

Regulatory Reforms around Liquidity Management

A look at the evolving regulations for liquidity management and the business and technology implications for global financial services institutions

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1 Highlights

The financial services industry enjoyed ample liquidity before the beginning of the global financial crisis in 2007, with liquidity risk and its management not a high priority area for banks when compared with other risk areas.

During the financial crisis, banks struggled to maintain adequate liquidity and required significant liquidity from central banks to support themselves and the financial system. Nonetheless, a number of banks failed or had to be bailed out even after such extensive support by local governments and central banks, and the global market upheaval showed how quickly liquidity risks can burn-up banks' available sources of funding.

This paper examines how financial services institutions are managing their liquidity risk through liquidity measurement and the maintenance of optimal liquidity buffers to drive effective liquidity risk management across their organizations.

Since the crisis began, liquidity risk management and supervision has moved up the global regulatory agenda of international regulatory bodies. In response to the new regulations, banks have already started building their new liquidity management frameworks. Leading banks have indicated that they will comply with the new requirements sooner than required to reassure markets, clients, and the rating agencies.

To position themselves for compliance and to provide a platform for sustainable future growth, banks will need to make business and technology investments in governance, reporting, liquidity measurement & management, and IT systems and data requirements. Maintaining high data quality and consistency is the greatest challenge for banks and will require an industry-level effort.

The new Basel III regime could have a significant impact on banks' profitability. Firms need to develop strategies on how to comply with the new requirements and restore their profit-generation capacity.

2 Introduction

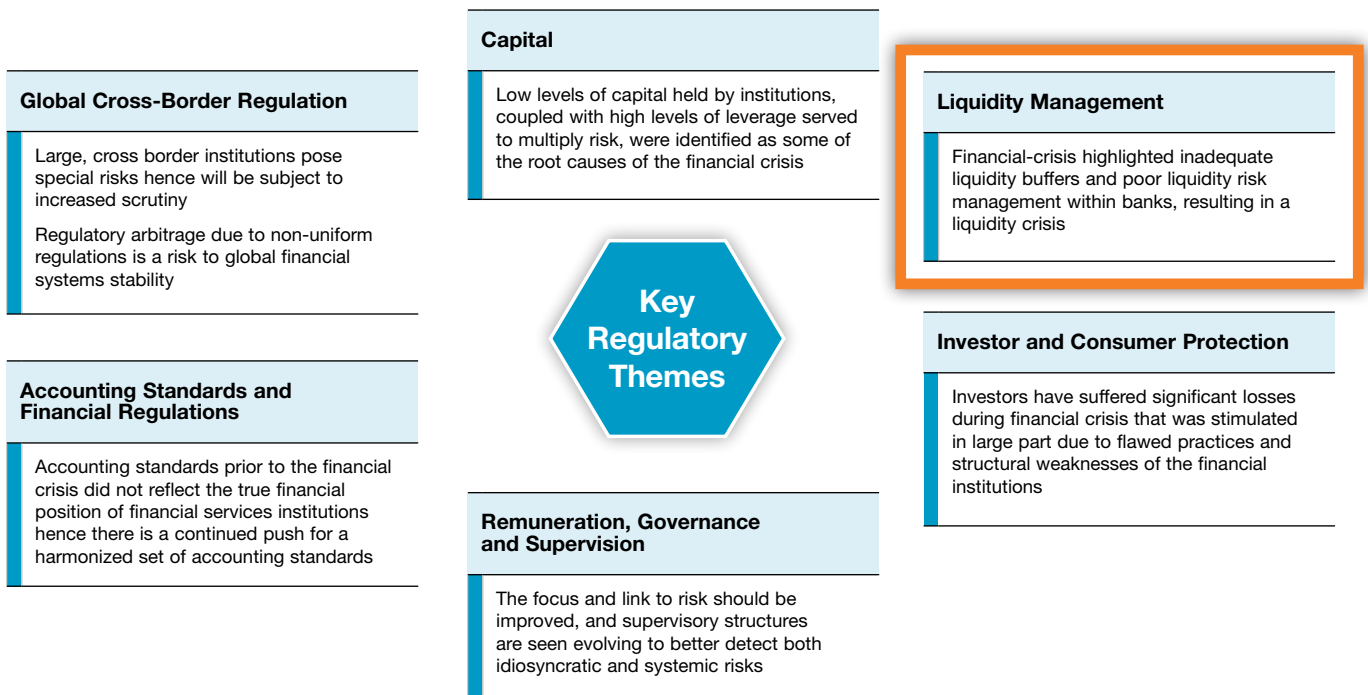
The financial crisis exposed weaknesses in the global financial system. Chief among them was the web of interconnections across global financial institutions and investments, which resulted in a cascading effect that gained strength and toxicity. Key weaknesses revealed by the financial crisis include:

- Lack of transparency
- Noncompliance of accounting practices
- Inadequate risk measurement and management process
- Misaligned compensation and incentive policies
- Lack of sufficient governance and supervision

Throughout 2008 and 2009, regulators around the world acted quickly to take measures to increase the strength of the overall financial system. Though these regulatory reforms are still evolving, regulators have attempted to fill the gaps that emerged during the crisis (especially regarding risk assessment and measurement), strengthen the capital base, adopt global standards for minimum liquidity, and enhance accounting standards to reduce systemic risks.

As regulations are expected to evolve to create a risk-aware financial system, the momentum for change is converging around six key regulatory themes.

Exhibit 1: Key Themes Driving Regulatory Reforms and Structural Changes across Global Financial Services Institutions



Source: Capgemini analysis, 2011

This paper reviews and summarizes the regulatory reforms emerging around Liquidity Management.

3 Current and Evolving Regulatory Reforms around Liquidity Management

3.1. The Need for Liquidity Management in Financial Services

Prior to 2007, liquidity had not been a critical issue for businesses as firms were able to easily access liquidity in the markets. However, the global market turmoil between 2007 and 2009 revealed the level of risk that firms were carrying on their balance sheets. This was especially true for financial institutions that relied on short-term wholesale funding as the key source to fund their balance sheets, making liquidity a key concern for financial institutions.

Exhibit 2: Top 10 Concerns of Financial Services Institutions, 2006–2010

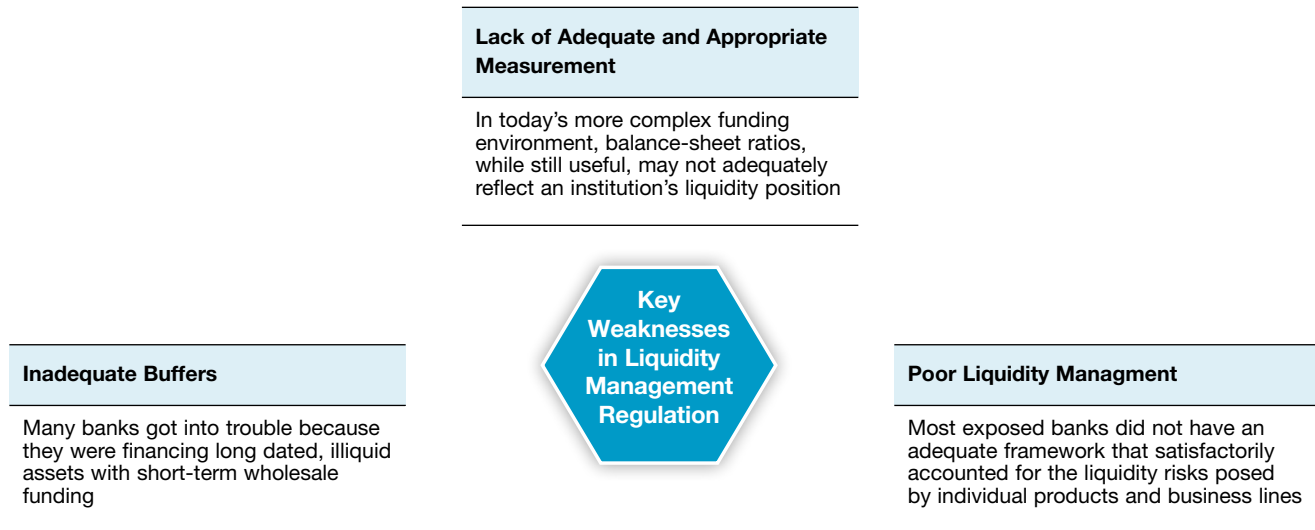
	2006	2008	2010
1.	Too much regulation	Liquidity	Political interference
2.	Credit risk	Credit risk	Credit risk
3.	Derivatives	Credit spreads	Too much regulation
4.	Commodities	Derivatives	Macro-economic trends
5.	Interest rates	Macro-economic trends	Liquidity
6.	High dependence on tech	Risk management	Capital availability
7.	Hedge funds	Equities	Derivatives
8.	Corporate governance	Too much regulation	Risk management quality
9.	Emerging markets	Interest rates	Credit spreads
10.	Risk management	Hedge funds	Equities

Source: Capgemini analysis, 2011; The Centre for the Study of Financial Innovation, 2010

Since the financial crisis, many financial institutions have now realized that weaknesses in regulatory design led to the significant decline in liquidity levels when market shocks arose. There were three key areas of weakness in liquidity management identified by global regulators:

- Lack of adequate and appropriate measurement
- Poor liquidity management
- Inadequate buffers

Exhibit 3: Key Weaknesses in Liquidity Management of Banks Highlighted by Financial Crisis



Source: Capgemini analysis, 2011

Lack of Adequate and Appropriate Liquidity Measurement

Historically, financial institutions had been measuring liquidity using balance sheet ratios that essentially took into consideration a firm’s assets and liabilities at any particular point in time. While still useful, these ratios may not be an ideal measure of a bank’s liquidity situation due to the limitations around liquidity measurements as highlighted by the financial crisis. Only relying on ratio-based analysis can leave banks exposed to liquidity risks.

Poor Liquidity Management

Recently, many banks did not have the required models to account for and address their liquidity risks, and incentives for employees were not aligned with the overall risk tolerance level of the bank. Many banks had not imagined the kind of liquidity that would be needed to satisfy their obligations, and did not conduct stress tests which could have indicated the possible market level strain or potential upcoming liquidity disruptions. These firms were thus not positioned to take appropriate mitigation steps and measures.

Inadequate Liquidity Buffers

There is no global standard that exists today around proper liquidity management. The financial crisis revealed the fact that many banks were financing illiquid assets with short-term wholesale funding while others did not have an adequate liquidity buffer to come out of severe stress. While planning for their liquidity levels, many financial institutions did account for the difficulties they would face due to a liquidity strain but did not adequately account for a disaster scenario that reflected the scale of the financial crisis.

The Basel Committee identified more than 25 different measures and concepts that are being used globally for liquidity. To introduce more consistency, the committee has developed a set of common metrics that should be considered as the minimum requirements in monitoring the liquidity risk profiles of supervised entities:

- Contractual maturity mismatch;
- Concentration of funding;
- Available unencumbered assets; and
- Market-related monitoring tools

Source: *International framework for liquidity risk measurement, standards and monitoring*, Basel Committee on Banking Supervision, 2009

3.2. Regulatory Reforms Targeting Improvements in Liquidity Management

The five key areas where regulators are focusing their efforts to improve liquidity management are:

Liquidity Measurement

Liquidity measurement requires the assessment of a bank's cash inflows against its outflows, as well as the overall value of assets (liquidity) to analyze the potential future net funding needs and requirements. Banks should have customized liquidity measurement models aligned with liquidity risk to the firm's business model, operations, and risk profile. Implementation of liquidity measurement models will require banks to significantly upgrade their data gathering and management information system (MIS) capabilities.

For example, regulators in New Zealand have proposed three liquidity ratios to cover the gaps around liquidity for local banks, whereas in Europe, the Committee of European Banking Supervisors (CEBS) prescribes the computation of a stressed liquidity position by projecting cash/collateral flows.

Intraday, Intra-Group Liquidity Management

Intraday liquidity management is a key element of a bank's overall liquidity management strategy. Any failure in effectively managing intraday liquidity can result in banks not meeting their payment obligations on time, thereby affecting their own liquidity position as well as the positions of other parties.

In the United Kingdom, the Financial Services Authority provides guidance on the measurement and management of intraday and intra-group liquidity management as part of a bank's Individual Liquidity Adequacy Standards (ILAS).

Contingency Planning and Liquidity Buffers

Firms have an opportunity to create a formal emergency funding plan that clearly states the strategies for addressing liquidity shortfalls. Such an emergency funding plan must propose policies for managing stress environments, outline clear responsibilities of a bank's employees, and the escalation process. The plan should be tested, reviewed, and updated at regular intervals to ensure its robustness and validity in an ever-changing market environment.

At Barclays in the UK, liquidity buffers grew from £34 billion in the beginning of 2009 to £110 billion at the end of the year. This expansion of the liquidity buffer added roughly £600 million to costs that year. In Switzerland, Swiss National Bank has also increased its liquidity buffer across wholesale and retail funding.

Liquidity Systems, Controls, and Governance

Financial services institutions should analyze their individual tolerance level of liquidity risk, weighed against and aligned to its business strategy. At the same time, the senior management of a bank should build policies and practices that will not only help firms to maintain sufficient liquidity, but also manage liquidity risk in accordance with the firm's risk tolerance level. Management should periodically review the firm's liquidity development(s) and report to the board, and the board in turn should review and approve the policies and practices at least annually and ensure that the firm effectively manages liquidity risk.

In the United States, the inter-agency¹ provides guidance on liquidity management which includes corporate governance, policies, procedures, and risks.

Liquidity Viable Business Models

The liquidity management strategy must be aligned with the complexity and business activities of a bank. For creating a liquidity management strategy, the bank must take into consideration legal and business factors, as well as the diversity of the markets, products, and jurisdictions in which the firm operates.

3.3. New Global Liquidity Standards

The Basel Committee on Banking Supervision has given an outline for the differential buffer requirements needed by a firm to run effectively (e.g. wholesale vs. retail funding). The group has proposed two new minimum liquidity requirements for banks. These requirements are designed to improve banks ability to payback their liabilities, and also maturity matching² of banks' balance sheets:

Liquidity Coverage Ratio

The liquidity coverage ratio is expected to help financial services institutions assess availability of high quality liquid assets that can offset the net cash outflow firms would face under a short-term stress scenario as specified by the regulators. This scenario analysis would simulate firm-specific and systemic risks built around real situations experienced during the global financial crisis.

The key aim of this metric is to ensure that a bank maintains an adequate amount of high-quality assets that can be liquidated at anytime to meet its needs in a liquidity stress scenario emerging from future crises.

Net Stable Funding Ratio

The net stable funding (NSF) ratio has been introduced in Basel III to improve the resilience of the financial services institutions by capturing issues around funding choices. Net stable funding ratio is a measure of the total longer-term, sources of funding for financial services institutions. The ratio also assesses the potential risks on liquidity from a firm's off-balance-sheet commitments and is expected to help banks with their longer-term liquidity requirements, off-balance-sheet exposures, and other capital markets activities.

This net stable funding ratio has been designed to enforce well-defined standards for banks globally. It is also expected to provide structural changes in the liquidity risk profiles of banks leading toward a more stable financial environment.

¹ The Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, the Office of Thrift Supervision, and the National Credit Union Administration collectively form the inter-agency.

² Maturity matching approach states that, short-term assets should be financed using short-term financing and long-term assets with long-term financing. Maturity matching helps maintain liquidity because it requires firms to match the terms of their assets and liabilities.

4 Business Implications for Financial Services Institutions

The liquidity management regulatory requirements in Basel III are expected to have significant impacts on banks and other financial services institutions. The impact areas cover governance, measurement and management, stress testing and scenario analysis, and data and systems.

Governance of Liquidity Risks

Banks need to incorporate liquidity costs, benefits, and risks into internal pricing, performance measurement, and new product approval. Banks must also assess and report their liquidity risk tolerance and strategy, in order to manage their liquidity risk in alignment with their overall risk tolerance limit. Senior management should put in place a process for the regular monitoring and reviewing of their bank's liquidity situation and provide a summary report to the board of directors. Having an effective liquidity risk management process will require banks to put in place a robust and comprehensive framework to monitor and report all aspects of cash flows and off-balance sheet items.

Measurement and Management of Liquidity Risk

Banks and other financial services institutions should assess, review, and control liquidity risk exposure and funding needs across their all of their legal entities, and business lines. Firms also need to diversify their funding strategy across multiple sources and the time period over which they need to fund their liabilities to mitigate risks and develop contingency plans. Banks have to actively manage their intraday liquidity and collateral positions.

Stress Testing and Scenario Analysis

By conducting liquidity stress tests on a regular basis, banks will be able to assess the possible impact of exceptional, but plausible, stress on their liquidity positions. The results of the stress tests can help banks to determine the size of liquidity buffers against potential liquidity shocks.

IT Systems and Data Requirements

With the increased demand from regulators for liquidity measurement and reporting with precision around granularity and timeliness, banks need to develop a common, centralized data storage source for regulatory and MIS reporting. This data storage should cover risk, treasury, and regulatory figures with sufficient granularity to ensure appropriate reporting as or when demanded by regulators and internal stakeholders.

5 The Path Forward: Imperatives for Financial Services Institutions

The key focus of Basel II regulations was to consolidate, measure, and manage risk, whereas the new Basel III regulation's aim is to address risks around solvency and liquidity. The proposed Basel III regulation would likely ensure that banks have the required capital to safeguard depositors' interests in the event of a future crisis, are able to survive a liquidity freeze, and are less dependent on short-term credit markets for capital requirements. With such an agreement on new capital and liquidity requirements in place, banks and other financial institutions must analyze the impact of these new regulations on their existing technology infrastructure and review and prioritize the required investments.

While a number of aspects of Basel III are extensions of Basel II, there are a few new elements that will have significant data and technology implications for banks, with liquidity being the foremost. Formerly, there was no global minimum standard in place for liquidity, but the proposed regulation has incorporated two new standards: LCR and NSFR. Financial services institutions should now focus their attention around the following key areas before implementing the "new normal".

Liquidity Risk Measurement and Management

Recent events have highlighted the inadequacy of liquidity measurement and management processes prior to the most recent financial crisis. The measurement of liquidity risk involves the determination of a bank's cash inflows and outflows. The three approaches a financial institution may use in the quantification of its liquidity risk are: the maturities-mismatch approach, stock approach, or a mixed approach.

The analytical challenge is to find the right measures to quantify liquidity risks. The Basel Committee on Banking Supervision has indicated that "bank should employ a range of customized measurement tools, or metrics, as there is no single metric that can comprehensively quantify liquidity risk."³

Ad-hoc Analysis and Reporting

While monitoring liquidity-specific indicators at regular intervals will be essential for banks, it may also be critical for firms to also perform an ad-hoc analysis (apart from the regular ones which are proposed by the regulators) and deliver the results in the requested reports. While banks understand the need and importance of such ad-hoc analysis, the challenge lies in the overall infrastructure required for such an analysis and reporting. Such an infrastructure must support access to the most granular level of data, and the ability for users to define individual analysis and reports.

Governance of Liquidity Risks

Banks should have a robust internal governance strategy in place, in order to provide robust IT systems which meet the business needs and challenges of liquidity risk management. These systems should address the quality and limited availability of data from a liquidity standpoint by taking into account the overall balance sheet assets and liabilities.

³ Eric Helleiner, Stefano Pagliari and Hubert Zimmermann, *Global Finance in Crisis: The Politics of International Regulatory Change* (Warwick Studies in Globalization) (Routledge, 2010) 67.

In addition, these systems should be able to provide required reports as per the new regulatory regime and enable a bank's management team to take corrective measures—thereby enabling an effective and holistic liquidity risk management approach for the financial institution.

IT Systems and Data Requirements

Historically, one of the key challenges in complying with new regulations such as Basel has been that data was often looked upon as an IT problem and not a business issue. This approach results in data warehouses which ensure all the data is in the same place, but also increases the risk of data duplication and inconsistency. A business data warehouse can have several occurrences of a single value or counterpart, each defined differently, used for a different purpose, and not necessarily linked to each other. This problem with the underlying data model, or the use of several data models within a business, has made the extraction of data difficult.

The collection of accurate, timely, and complete data can be the biggest challenge when implementing an effective liquidity risk management regime. However, by being very clear about the information requirements, organizations can tightly define what is needed. In defining the requirements, new monitoring metrics can be introduced, meaning that firms need to work on how to gather the requisite data thoroughly.

While financial services institutions worldwide have responded to the new regulatory requirements around liquidity management, complying with the new requirements will require substantial investments and resources. Liquidity risk management software service providers have been responding to the new regulatory standards and requirements by developing new innovative solutions. However, integration of the legacy systems and the disparate data from multiple sources present a major challenge for financial services institutions to implement effective liquidity risk management.

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