eligibility criteria; potential impact in terms of risk concentration; depth of bond markets in comparison to bond holding requirements imposed to banks; and potential price distortion affecting (for opposite reasons) both eligible and not eligible assets. We note that the Committee is proposing that corporate and other bonds be eligible as High Quality Liquid Asset, provided certain liquidity requirements are met. We share this approach, while suggesting however that the proposed liquidity requirements be clarified as illustrated in the following subsections.

2.2. The standard ratios: what they are and what they are not

It is important that banks have a clear understanding of what the standard ratios are and what they are not. They only provide a minimum indication of a bank's ability to withstand liquidity stresses, and despite being built upon severe stress assumptions, they should by no means be considered as sufficient to provide information about a bank's liquidity situation nor its stability.

A similar argument should be made about risk disclosure. The two ratios should not be considered sufficient to disclose banks' risk exposures and should be complemented by additional and more granular information.

A number of arguments support this:

- The two ratios are built over standard stress assumptions to be uniformly applied to all banks irrespective of their economic context, business model, risk exposure etc. As a result, the defined assumptions can have a very different level of significance across banks.

- The Liquidity Coverage Ratio only looks at 30 days. Such a time horizon is hardly enough to assess a bank's stability. The logic behind this indicator

could be that if a crisis occurs, a sufficient lag is available for the Bank and its shareholders, supervisors and Central Bank to find viable solutions and avoid an individual bank's problem spreading into a systemic issue.

- The two ratios only look at defined time horizons: up to 30 days and above 1 year. They provide no information about risk exposures between these two points in time. Possible critical exposures to liquidity risks concentrating in the period between 30 days and 1 year would remain completely hidden.

- The Net Stable Funding Ratio is aimed at preventing banks from extensively using short-term funding (e.g. interbank deposits, CP programmes etc.) to fund medium to long-term assets. However, simply looking at this ratio does not really shed light on the liquidity balance of a bank. As an extreme example, a bank using 13 months liabilities to fund 30 year assets would be exposed to a substantial liquidity mismatch in spite of being compliant with the ratio.

It is therefore critical that banks, while ensuring compliance with the ratios, are also aware that these might not be significant for their individual exposures. Using the two standard ratios as a reference for managing liquidity risk, setting risk tolerance, and driving risk disclosure, could be seriously misleading.

Banks need to perform their own internal liquidity risk measurement and stress testing in order to assess the optimal amount of exposure for their individual cases.

In this context, we agree with the FSA's stance that Reverse Stress Testing should be emphasized as a particularly effective methodology to understand the vulnerabilities underlying an individual bank's business model and support the definition of risk tolerance, liquidity buffer, limits and early warning indicators.

2.3. Building the standard ratios

We believe it would be useful if the Committee released detailed guidance about how the two ratios should be built: what analytics should be used, what measures the defined coefficients should be applied to, etc.

We provide here below a couple of examples of clarifications that would be desirable:

2.3.1. <u>LCR:</u>

- Customer deposits: in our understanding, the runoff coefficient should be applied to:

- the total outstanding balance in the case of deposits with no fixed maturity and fixed or time deposits that have a withdrawal penalty not materially greater than the loss of interest

- principal cash flows maturing within 30 days in the case of fixed or time deposits that have a withdrawal penalty materially greater than the loss of interest

- High quality liquid assets: in our understanding, all calculations should be based upon asset market value at the measurement date, and coefficients/haircuts should be applied to this.

- Marketable assets eligible as high quality: one of the requirements is that they have not presented a bid/ask spread exceeding 40 or 50 bp. over the last 10 years or during a relevant period of liquidity stress: it should be clarified how to deal with new instruments whose history is so short that such requirements are not applicable.

2.3.2. <u>NSFR:</u>

- All instruments: our understanding is that the figures used should only include principal cash flows and exclude interest.

- Customer deposits: as for the LCR, in our understanding the weightings should be applied to:

  - the total outstanding balance in the case of deposits with no fixed maturity and fixed or time deposits that have a withdrawal penalty not materially greater than the loss of interest

  - principal cash flows maturing within 30 days in the case of fixed or time deposits that have a withdrawal penalty materially greater than the loss of interest

- Illiquid, amortizing medium and long-term loans and liabilities: if an instrument has multiple principal cash flows, some of which occur before 1 year and some after 1 year, our understanding is that these cash flows should be treated in a differentiated manner:

  - Principal cash flows occurring beyond 1 year should receive a 100% weighting

  - Principal cash flows occurring earlier than 1 year should be applied coefficients as stated for the category the instrument belongs to.

2.4. Data challenge: disaggregation

Building the two ratios requires banks to disaggregate instruments in their balance sheets according to a number of dimensions that are not common in all reporting supervisory frameworks for liquidity risk. Some examples follow:

- Deposits need to be split between insured and uninsured and different weightings are applied to the two components

- Deposits from entities with operational relationships with the bank: in this case only the amount needed for operational purposes can be attached the specific weighting, so the deposit need to be split into different categories

- Unsecured wholesale funding from small business customers has a more favourable weighting provided the aggregated funding from one small business customer (on a consolidated basis if applicable) does not exceed Eur. 1 million

Ensuring that such disaggregation dimensions are readily available represents a significant challenge for banks from a technology / data management point of view. This adds to disaggregation requirements defined by local supervisors, which might be built upon different criteria. We believe that an effort should be made internationally in order to harmonize the type of information banks are required to provide for supervisory purposes, in order to avoid imposing technology costs with no real benefit on banks' ability to thoroughly know their business and effectively manage their risks.

2.5. Data challenge: market data series

Corporate bonds and covered bonds are eligible for the high quality liquid asset buffer only under assessment of very strict conditions, including:

- Bid/ask spread has not exceeded 40 bsp (20% haircut) or 50 bsp (40% haircut) over the last 10 years or during a relevant period of significant liquidity stress

- Maximum decline of price or increase in haircut over a 30-day period during the last 10 years or during a relevant period of significant liquidity stress

Apart from the above comment on clarifications needed for those cases where there is not enough data to populate the requested series, maintaining the above observations could prove practically unfeasible or prohibitively costly. This could have the undesired consequence of preventing banks from using these instruments as high quality liquid assets and unnecessarily increase their cost.

3. Monitoring tools: Survival Horizon models

3.1. Survival Horizon models: an effective indicator of liquidity exposures under stress

Survival horizon, or survival period, models are aimed at measuring the degree of sufficiency of liquid assets to support a bank's activity over time. They are based on a comparison of the Forward Liquidity Exposure, i.e. expected cash flows over a defined period, to the Counterbalancing Capacity, i.e. the amount that the bank can expect to raise by selling or pledging its liquefiable assets over the same period.

Survival Horizon models are steadily gaining space and consideration with supervisors for their ability to produce effective indicators of a bank's ability to withstand liquidity stresses. Several regulators systematically use such models to build liquidity requirements. A case in point is Australia's APRA, which is explicitly envisaging banks maintaining a minimum survival capacity under stress assumptions. The UK FSA, while not formally requiring banks to provide survival period indicators, has nevertheless disclosed during public seminaries that it is aiming at using survival period models to assess banks' stability. The Liquidity Coverage Ratio envisaged in the Basel Committee Consultation Paper of December 2009 is in fact a survival horizon based indicator with a defined observation period of 30 days.

We suggest that Survival Period indicators are explicitly included in the list of metrics that banks are required to maintain at all times.

3.2. Survival Horizon models and risk tolerance policy

Survival horizon models can support banks in building their risk tolerance policies and defining the target amount of their liquid asset buffer.

Thanks to their ability to integrate different components of liquidity risk and provide a flexible framework for assessing the impact of different stress assumptions, such models lend themselves to providing a single measure that can be used by a bank as a synthetic indicator of its risk tolerance.

As a schematic approach, a bank could define in its Risk Tolerance Policy a target Survival Horizon in terms of the minimum period it wants to be able to survive under a stress of defined type (e.g. market-wide or idiosyncratic) and severity. The defined type and severity of the target stress scenario would then drive the definition of the stress assumptions to be tested. The stress test would generate, as a result, the minimum amount of the liquid asset buffer that the bank

should hold to ensure ability to withstand unexpected liquidity strains until the target Survival Horizon.

3.3. Building Survival Horizon models upon defined stress assumptions

Survival Horizon models are effective in providing an integrated view of the potential impact on liquidity of risk factors affecting expected cash flows (funding liquidity risk) and risk factors affecting the amount of cash that can be raised from selling or pledging liquefiable assets (market prices and market liquidity risk).

Such models lend themselves to incorporate a variety of stress assumptions of different severities, which can be seen in isolation or combined. Some examples follow:

- The Counterbalancing Capacity can be stressed for:

    - Market factors (interest rates, fx rates etc.) affecting the theoretical price of liquefiable assets
    - Credit factors affecting the rating of marketable instruments or their issuers and market prices as a consequence
    - Market liquidity risk: bid-ask spreads / haircuts
    - Time required to effectively liquidate a position given current instrument holding and readiness of the market to absorb a fire sale

- The Forward Liquidity Exposure can be stressed for:

    - Market factors (interest rates, fx rates etc.)
    - Depositors' behaviour affecting deposit runoff
    - Drawdowns on commitments
    - Ability to rollover maturing funding / raise new funding
    - Prepayments
    - New lending business
    - Margin calls on collateralized derivatives
    - Other contingent liabilities

When stressing the FLE, banks should be aware that certain risk components should be prudently taken into account and lead to a higher requirement in terms of Liquid Asset buffer. In particular, the effectiveness of cash flow generation and stress tests is heavily dependent on the optionality embedded in the banking book and the methodologies used to define the behavioural models for such instruments as customer deposits, loan drawdowns, contingent liabilities, etc. This should be reflected in the amount of the liquid asset buffer. Banks not using quantitatively developed and accurately documented models, or whose assumptions are particularly aggressive relative to their size and business

models, should be required to hold an additional amount of liquid assets to withhold a potentially greater volatility of future cash flows.

It is also important to note that a survival horizon model should be supported by the ability to keep control on cash flows occurring on every single day, at least over a short term horizon. In other words, simply measuring the cumulative cash flow over a selected horizon and comparing this to the current value of liquid assets may be misleading, as possible peaks in cash outflows occurring during the selected period would be hidden and the ability to cope could be overestimated. For banks heavily engaged in clearing, settlement and correspondent banking activities even the one-day bucket could not be sufficient and ability to assess intraday peak outflows would be required for proper assessment of the required buffer of marketable assets.

4. Investigating the interactions between liquidity risk management and capital optimisation

We believe there is still room for investigation in the remit of interaction between liquidity risk management and capital optimization.

The additional cost from overhauled liquidity regulation has been the subject of vast debate. However, this has especially focused on the cost of maintaining a greater amount of liquid assets in terms of smaller yield compared to funding cost and alternative investment alternatives. The component of this increased cost relating to capital still needs to be completely enlightened.

Regulators worldwide have agreed about the need to reinforce banks' capital and the Basel Committee has revised the regulatory capital framework in this context. Overhauled liquidity regulations will add to this by additionally contributing to the increased cost of capital.

In spite of Pillar 1 not explicitly requiring regulatory capital for liquidity risk (with the exception of the component required for illiquid assets), liquid assets are subject to Pillar 1 regulatory capital. Therefore banks will have to devote a greater share of their capital to maintaining liquid assets rather than to supporting business development.

Bank's ability to correctly understand the cost of liquidity from a global view, i.e. including the cost of capital, will be a key for success in optimizing capital management. This adds to numerous arguments already made in the community aiming at disregarding a traditional "silo" approach to risk management in favor of an integrated management of risk at the firm level that has the potential to properly assess interactions between risks and optimize risk allocation.

Banks need an integrated measurement system and reporting tool able to provide an aggregated view of risk, cost and profitability. Such a common information support should be available to such functions as Risk Management and Finance and joint tasks should be formalized for these functions so that trade-offs between different risks and related costs can be appropriately assessed, risk/return tasks can be effectively managed, and funding costs can be minimized. This will be key for capital optimization and ultimately for depositor protection.

We thank the Committee for its diligent review of our concerns and comments. We would welcome queries or requests for further detail on any of the topics raised, or related issues. We can be reached by telephone at +44 207 392 5917. Alternatively, we are available via e-mail to mario.onorato@algorithmics.com or fabio.battaglia@algorithmics.com.

Sincerely,

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