

Ahead of the Curve

New Requirements Demand New Approaches
to Liquidity Risk Management

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Liquidity Risk and Regulation: Here Today; Here to Stay

In the last decade, the industry has refocused itself on the fundamentals – with the need to stay ahead of the liquidity risk curve topping the list.

We have seen the introduction of numerous requirements ranging from Basel III and Dodd-Frank, all including key provisions designed to prevent the rapid, widespread, and uncontrolled liquidity evaporation that we experienced in 2008. After years of debate and discussion, the industry now has much needed clarity from the Bank for International Settlements (BIS), U.S. Federal Reserve, and other jurisdictions around most core tenets of the new regulatory frameworks, including levels for liquidity coverage ratios (LCRs) and net stable funding ratios (NSFR), as well as a firm definition of high quality liquid assets (HQLAs).

In January 2013, the Group of Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision, released its revised liquidity ratio standards for banks. It agreed that “the LCR should be subject to phase-in arrangements which align with those that apply to the Basel III capital adequacy requirements. Specifically, the LCR will be introduced as planned on 1 January 2015, but the minimum requirement will begin at 60%, rising in equal annual steps of 10 percentage points to reach 100% on 1 January 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.”¹ In addition, as previously defined by the BIS, the NSFR will become a minimum standard by January 1, 2018.²

In the United States, the Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (Federal Reserve Board), and the Federal Deposit Insurance Corporation (FDIC) approved a final rule in October 2014 that requires the largest financial institutions – those with more than \$250 billion in assets or \$10 billion-plus in on-balance sheet exposure to foreign markets (or foreign subsidiaries with at least \$10 billion on the books) – to have a 30-day buffer of HQLAs. The agencies also eased an earlier definition of HQLAs.³

The compliance timeline was set as well. For the largest institutions, the ratio target was 80% for January 1, 2015, with targets of 90% by January 1, 2016, and 100% starting January 1, 2017. More importantly, these institutions are required to report daily. Mid-size banks will see their phase-in begin January 1, 2016, and they will report monthly.

The liquidity risk management journey, however, is far from over as many enterprises begin to tackle the next regulatory milestone – intraday liquidity monitoring, as established by the Basel Committee on Banking Supervision (BCBS) Publication 248 (BCBS 248). While the BCBS 248 deadline for meeting several intraday liquidity monitoring requirements was January 2015, regulators had flexibility to establish timelines within their own jurisdictions. Many are now moving forward with deadlines scheduled to phase in over the next few years, some as early as January 1, 2016.

¹ <http://www.bis.org/press/p130106.htm>

² <http://www.bis.org/bcbs/publ/d295.pdf>

³ <http://www.occ.gov/news-issuances/bulletins/2014/bulletin-2014-51.html>



BCBS 248 Fast Facts	BCBS 248 Monitoring Tools
<p>Goal: Improve a bank's management of intraday liquidity risk and ability to meet payment and settlement obligations on a timely basis</p> <ul style="list-style-type: none"> • 7 monitoring tools • Consider impact under 4 stress scenarios <ul style="list-style-type: none"> • Own • Counterparty • Customer • Market stress • Report by <ul style="list-style-type: none"> • Systems • Correspondent banks • Currencies • Branches • Subsidiaries • Applies to internationally active banks, in all countries and for all currencies they operate in <p>Source: "Intraday Liquidity Reporting," Swift, Compliance Forum Germany, Presentation July 2014, http://www.slideshare.net/SWIFTcommunity/compliance-forum-idlm?next_slideshow=1</p>	<p>Tools applicable to all reporting banks</p> <ol style="list-style-type: none"> 1. Daily maximum intraday liquidity usage 2. Available intraday liquidity at the start of the business day 3. Total payments 4. Time-specific obligations <p>Tools applicable to reporting banks that provide correspondent banking services</p> <ol style="list-style-type: none"> 5. Value of payments made on behalf of correspondent banking customers 6. Intraday credit lines extended to customers <p>Tool applicable to reporting banks that are direct participants</p> <ol style="list-style-type: none"> 7. Intraday throughput <p>Source: http://www.bis.org/publ/bcbs248.pdf</p>

The intraday liquidity requirements will bring a new set of challenges to financial institutions. For example, while "reporting of direct clearing related intraday liquidity flows can be considered as rather straight forward, indirect clearing relationships are not currently conducted in a 100% real-time fashion, which makes end-of-month reporting on real-time intraday liquidity positions throughout the month, as required by the framework, a challenge,"⁴ wrote Ruth Wandhöfer, Global Head of Regulatory & Market Strategy at Citi Treasury & Trade Solutions Bank, in an article for the Center for Financial Professionals web site.

A Gift in Disguise?

There is no question that today's prescriptive regulatory environment is expensive – driving compliance costs exponentially higher for some institutions. Increasingly, however, firms are looking to make proverbial lemonade from lemons when it comes to leveraging the valuable byproducts of their regulatory compliance investment. With careful consideration, firms stand to gain unprecedented business insight from the vast amount of data they are collecting, managing, analyzing, and reporting on as they meet more stringent regulatory requirements.

This is true of liquidity risk management. Instead of considering it simply as a regulatory requirement to check off the list, firms increasingly view liquidity risk management, and other types of risk insight, as vital business resources. Financial institutions are eager to leverage their vast stores of risk, operational, and customer data to

⁴ <http://www.cfp-events.com/intraday-liquidity-effectively-implementing-a-globally-coherent-monitoring-framework/>



maximize earnings, limit the damage to overall shareholder value, and ensure the bank's survival in times of extreme volatility. It is not, however, smooth sailing for many firms in realizing this important goal.

Integrated Challenges

Liquidity risk management, specifically intraday liquidity risk management, presents several formidable challenges for financial institutions.

First, like other types of risk, liquidity cannot be assessed and managed effectively in a silo as numerous credit and market risk variables must factor into the equation. In addition, regulators are increasingly moving toward advocating integrated monitoring of liquidity and capital since the two concepts are inextricably linked. Liquidity issues can have a negative impact on bank balance sheets and, ultimately, bank capital adequacy. During a crisis, a bank may experience pressures to several areas of its balance sheet at the same time, which necessitates an enterprise-wide assessment of liquidity risk and capital adequacy.

In addition, as part of their mandate, regulators are demanding that financial institutions supplement regulatory liquidity ratios with much deeper, detailed quantitative and qualitative information – an approach that appears logical based on past events. They expect banks to know the key risk and business drivers behind their LCR, how they interact, the impact they would have on the stock of high-quality liquid assets (SHQLA) and the cash flows, the likelihood of a liquidity drain from uncollateralized and collateralized derivatives exposures, and how a funding concentration could evolve.

To meet new requirements, firms must be able to readily and reliably consolidate data from multiple internal and external sources, including core banking, treasury, payments systems, and even data from correspondent banks and counterparties, to name just a few. They also need a single instance of each customer to link multiple cash flows to a single transaction. Many large institutions struggle with these requirements for enterprise visibility because they operate separate liquidity risk and capital management platforms across various lines of business and geographies. Rarely are the systems integrated at the data extraction, processing, and reporting levels.

Not only do firms require enterprise-wide visibility into multiple financials and risk factors, real-time data is also a necessity, especially to support intraday monitoring. Traditionally, firms have used spreadsheet-based systems to manage liquidity requirements and monitoring. This approach, however, does not yield the dynamic real-time information needed to ensure accurate intraday monitoring, nor does it allow firms to realize the full potential of intraday monitoring – namely, the ability to move rapidly to avert issues.

Help Wanted

In their quest to effectively and efficiently meet regulatory requirements and gain more actionable insight to drive business performance, today's financial services organizations seek liquidity risk management relief on several fronts:

- **Compliance:** How do we prepare to meet known liquidity risk management deadlines and keep up with frequently changing regulatory requirements?
- **Enterprise visibility:** How do we achieve the real-time, enterprise-wide visibility required to optimize liquidity risk management?
- **Reporting:** How can we ensure that the right information is being provided to all stakeholders in a timely manner to enable immediate action?
- **Operationalizing insight:** How can we improve preparedness for a severe and prolonged period of stress? How can we assess our liquidity needs during varying magnitudes and periods of stress?
- **Processing power:** Do we have the processing power and speed needed to support intraday calculations?

In their journey, financial institutions are taking a critical look at their risk management environments, assessing not only their applications but the fundamentals of how they manage and integrate data.

Time to Reassess

As the liquidity risk management landscape has transformed, so must a firm's supporting infrastructure.

Not all risk management platforms are created equal. It is essential to obtain a transparent view of all asset portfolios across all lines of business and regions. The ability to integrate other forms of risk, including market and credit, and enable alignment between risk and finance to assess potential impact on the balance sheet is of high importance.

Fundamental to this objective is an analytical infrastructure that includes a unified financial services data model, shared analytical computations, and a strong business intelligence platform. This approach can deliver the level of transparency that enables management and regulators to understand defined scenarios, their impact on underlying data, the calculation process, and results.

The need for speed cannot be understated when it comes to liquidity risk management, especially intraday monitoring. Regulators today, expect complex liquidity metrics such as LCR to be computed and reported on a daily basis, which by itself is a huge challenge for banks. Intraday monitoring just compounds this problem as it is expected to be achieved on a real time basis. Extreme performance is essential to the ability to rapidly run multiple liquidity stress scenarios in parallel or quickly create and run new scenarios as potential volatile conditions emerge and cannot be overlooked.

At the application level, firms should consider the following criteria when evaluating liquidity risk management solutions:

- » **Does the solution support multi-jurisdictional regulatory compliance?** Most large banks must comply with requirements across multiple jurisdictions. As such, a risk management solution should support international requirements with preconfigured regulatory templates, such as those for FR2052a and FR2052b, as well as Liquidity Coverage Ratio QIS & Common Disclosure reports. The solution should also enable jurisdiction-specific insurance allocations and deposit stability calculations as well as address home host issues, taking into account liquidity transferability restrictions.
- » **Does the solution deliver the flexibility to rapidly accommodate multiple business assumptions?** Business assumptions will change as the organization and external conditions evolve. In addition, financial institutions need to be prepared to respond to a wide range of regulatory requests. As such, a liquidity risk management solution should provide a robust library of ready-to-use regulatory scenarios as well as prepackaged methods to rapidly and accurately design intricate user-specified scenarios.

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- » **Does the solution enable firms to assess liquidity gaps and other metrics across different sets of time buckets of varying length to efficiently meet varied regulatory requirements?** Multiple time-bucket levels ease the process of defining business assumptions. To streamline processes, platforms should enable users to define assumptions at the higher bucket levels and then automatically apply those values at the most granular bucket levels. Consider a situation in which level 0 buckets are daily and level 1 are monthly, and a user wants to define a run-off of 5% for each of the days up to 30 days. A platform that enables a user to simply define this scenario at the level 1 monthly bucket and automatically apply it to each level 0 bucket, can save considerable time and ensure accuracy. Similarly, this capability can ease navigation through gap reports, as users can view the entire liquidity gap position at the least granular level of time bucket down to the most granular level. This gives a top-down view of the gap position, which is essential as there can be upwards of 1,000 level 0 buckets, which makes analysis difficult.
 - » **Does the solution enable assessment of liquidity risk metrics under multiple adverse scenarios of varying magnitudes?** This capability is vital to meeting regulatory requirements as well as fulfilling increasingly common one-off regulatory requests. In addition, the ability to compare results across multiple scenarios extends actionable insight and enables firms to respond faster to emerging events. Stress test outcomes, historically, have been used only marginally at the highest levels of financial institutions. Today, however, stress test information, including highly volatile liquidity risk stress test results, must become a leadership pillar. To do this, firms must operationalize that information. In other words, banks must be able to present information and analysis gleaned from stress tests in a way that is understandable and actionable.
 - » **Does the solution enable advanced counterbalancing?** Understanding liquidity risk vulnerability is only part of the equation. Firms seek solutions that will enable them to rapidly develop effective contingency funding plans to avoid or mitigate a crisis. Financial crises rarely follow a predictable path. Financial institutions, therefore, must develop numerous counterbalancing strategies depending on the direction and severity of the scenario and how events unfold. These funding strategies should be based on anticipated market conditions and driven by insight gained from a stress testing process. Again, a transparent view of all asset portfolios across all regions and lines of business is essential to this objective. A solution should support multiple counterbalancing positions and have the ability to apply counterbalancing strategies to baseline and stress results in order to combat liquidity hotspots.
 - » **Can the solution deliver actionable information to the right individuals in the right format at the right time?** To support this objective, a liquidity risk management solution should provide preconfigured regulatory templates and dashboard reports that move beyond spreadsheets. Dashboard reporting improves risk reporting practices and addresses the various demands of multiple stakeholders. Preconfigured reports should cover the analysis of liquidity metrics under contractual, baseline, and stress scenarios; comparisons across multiple time periods and scenarios; detailed analysis at a granular level through pre-configured drill throughs; and visibility into variance, trends and interim results.
 - » **Can the solution support liquidity risk appetite definition and compliance?** Most firms have significantly curbed their risk appetite in the wake of the financial crisis. That said, they also seek to find a level of risk appetite that balances prudence with growth aspirations. Advanced liquidity risk management solutions enable firms to incorporate strategic statements and limits to define risk appetite and then monitor and report on actual performance versus targeted risk appetite. Dashboards and heat maps can be valuable tools in managing risk appetite.

Oracle's Approach

Oracle Financial Services Liquidity Risk Management gives banks the ability to aggregate enterprise data in a single location in real-time, thus reducing the uncertainty around data reliability, accuracy, and timeliness. With preconfigured regulatory scenarios, plus the ability to create a customized library – as well as rules and computations that address the liquidity ratio guidelines of the U.S. Federal Reserve and Bank for International Settlements (BIS) – it supports rapid compliance as well as flexibility moving forward.

The application, like all Oracle Financial Services Analytical Applications (OFSAA), is built on a commonly available analytical infrastructure that includes a unified financial services data model, analytical computations, a Metadata-driven “R” modeling platform, and an industry-leading Oracle Business Intelligence platform to deliver one version of the analytical truth throughout the enterprise. OFSAA applications and underlying platform aggregate all areas of risk – including credit, market, operational liquidity, fixed asset, business, and reputational risks – that can impact liquidity.

Oracle Financial Services Liquidity Risk Management provides several key differentiators:

Compliance:

- Improve liquidity resilience across multiple horizons by calculating LCR and NSFR
- Achieve quick turnaround times for compliance with existing and emerging regulatory requirements

Comprehensive Stress Testing and Counterbalancing:

- Assess the impact of stress scenarios on liquidity gaps, ratios, and other liquidity metrics
- Develop a robust contingency funding plan by applying multiple counterbalancing strategies

Improved Risk Reporting:

- Address the varied reporting requirement of multiple stakeholders, including regulators on demand
- Achieve consistency and comparability of results at an enterprise-wide level
- Operationalize stress testing data

Oracle also addresses the requirement for extreme performance with Oracle Exadata Database Machine, an engineered system that includes hardware and software optimized to work together. Oracle conducted a benchmark designed to observe the performance achieved when running Oracle Financial Services Liquidity Risk Management on Oracle Exadata Database Machine and determined the possibility of calculating liquidity gaps for baseline and stressed conditions on an intraday basis. The solution calculated stress liquidity gaps for 2 billion cash flows across 40 million accounts in 2:20:48 hours.



With the ability to execute an individual stress test run in mere minutes, institutions can refine their scenarios to simulate any impact on business-as-usual liquidity gaps and immediately assess the effects of a given counterbalancing strategy. Furthermore, no longer constrained by lengthy run time windows, multiple contingency funding strategies can be iteratively tested to produce the best possible results in a practical timeframe.

Conclusion

Financial firms are coming to terms with the new reality of stringent regulations with tight deadlines coupled with the need for speedy results. They also face mounting internal compliance requirements, such as mandates to run multiple scenarios in a day. In moving toward compliance with the liquidity risk management requirements mandated by BCBS 248 and Dodd-Frank provisions as well as internal mandates, financial firms are looking for an upside in the increasingly prescriptive regulatory climate.

Financial service innovators seek to leverage their data and compliance investment to improve overall performance – from creating more precise liquidity counterbalancing strategies to identifying new opportunities for growth. In this quest, they require scalable and robust platforms that deliver an enterprise-wide view and enable them to operationalize insight – including stress test data – at all levels of organization. Oracle Financial Services Liquidity Risk Management and the broader OFSAA platform, in combination with Oracle engineered systems, are purpose-built to for this important enterprise mission.



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