

BASEL III LIQUIDITY METRICS: IN NEED OF REFINEMENT

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INTRODUCTION

While the epicenter of the sub-prime crisis of 2007 was the US, the liquidity crisis of 2008 centered on the UK, where there was a run on Northern Rock. The UK Financial Services Authority (FSA) quickly established detailed and prescriptive liquidity requirements. These rules came into force at the end of 2009 and apply not only on UK domestic banks but also to the many international banks with operations in London.

The Basel Committee on Banking Supervision (BCBS) simultaneously embarked on a program to revise its liquidity regulations.¹ However, these Basel III rules will be implemented more slowly; the new Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) ratios will come into effect in 2015 and 2018 respectively (with observation periods starting in 2011 and 2012).

Oliver Wyman has been helping banks respond to the new regulations. Specifically, we have helped them supply information required by the regulatory templates (the FSA047 and 048, the 4G by the US Fed as well as the Basel QIS exercises), and we have built the new internal models for liquidity risk stress testing that the new rules require. Along with the industry, we have learned much about liquidity risk over the last 3 years.

Alas, some of the lessons do not mesh with the Basel III regulations. This is unsurprising given that these were formulated by the end of 2009, just when banks started making serious efforts to improve their understanding of liquidity risk. In this context, the slow implementation of Basel III is welcome. It provides an opportunity for banks to work with the BCBS and domestic regulators to improve the rules before they come into force.

This paper considers three ways in which Basel III could be improved. Specifically, the liquidity rules would benefit from:

1. More granular categorization
2. Better category definitions
3. Better calibration of parameters

While we do not expect or wish the Basel regulations to be as detailed as the bespoke models that sophisticated banks build to understand their own liquidity positions, we do believe that significant divergence between the “economic” and “regulatory” views is hazardous and that, in light of the continuing market pressures for funding and capital, the convergence should begin now.

¹ For the rest of this document, Basel III will only refer to the liquidity risk framework set forth within the entire set of Basel III regulation. Basel Committee on Banking Supervision - Basel III: International framework for liquidity risk measurement, standards and monitoring, December 2010

OVERVIEW OF BASEL III APPROACH

The crisis exposed weaknesses in the prevailing approaches to liquidity risk management. The Basel Committee responded by publishing “Principles for Sound Liquidity Risk Management and Supervision”. It then published “Basel III: International framework for liquidity risk measurement, standards and monitoring” which specified minimum quantitative standards in the form of two pre-defined ratios with the following objectives:

“These standards have been developed to achieve two separate but complementary objectives. The first objective is to promote short-term resilience of a bank’s liquidity risk profile by ensuring that it has sufficient high-quality liquid assets to survive a significant stress scenario lasting for one month. The Committee developed the Liquidity Coverage Ratio (LCR) to achieve this objective. The second objective is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis. The Net Stable Funding Ratio (NSFR) has a time horizon of one year and has been developed to provide a sustainable maturity structure of assets and liabilities.”

The LCR is the ratio of high quality liquid assets (HQLA) to the stressed net cash outflows, while the NSFR is the ratio of Available Stable Funding (ASF) to the Required Stable Funding (RSF). Basel III requires each ratio to stay above 100%, subject to higher thresholds at the national supervisors’ discretion.

Our focus for the rest of this document will be on the two mandatory ratios mentioned above. We will limit the scope to the specification of the ratios and potential enhancements, avoiding discussion of the framework in general or any potential benefit of additional metrics.

KEY POTENTIAL CONSEQUENCES

The objectives of the new liquidity risk framework are laudable. As with any regulation, however, there are risks associated with its potential consequences. We summarize these risks in Exhibit 1.

EXHIBIT 1: KEY POTENTIAL CONSEQUENCES

LCR RELATED	NSFR RELATED
<ul style="list-style-type: none"> • Shift the mix of banks' liquidity buffers towards HQLA as defined in Basel III <ul style="list-style-type: none"> – Towards sovereign bonds given the limited set of possibilities – Replacement of financial institution bonds (that do not qualify as HQLA) with qualifying corporate bonds given yield considerations • Increase the risk of contagion from sovereign crises to banking crises through sudden liquidity freezes in the sovereign bond markets • Lower profitability due to the restrictive approach to the liquidity buffer (e.g., UK standards could reduce the earning capacity of British banks by as much as 25%)² • Force reliance on agency ratings and trigger abrupt liquidity portfolio rebalancing and "herd" selloffs due to arbitrary boundaries, e.g. credit rating downgrades to worse than AA- • Increase in funding costs due to lower demand for financial institution bonds (that do not qualify as HQLA) • Further complicate collateral management as the LCR HQLA requirements create an additional constraint on top of others (e.g. central bank collateral eligibility), resulting in a potential shortage of eligible collateral • Increase in further usage of Federal Home Loan Bank (FHLB) advances in the USA, thereby converting FHLB availability into HQLA 	<ul style="list-style-type: none"> • Relative inability of banks to supply liquidity to the real economy weakening a fundamental financial intermediation function, and a corresponding transfer of liquidity risk to the unregulated non-financial sector • Incentive for banks to adapt their businesses to arbitrary boundaries, e.g. by replacing loans over one-year maturity with shorter term "auto rollover" loans • Incentive for banks to decrease supply of short-term self-liquidating products (e.g. ABL, factoring) due to aggressive rollover assumptions under NSFR • Pressure on prices and/or profitability of some products due to liquidity costs given the aggressive rollover assumptions, (e.g. short-term loans to retail and small business customers, requiring 85% stable funding with a possible additional cost of 40-120 bps in the current UK interest rate environment)
<ul style="list-style-type: none"> • Skew prices and profitability across products as the biased liquidity costs are incorporated into FTP systems • Penalize banks with relatively stable funds that fall under a disadvantaged category, e.g. relationship-driven deposits over €1 MM in balance with small businesses • Exacerbates the unequal playing field across regions due to structural differences, e.g. continental European economies tend to be more bank-financed than the USA (i.e. lower proportion of publicly issued debt) while more European retail deposits are held with non-banks (such as insurers) compared with the USA 	

In the following section, we discuss some features of the ratios where we believe more work is warranted.

² This impact will be dependent on the spreads at a given point in time - at the time of writing, sovereign spreads were wide enough that the return on the liquid asset buffer was less of an issue

POTENTIAL ENHANCEMENTS TO THE BASEL III RATIOS NSFR AND LCR

Questions continue to be raised about the plan to implement the LCR and NSFR metrics as currently specified. For example, the current proposal of the Capital Requirements Directive IV (the European translation of Basel III) implements the LCR as defined by the Basel Committee but leaves the finalization of NSFR to a later date, following the observation period. In June 2011, USA Federal Reserve Governor Daniel Tarullo stated before the USA House of Representatives that, with respect to the LCR, the USA agencies and a Basel Committee working group will “determine whether the standards need to be amended to avoid adverse unintended consequences.” With respect to the NSFR, he said that “considerable technical work is still needed to refine this measure in the coming years.”³

Banks and other industry groups submitted many comments to the Basel Committee on the initial proposal issued in December 2009. The comments largely centered on the following three themes:

THEME	SELECTED INDUSTRY COMMENTS
1. THE NEED FOR MORE EXPANSIVE CATEGORIZATION	<ul style="list-style-type: none"> • “By applying the same standards and assumptions to fundamentally different institutions ... the Committee unduly penalizes the relatively stable, risk-averse institutions” – Bank of New York Mellon • “Classification is excessively narrow and does not reflect the fact that many types of assets in the USA are liquid even in times of severe market dislocation” – Capital One • “Assigning no liquidity value to many assets not deemed to be “high quality” under the framework in any time period is not consistent with a risk-based approach, and the cliff effects are likely to have unanticipated consequences.” – Institute of International Finance • “... [L]oans’ rollover should derive from both relationship and customer/counterparty types.” – BNP Paribas • “FHLB advances to member banks remained available and peaked during the period that many US banks experienced impaired access to the debt capital markets” – SunTrust
2. THE NEED FOR BETTER CATEGORY DEFINITIONS	<ul style="list-style-type: none"> • “The threshold defining small business is too low for many countries: substituting €10 MM in lieu of the suggested €1 MM of total aggregated funding from a small business customer would make more sense in many cases; however, the best approach would be not to set an a-priori threshold, but to allow banks to define and justify their classifications under applicable facts and circumstances.” – Institute of International Finance • “We strongly feel that a deposit from a financial institution does not always equal market funding, which appears to be the regulatory view inherent in the proposal” – Bank of New York Mellon • “Experience over the crisis shows that substantial financial institution and other institutional deposits continued to provide liquidity where based on strong underlying relationships. ... Moreover, “financial institutions” is far too broad a category: if the present approach is maintained, it would need to be broken down by type of institution (insurance company; asset manager; broker-dealer; central bank, etc.)” – Institute of International Finance
3. THE NEED FOR BETTER CALIBRATION OF PARAMETERS	<ul style="list-style-type: none"> • “Parameters are crude and overly conservative. It is not clear ... how the parameters used in the proposed rules were derived, especially as they cannot be substantiated by experience during the crisis.” – Deutsche Bank • “Deposits covered by such a robust deposit scheme should receive a 0% run-off factor” – JPMorgan Chase • “The proposal unfairly penalises retail commercial banks (e.g.: differential treatment of retail credits versus wholesale clients in the NSFR through more penalizing required factors).” – Santander

We will discuss each theme in turn.

³ www.federalreserve.gov/newsevents/testimony/tarullo20110616a.htm

THEME #1: THE NEED FOR MORE GRANULAR CATEGORIZATION

There is generally a tradeoff between simplicity and accuracy in risk measurement. A simple standardized approach to defining metrics has the advantage of being consistent across institutions. This ensures a degree of transparency for investors and helps build trust. However, this transparency is illusory if there is insufficient accuracy in the results.

In our view, the current Basel III framework is too simple. The most notable over-simplifications are:

- Failure to differentiate between insured and uninsured deposits outside Retail and Small Business deposits⁴
- Failure to differentiate beyond the most liquid assets.

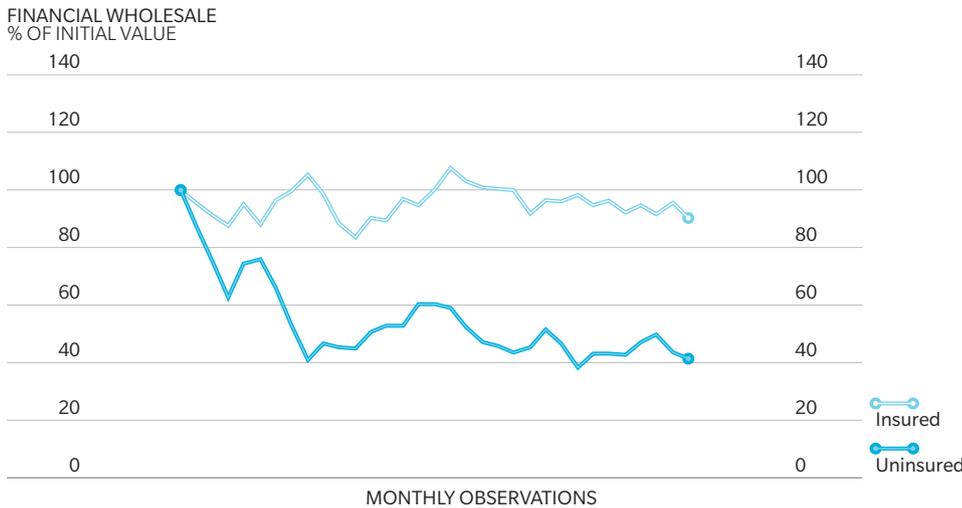
DEPOSIT INSURANCE

It is well established that deposits vary in their stability. Our work across a wide range of financial institutions, countries, and deposit businesses has identified several drivers of deposits stability, including the factors prominent in the Basel III framework: retail deposits are more stable than wholesale deposits and operational deposits are more stable than non-operational deposits.

In our analysis, the most predictive factor for deposit stability across retail, small business and wholesale deposits is the presence of deposit insurance. We believe that Basel III significantly understates the importance of deposit insurance, especially in the USA, with its now unlimited insurance on certain transaction accounts. Exhibit 2 shows a graphical illustration of our findings across multiple institutions from analyzing the run-off behavior of financial and non-financial wholesale deposits during the recent crisis for insured and uninsured segments. Insured deposits have significantly lower run-off rates.

⁴ The European Capital Requirements Directive IV proposal does take deposit insurance into account for larger customers as well. European Commission - Commission Staff Working Paper Impact Assessment Accompanying the document Regulation of the European Parliament and the Council on prudential requirements for the credit institutions and investment firms, Brussels, 20.7.2011, SEC (2011) 949 final

EXHIBIT 2: ILLUSTRATIVE EXAMPLE OF INSURED VS. UNINSURED WHOLESALE DEPOSIT STABILITY (2008-2011)



LIQUID ASSETS

The LCR requires HQLA to meet or exceed short term liquidity requirements. The assets that qualify are meant to include only those that will remain liquid in conditions of severe market disruption. In addition, HQLA have to be unencumbered and managed centrally by Treasury in a separate portfolio.

There should potentially be some consideration given to other liquid assets held elsewhere in the bank (e.g. in trading portfolios). Some very liquid trading strategies could potentially provide a source of liquidity if positions could be unwound quickly and at minimal loss to the bank. Furthermore, although the universe of qualifying assets was expanded in the revised proposal, in our view it is still too narrowly defined, placing too much emphasis on sovereign debt.

The current framework includes two “levels” of HQLA with liquidity haircuts of 0% and 15%, while everything else is deemed not to be HQLA. Within the HQLA, at least 60% must be zero-haircut assets. This system will provide an artificial incentive to shift liquidity buffers into the few asset classes that qualify as HQLA. The resulting herd behavior will dislocate markets and penalize non-qualifying asset classes.

The current sovereign debt crisis in the Eurozone demonstrates that liquidity can quickly dry up in sovereign bond markets, even those of G7 countries, and bid-ask spreads can exhibit significant volatility. The heavy reliance of HQLA on sovereign bonds may have adverse effects during sovereign debt crises. It may cause a depletion of funding liquidity or an erosion of capital due to liquidation at low valuations, sending the banking system into a self-defeating liquidity spiral.

These risks can be avoided by including more asset types, with appropriately severe haircuts, within the HQLA definition. A good starting point would be collateral eligibility for central bank borrowing. Although eligibility and haircuts are not standard across different central banks, the consensus view across major central banks should represent a sufficient compromise. For instance, deeply-traded investment grade⁵ corporate bonds and covered bonds could be eligible with an appropriate haircut.

In the USA, the single most important source of funding excluded from the LCR calculation is Federal Home Loan Bank (FHLB) advances towards unpledged eligible collateral. Historically, and certainly throughout the recent crisis, FHLB advances have been a critical component of the financial industry’s approach to liquidity risk management. Particularly in the short term, with respect to the LCR, FHLB advances are a reliable source of funding, at large volumes for many institutions. They should be included within the Basel III framework, potentially with a haircut.

To push the point further, available FHLB advances represent a structural funding source, especially for small and medium sized banks, and therefore should be recognized not only within LCR, but also additionally as part of ASF within NSFR. To exclude FHLB advances from a liquidity risk framework in the USA dramatically distorts the regulatory view of the liquidity risk profile of many US financial institutions. That being said, we believe that the haircut for the LCR should be sufficiently large to be conservative, as FHLB closely scrutinizes its member banks and can take actions to decrease member borrowing expediently.

If banks are not credited for FHLB advances, they may be inclined to draw down on their FHLB lines, and invest the proceeds in Treasuries to attain relief against the LCR. This regulatory arbitrage would expand FHLB’s role from simply funding mortgages to liquidity transformation. This distorts banks’ balance sheets and income statements by forcing them to convert contingent liquidity into actual liquidity, thus expanding the balance sheet for little benefit.

⁵ Basel III establishes AA- as the minimum rating for which corporate bonds and covered bonds are eligible for HQLA treatment. This represents another arbitrary boundary given the market convention of investment grade vs. non-investment grade. Basel Committee on Banking Supervision- Results of the Comprehensive Quantitative Impact Study, December 2010, Chart 6: Composition of Holdings of Liquid Assets of Banks, pp 19 and 20 (27 and 28 of 31)

THEME #2: THE NEED FOR BETTER CATEGORY DEFINITIONS

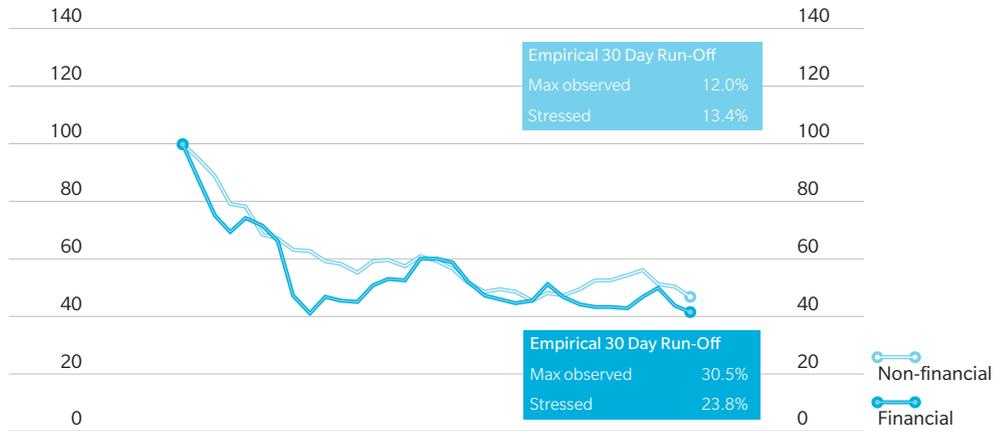
The Basel III definition of small business customers is in many ways similar to the Basel II definition. However, unlike Basel II, the Basel III definition excludes financial customers. Our empirical studies indicate that small financial customers have the same liquidity risk characteristics as small non-financial customers, as illustrated in the first chart of Exhibit 3.

EXHIBIT 3: ILLUSTRATIVE EXAMPLE OF FINANCIAL VS. NON-FINANCIAL DEPOSIT STABILITY (2008-2011)

SMALL BUSINESS
% OF INITIAL VALUE



ALL WHOLESALE
% OF INITIAL VALUE



One explanation for this observation is that the primary driver of deposit stability and cash management sophistication is the size of the customer: small customers behave like small customers regardless of industry, and only for large customers does the distinction between financial and non-financial come into play. This is supported by comparing the two charts in Exhibit 3. Although observed run-off rates at this institution are significantly higher for financials than non-financials overall, the difference is non-existent within the small business segment.

Another possible explanation is that the definition of “financial” within Basel III is so broad as to make the distinction between financial and non-financial insignificant, at least at the lower end of the size spectrum. The Basel III framework definition of “financial” customers currently includes banks, securities firms, insurance companies, fiduciaries, beneficiaries, conduits and special purpose vehicles, affiliated entities of the bank and other financial institutions. Some of these may behave more like corporates than financial institutions, including even certain types of insurers and some SPVs (e.g. for project finance).

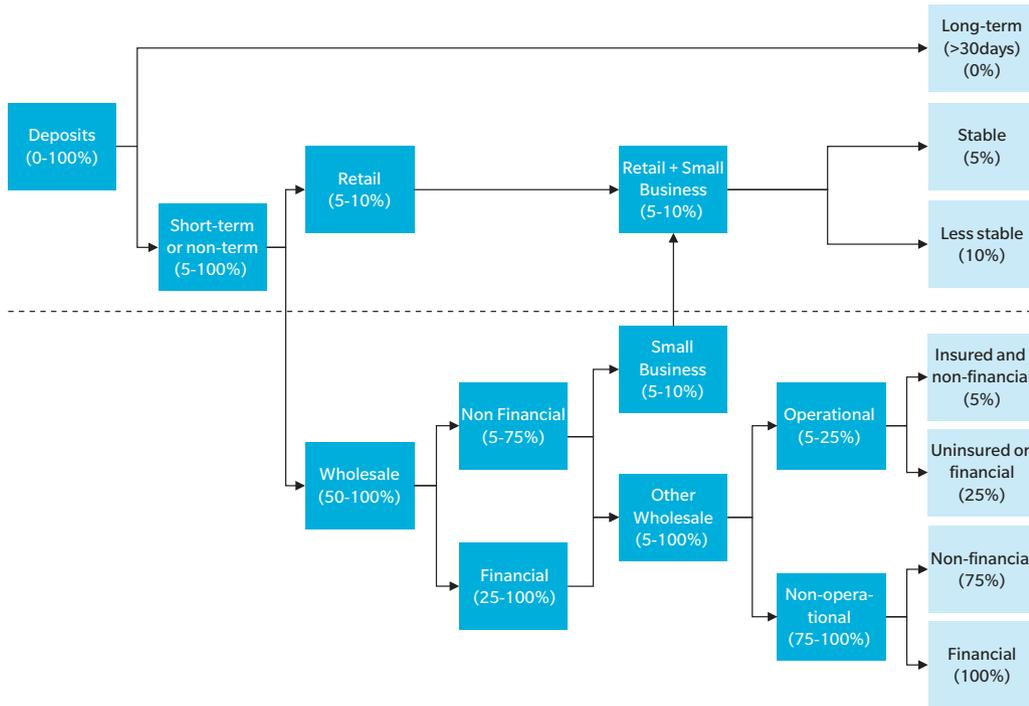
Basel III defines deposits from “operational relationships” (which applies to both wholesale and financial customers) using behavioral criteria.⁶ The accounts likely to meet these behavioral standards include clearing, custody or cash management accounts and accounts priced significantly below the market. This behavioral definition captures the gist of the sources of stability in financial deposits. However, perhaps counter-intuitively, the framework assumes that customers in operational relationships will withdraw all deposits beyond their operational needs and that financial customers without operational relationships will remove all of their deposits from an institution in a short-term stress. We doubt empirical observations will bear out this belief.

More importantly, no stable funding credit is given for operational deposits from financials under NSFR (wholesale gets 50% available stable funding treatment). In our experience, it is unrealistic that all of the operational relationships with financial customers would move within one year. Switching banks is a costly procedure and retention in these types of relationships has historically been very strong. This is confirmed by custody banks, whose business model is based on the long-term stability of structural funding from these kinds of deposits. Furthermore, especially with mid-sized corporates, there are often “tacit” operational relationships even if there is no contractual cash management relationship of the kind common with large corporates. Such tacit relationships should not be penalized; the mid-sized corporate is unlikely to withdraw its cash even in a stress scenario because it still needs to pay its suppliers and employees.

Although often complex and difficult (see Exhibit 4), banks should rigorously segment their balance sheet into the Basel III categories. Only then can meaningful empirical analysis be conducted to confirm or to help modify the regulatory framework.

⁶ Basel Committee on Banking Supervision - Basel III: International framework for liquidity risk measurement, standards and monitoring, December 2010, paragraph 72.

EXHIBIT 4: ILLUSTRATIVE LCR DEPOSIT CATEGORIZATION SCHEMATIC



In our view, the broad brush with which the Basel III categories have been defined is a weakness which needs to be addressed.

THEME #3: THE NEED FOR BETTER CALIBRATION OF PARAMETERS

Oliver Wyman’s empirical analysis indicates that the Basel III run-off and stability factors for retail and small business deposits are roughly in line with bank experiences. However, the same datasets throw significant doubt onto the Basel III factors for wholesale deposits and, especially, for deposits from financial institutions.

Our analyses of deposit stability throughout the crisis indicate that run-off rates for non-operational wholesale and financial deposits (Basel run-off rates of 75-100%) could be as low as 25-50%. Although these rates are significantly higher than the 5-10% for the more stable retail and small business categories, they are dramatically lower than the Basel III parameters. The Basel III factors thus significantly overstate the liquidity risk facing financial institutions, especially those with concentrated exposures to these non-operational Wholesale and Financial deposits.

The Basel III definition of required stable funding uses a generic assumption about loan rollover behavior, according to the customer type (e.g. retail). The formula assigns an 85% RSF to retail and small business loans with a maturity less than one year and a 50% RSF to non-financial corporate loans less than a year. This assumes that loans that are set to mature in less than one year will mostly roll over. In our view, this is unduly harsh. First, product types should be an input to the expected rollover behavior of a credit. In particular, working capital financing is generally short-term and self-liquidating (e.g. factoring). Second, a prolonged distressed situation would push most institutions towards activating contingency measures, such as shrinking the loan book at the margin.

Combined with the LCR assumption to recognize only 50% of expected cash inflows from (retail and wholesale) loans maturing within 30 days, we estimate that the total increase in their liquidity cost would be 40-120bps for the top 10 corporate banks in Europe. For the small business and wholesale segments, this will massively increase the cost of working capital management as receivables financing will become much more expensive. Because regulated entities would face margin compression due to higher internal transfer prices, the rule could cause factoring business, among others, to migrate to non-regulated entities.

More broadly, banks should compare the stress scenarios associated with the Basel III prescribed parameters with those experienced during the crisis and with the specifications of the internal stress tests. This requires regulators to be transparent about how they generated the Basel III parameters, and about the process through which they will be modified in future.

WHAT SHOULD BANKS DO?

The observation period for the mandatory Basel III ratios provides an opportunity to improve their implementation by the national supervisors – most importantly, to improve the accuracy of the underlying liquidity measures. Banks must engage actively in this process. Exhibit 5 presents a list of actions that banks should consider both internally, to further detail their understanding of liquidity risk management, and externally in regulatory dialogue.

EXHIBIT 5: WHAT SHOULD THE BANKS DO?

INTERNAL EFFORTS	REGULATORY DIALOGUE
<ul style="list-style-type: none"> • Construction of liquidity risk measurement capabilities across a variety of metrics, including stress tests <ul style="list-style-type: none"> – Assess gaps in methodologies, MIS, data, processes, etc. – Capture synergies with the existing ALM systems • Analysis of the framework components that do not align with reality across: <ul style="list-style-type: none"> – Categorization scheme – Boundaries across categories – Calibration of parameters • Evaluate potential consequences across products, businesses and geographies with a special focus to identify the most affected deposit (e.g. financials) and lending (e.g. trade finance) businesses • Further analyze the most impacted businesses to suggest potential approaches to amend the rules while keeping the fundamental idea behind Basel III intact • Compare/contrast internal stress tests with the stress tests generating the Basel III parameters • Evaluate whether Basel III ratios represent a binding constraint given capital management, balance sheet management, ALM and earnings considerations 	<ul style="list-style-type: none"> • Actively participate in determining the jurisdictional details and construction of an implementation roadmap • Discuss the framework components that do not align with reality across: <ul style="list-style-type: none"> – Categorization scheme – Boundaries across categories – Calibration of parameters • Communicate the hypotheses on key potential consequences to the supervisors • Remit evidence on businesses for which fundamental economics is affected to regulators and discuss potential revisions to achieve the Rule's objectives while improving the adequacy of the assumptions • Request transparency on the description of the stress environment generating the Basel III parameters • Communicate the (potentially detrimental) impact of Basel III ratios on bank management processes and strategies

Some European banks have been building market-leading liquidity risk capabilities beyond the Basel III specifications. A robust liquidity risk framework would allow banks to assess the impending regulation, to engage more effectively with the regulators and to quickly understand the strategic implications of the new rules. Eventually, we expect liquidity risk regulation to be more granular in both specification and parameterization. Enhancing liquidity risk practices beyond what is required by Basel III is therefore unlikely to be a throwaway investment. On the contrary, it is likely to yield significant business and risk management benefits.

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