Global liquidity regulation, supervision and risk management

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Introduction

Good afternoon. It is my great pleasure to be with you in Amsterdam today at the DNB's seminar on "Liquidity risk management – the LCR and beyond". Let me begin by acknowledging that this seminar is being held as part of the DNB's 200th anniversary celebrations – a milestone to be very proud of. Of course, coming from Sveriges Riksbank, which was founded 346 years ago, I can't help but note you are still a young organisation in comparison.

The global financial crisis reminded us of the need for sound liquidity risk management. It is unfortunate, I have to admit, that we needed a reminder about the importance of an issue that is at the very heart of banking. Banks' fundamental role in the maturity transformation of short-term deposits into long-term loans makes them inherently vulnerable to liquidity risk. But it is clear that banks and regulators were, at the very least, complacent about liquidity risks in the pre-crisis period. Liquidity was abundant and, as is the nature of good times in financial markets, there was a tendency to think that the good times would roll on.

In reality, the crisis showed that many banks had failed to take account of a number of basic principles of liquidity risk management. At the core of the matter, the banking industry underestimated the probability that we could experience the sorts of severe and prolonged liquidity shocks that we encountered. And this lack of preparedness in many ways exacerbated the shocks. Many of the most exposed banks did not have an adequate framework that appropriately accounted for the liquidity risks posed by individual products and business lines, many of which had substantial contingent obligations that were not always immediately visible or understood. Contingency funding plans were often based on overly optimistic assumptions, including that any liquidity problems encountered would largely be idiosyncratic, and so normally deep and liquid markets would be open and available when needed. And, of course, regulatory constraints on excessive levels of liquidity risk were not rigorous enough, in many cases relying on only slightly less optimistic assumptions than the banks themselves had used.

Dealing with the shortcomings brought to light by the crisis requires changes by both banks and supervisors. I will be using much of my time this afternoon to talk about the global regulatory response developed by the Basel Committee. But I don't want to take away from what you discussed this morning on the practical side of liquidity risk management. Indeed, I will conclude with a reminder that regulators don't run banks, and ultimately it is for the banking industry to learn from recent experience to ensure it better measures, manages and prices liquidity risk in the future.

Motivation for liquidity regulation

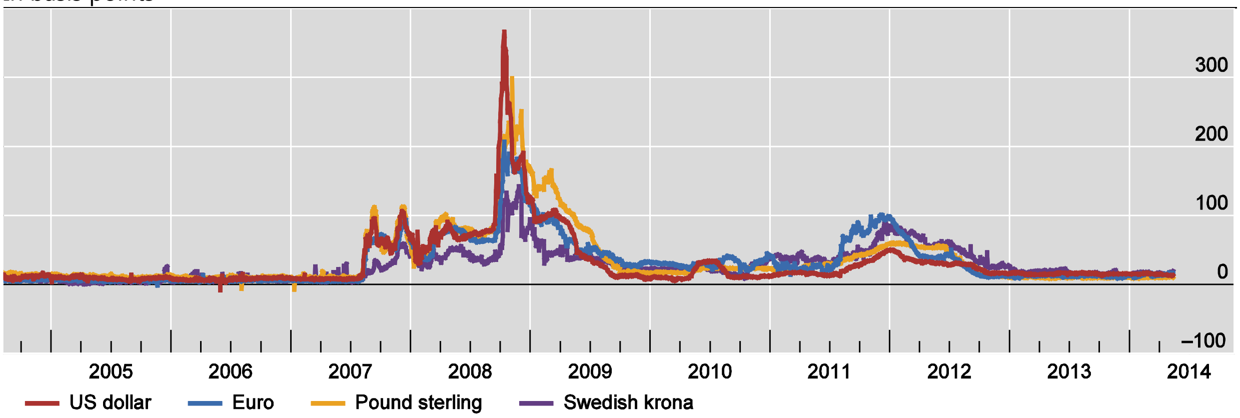
As you know, Basel III introduces two minimum standards to limit liquidity risks, in large part in response to the realisation that even deep markets can become illiquid very quickly. The sudden liquidity freezes during 2007–08 caused severe problems for the financial sector, especially for banks that were heavily dependent on short-term wholesale funding.

If we look back to the pre-crisis period, it is easy to see why banks and supervisors were complacent in their assessment of liquidity risks. Graph 1 below shows the spread between the overnight index swap rate (OIS) and the three-month London interbank offered rate (three-month Libor), in the US dollar, euro and pound sterling and, for Swedish kronor, the spread between the three-month Stockholm interbank offered rate (three-month Stibor) and the overnight index swap rate STINA. The spread between these rates is considered to provide a strong indication of banks' willingness to lend to each other and hence is a measure of market liquidity. For example, the three-month US Libor-OIS spread has historically been around 10 basis points. However, during the global financial crisis it rose to 366 basis points.

Risk premia in the interbank market

Graph 1

In basis points

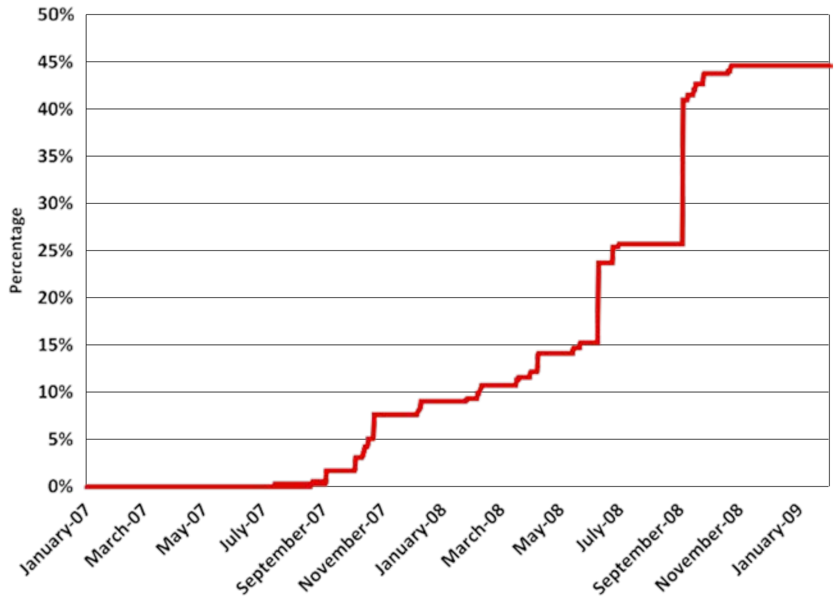


Sources: Sveriges Riksbank; Bloomberg.

Graph 2, a repo haircut index where the underlying collateral was corporate and structured finance securities, shows a similar story. On the surface, it was hard to consider the repo funding market as anything but stable and liquid up until mid-2007. The market provided trillions of dollars of short–term funding for banks, which was rolled over routinely with relatively low haircuts. It was easy for banks to become dependent on this source of apparently stable funding. However, as we know, repo haircuts increased very quickly as markets lost confidence in both borrowers' capacity to repay and the value of collateral underlying the repo transactions. With average haircuts on such collateral reaching close to 50%, repo market funding was no longer available to most banks (except for a small subset) within a relatively short period of time. Other markets, both secured and unsecured, virtually completely closed down – in effect, the haircut for some markets rose to 100%.

Repo haircut index – corporate and structured finance securities

Graph 2



Source: G Gorton and A Metrick, "Securitized banking and the run on repo", *Journal of Financial Economics*, vol 104, no 3, 2012, pp 425–51.

While we all agree that maturity transformation is a key function of banks, the recent crisis has demonstrated that funding of long-term loans with short-term, volatile funding poses costs to society which are not fully internalised by banks. When short-term funding is abundant and relatively inexpensive, banks have private incentives to expand their balance sheets by relying on such funding. This comes at the price of increased vulnerability to liquidity shocks, the costs of which, unfortunately, are often borne outside the banking system itself. Therefore, just as regulatory capital requirements are needed as a constraint on banks' incentives to over-leverage, there is a need to develop an outer bound on the liquidity risks banks can take. In a global context, however, that task has proven very difficult.

Sir George Blunden, the Basel Committee's first chairman, opened the Committee's first meeting in 1975 by noting that its mandate was "to help ensure bank solvency *and liquidity*" [emphasis added]. While the Committee's reputation has been built on the first part of the task, it took 35 years – until Basel III was agreed in 2010 – to find global agreement on the second. Unfortunately, it was the global financial crisis that provided the necessary impetus for doing so. But at least the storm clouds of the crisis had a silver lining.

As you know, the Committee's liquidity framework is based on two quantitative metrics – the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) – supported by the Committee's *Principles for sound liquidity risk management and supervision*. I would like to take some time to discuss where we are in the process of adopting and implementing the two metrics, before coming back to the importance of not losing sight of the Principles.

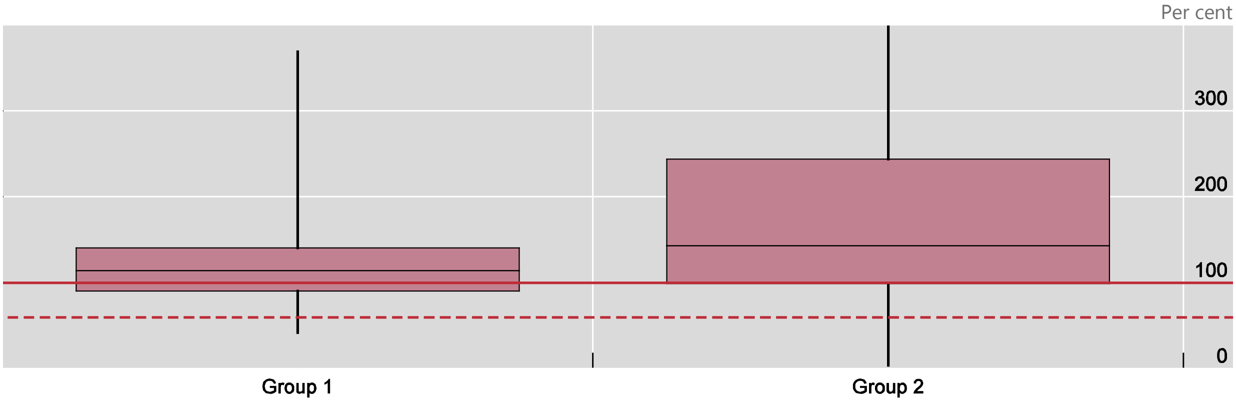
On the road to implementation

The LCR was finalised by the Committee in January 2013 and will come into effect on 1 January 2015. It is intended to promote the short-term resilience of banks to potential liquidity disruptions. The LCR ensures banks have sufficient high-quality liquid assets to withstand a 30-day liquidity shock, as specified by supervisors. The LCR numerator consists of a stock of unencumbered, high-quality liquid assets that must be available to cover any net outflow, while the denominator is comprised of cash outflows less cash inflows (subject to a cap at 75% of outflows) that are expected to occur in a severe stress scenario.

The minimum requirement will initially be set at 60%, and will then rise in equal annual steps to reach 100% in 2019. This graduated approach is designed to ensure that the LCR can be introduced without disruption to the orderly strengthening of banking systems or the ongoing financing of economic activity.

The Committee has been monitoring the banking industry's progress towards meeting the Basel III standards. The most recent monitoring exercise, based on data as at June 2013, involved 227 banks. The results showed that the weighted average LCR for the so-called "Group 1 banks" (ie internationally active banks that have Tier 1 capital of more than €3 billion) was 114%. For all other banks, it was 132%. Moreover, 72% of the banks in the Basel III monitoring sample already meet or exceed the final LCR minimum requirement of 100%, while 91% have LCRs that are at or above the initial 60% minimum requirement. In brief: the industry is in good shape to meet the LCR, particularly given the generous transition period, and many banks have already begun to publicly disclose their LCRs ahead of the required date.

Liquidity coverage ratio[1] Graph 3



[1] The horizontal lines indicate the median value, with 50% of the values falling in the range shown by the box. The upper and lower end points of the vertical lines show the range of the entire sample. The sample is capped at 400%, meaning that all banks with an LCR above 400% were set to 400%. The red horizontal lines represent the 60% minimum (2015, dashed line) and the 100% minimum (2019, solid line).

Source: Basel Committee on Banking Supervision.

The Committee is also monitoring the adoption of the LCR standard in domestic regulations and assessing the consistency of implementation as part of the Regulatory Consistency Assessment Programme (RCAP).[1] When the LCR was first proposed, it is not too much of an exaggeration to say that we were told the sky would fall if we implemented it. It was all very well for banks to have liquidity ratios and limits that they would use to manage their business, but it was another thing altogether to have an international regulatory minimum ratio. Of course, some of those concerns reflected features of the

[1] A comprehensive Regulatory Consistency Assessment Programme (RCAP) was adopted by the Committee in 2012 to ensure timely and effective implementation of the Basel framework and inform the Committee's development of prudential standards. It comprises two modules to monitor the adoption of Basel III standards and assess consistency on a jurisdictional as well as a thematic basis. See http://www.bis.org/bcbs/implementation.htm.

initial LCR proposal that we needed to correct before finalising it at the beginning of last year. But much of the angst, in my view, reflected a broader concern about the whole concept of a global liquidity standard and, in particular, the inevitable need for disclosure by banks of how they stacked up against it.

Coming from Sweden, transparency comes naturally to me. Sweden is an early adopter of the LCR, and I am pleased to say the Swedish experience with liquidity regulation has been positive so far. Swedish banks have been required to report their LCRs to the Riksbank and the Swedish FSA since June 2011. Since 2012, the larger banking groups have also been publicly disclosing their total LCR, as well as their LCRs broken down into major foreign currencies. The results so far are reassuring, and there are no signs that monetary policy operations or the functioning of the interbank market have been affected by the implementation of the LCR.

Several other countries have also chosen to be early adopters of the LCR. In fact, our RCAP monitoring has shown us that as of March 2014, more than half of the Basel Committee member jurisdictions have adopted the LCR standards in their domestic regulations, while others are reportedly in the process of consulting and adopting final LCR rules in time for the 1 January 2015 deadline. Also, starting with Mexico and Hong Kong in March 2015, all RCAP assessments will include an evaluation of consistency with the LCR standard.

Complementing the LCR will be the NSFR. The NSFR will require banks to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities. The goal is to reduce the likelihood that disruptions to a bank's regular sources of funding could lead to significant deterioration in the bank's liquidity position and in turn increase the risk of its failure and broader system-wide stress.

As with the clamour over the LCR, it has been claimed that the NSFR represents the end of banking as we know it. The most regular complaint is that the NSFR will kill banks' fundamental role in maturity transformation. This is not the intent of the NSFR, nor will it be the outcome. But a key lesson from the crisis has been the need to prevent overreliance on short-term, volatile sources of funding and to encourage banks to maintain more stable and longer-term sources of funding across all on- and off-balance sheet items. The NSFR does this essentially by limiting the extent to which illiquid assets can be funded by volatile short-term borrowings.

Earlier this year, a number of revisions were made to the NSFR. These were designed to focus the NSFR on the more problematic types of funding structures employed by banks, and make it easier for traditional deposit-funded banks, particularly those with a healthy portfolio of retail deposits, to meet the NSFR. To illustrate one key change, the available stable funding (ASF) factors for retail deposits (95–90%) are now set above the required stable funding (RSF) factors (for most loans (85%, or 65% for residential mortgages). In other words, in NSFR terms, loan books funded by retail deposits are essentially "self-funding" in NSFR terms – even if many of those deposits are technically at call. This is also a good example of why the NSFR is not the end of maturity transformation by banks.

A consultative paper reflecting these changes was issued in January this year. We are working our way through the feedback, and there is more work to be done this year to refine the standard before its finalisation. Besides general comments on calibration of the standard, specific issues raised include the treatment of securities financing transactions (SFTs), derivatives and "pass-through transactions" (ie transactions covering firm or client short positions and hedging of client exposures, which submissions suggest should be treated as liquidity-neutral). The Committee will obviously review all comments carefully.

As is the case for the LCR, many banks are already publicly disclosing their NSFR results in advance of the finalisation of the standard (albeit based on earlier versions of the standard). Consistent with the general message from the Committee's own Quantitative Impact Studies (QISs), many already exceed the 100% minimum that will come into force in 2018. This suggests that the standard can be introduced with minimal disruption to the banking system. RCAP-based monitoring and consistency assessments of the NFSR requirements will start once the final Basel standards have been adopted by the Committee.

Large European banks' reported net stable funding ratio at end-2013	(%)
ABN AMRO Bank NV	105
Barclays Bank PLC	110
Rabobank Nederland NV	114
Credit Suisse AG	>100
Erste Group Bank AG	>100[1]
KBC Group NV	111
Royal Bank of Scotland PLC	122
Standard Chartered Bank	110–120
Swedbank AB	97
UBS AG	109

[1] As of the third quarter of 2013.

Source: Standard & Poor's.

Let me make one final comment regarding the new liquidity standards. There has been a great deal of interest in their impact on the functioning of money markets, and hence on central banks' ability to efficiently execute their monetary policy operations. The Committee has been very attuned to this issue. However, there is little sign that the new standards will impede monetary policy frameworks. Furthermore, it is important to acknowledge that regulation – particularly that which is global in nature - cannot always be tailored perfectly to national monetary policy frameworks. Just as the financial system, and money markets themselves, continuously change, monetary policy will evolve according to the dynamics that the new regulatory framework generates. I do not see any reason why this can't be done in a fairly seamless manner.

In addition to taking into account comments from the industry, the Committee will continue to give careful thought to money market functioning and its role in monetary policy transmission. This does not imply that monetary policy considerations will trump the issues of safety and soundness that drive what the standard is meant to accomplish, but only that these considerations will be explored and balanced as appropriate.

Liquidity management is first and foremost banks' responsibility

I've spoken a great deal about the regulatory initiatives relating to liquidity. But let's not forget where the responsibility for sound liquidity risk management lies first and foremost: that is, with banks.

Given all the attention that has been given to the Committee's work on liquidity, it is important to always bear in mind that the LCR and NSFR are not meant to be the first line of defence against banks' liquidity problems. The primary responsibility for sound liquidity management must always rest with banks themselves, not supervisors and regulators. Furthermore, the LCR and NSFR are relatively simple quantitative measures that cannot hope to fully capture the many nuances of liquidity risk that a bank may face. Banks must develop a range of quantitative and qualitative controls for themselves to ensure that they are prepared for the volatility in their cash flows that is inherent in the complexity of banks' business models.

With that in mind, I want to use my remaining time to draw your attention to the Committee's *Principles for sound liquidity risk management and supervision*. The update of the Principles (which were first issued in 2000) was published in autumn 2008. Most people would say that the LCR was the Committee's first post-crisis reform in the area of liquidity. But in fact the Principles were the first response to the serious deficiencies in liquidity risk management that had become evident – and given that the Principles were published in the fortnight after the Lehman failure, no one can say they were not also a very timely response. But it is also probably the case that many people managing liquidity within banks had their minds elsewhere at the time, and so the Principles did not, in my view, receive the attention they deserve, particularly relative to the intense focus that has subsequently been given to the LCR and NSFR.

There are 17 principles in all. I will not go through each of them, but will point to a few areas where hindsight tells us some more time and attention is needed before we can say that they have been properly implemented. In doing so, I may well repeat some of the points from the pre-lunch sessions, but I want to emphasise how important these issues are.

The Principles start by addressing some quite uncontroversial issues: that banks are responsible for establishing a framework for the sound management of liquidity risk, that a liquidity risk tolerance should be established that is consistent with a bank's business strategy (and, I would add, vice versa), and that bank management should develop a set of policies, limits and procedures to manage liquidity risk in accordance with the liquidity risk tolerance. There should also be regular reporting to the bank's board on the bank's liquidity position. I doubt there is anything to argue about there, and just about every bank would say it does these things in some shape or form.

But then things start to get a bit more interesting:

- For example, Principle 4 says, "A bank should incorporate liquidity costs, benefits and risks in the internal transfer pricing, performance measurement and new product approval process … thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole." Hindsight tells us this was not done well at all. As with any other risk, if incentives within the business lines are not well aligned, and if liquidity risk is not well priced and measured, we cannot hope to have sound liquidity risk management overall.
- Another interesting issue is the need to consider liquidity risks and funding needs "within and across legal entities, business lines and currencies, taking into account legal, regulatory and operational limitations to the transferability of liquidity" (Principle 6). Before the crisis, when liquidity was abundant, insufficient attention was given to the potential barriers to the flow of liquidity within banking groups. Now there is a much greater awareness that these impediments exist, but there is still more work to be done to consider how to respond to them.
- Principle 9 deals with the need to carefully manage banks' collateral position. Many banks, particularly those active in SFT and derivatives markets, learnt the hard way that collateral calls can create the equivalent of a bank run. Both banks and supervisors must be much more vigilant to this risk.
- Stress testing is dealt with in Principle 10, and contingency funding plans (CFPs) in Principle 11. It is important that banks conduct regular stress tests for a variety of short-term and protracted institution-specific and market-wide stress scenarios, and then use the outcomes to develop robust and operational contingency funding plans. Before the crisis, at least some banks saw stress tests and CFPs as academic exercises needed to fulfil supervisory expectations; in fact, they need to be grounded in realistic assessments of what could go wrong, and what can be done about it.

Conclusion

There is no doubt that liquidity risk management is a very complex area for both banks and supervisors. Indeed, the subject has challenged the Basel Committee since its inception. We expect that our comfort level will only increase as we learn from each other's implementation experiences and expand RCAP monitoring to cover liquidity standards.

But liquidity risk is inherent in banking, and banks and supervisors cannot allow themselves to be complacent about the issue. In response to the crisis, the Committee has developed two new metrics to help benchmark bank liquidity profiles. These should help supervisors make a more consistent assessment of liquidity risks, and provide market participants with a benchmark against which they can judge banks' relative liquidity positions. But we must never assume these will be enough to avert all liquidity problems in future.

The first line of defence against the impact of future liquidity shocks on the banking system is stronger risk management by banks themselves. Here, I would encourage the banking industry to devote as much time, if not more, to assessing their implementation of the Principles as they do to measuring and managing their position against the LCR and NSFR. Strong liquidity risk management – in both its quantitative and qualitative dimensions – is undoubtedly critical to long-run success in banking.