

JUNE 10, 2010

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# Response to the CEBS Request for Comments on the Consultation Paper: Guidelines on Liquidity Cost Benefit Allocation

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## Contact

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Dear Members of the Committee of European Banking Supervisors:

The challenging topic of accurately quantifying the liquidity risks and associated costs of different exposures in the balance sheet is of prime concern and interest to financial institutions. As a leading provider of risk management solutions to financial institutions, we have been studying this topic in considerable detail. As part of this effort, we have engaged in discussions with several of our clients on different approaches to address liquidity costs within an internal transfer pricing framework or as part of origination pricing.

In the following, we offer our comments on the consultation paper "Guidelines on Liquidity Cost Benefit Allocation", issued for comments on March 10<sup>th</sup>, 2010. We would welcome the opportunity to discuss these points or related issues in more detail. To that end, please contact Yaakov Tsaig, [yaakov.tsaig@mkmv.com](mailto:yaakov.tsaig@mkmv.com), or Amnon Levy, [amnon.levy@mkmv.com](mailto:amnon.levy@mkmv.com).

Sincerely,

Yaakov Tsaig  
Associate Director,  
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## 1. Overview

The guidelines proposed in this consultation paper outline a framework for accounting for liquidity costs and benefits in a holistic manner. We view this framework as a key component in the overall liquidity risk management systems employed by financial institutions. Further, we strongly support the notion of incorporating the cost/benefit allocation mechanism within an institution's transfer pricing system, as suggested in the guidelines, as it is a natural extension to the internal pricing frameworks utilized by many institutions.

We would like to offer the following comments on the guidelines and recommendations outlined by the committee:

- >> We support the committee's view that the liquidity pricing function should be **consistent with the overall liquidity management framework** adopted by the financial institution.
- >> We recognize the importance of a **holistic risk analysis framework for transfer pricing**, which accounts for the interaction between different risk factors impacting the liquidity costs attributed to exposures on the balance sheet.
- >> We view the **calculation of contingency liquidity costs** as an important component of the internal pricing mechanism, and advocate the use of quantifiable economic measures of risk for the estimation of marginal contributions of balance sheet exposures to the liquidity buffer.
- >> We endorse the committee's guidelines on **consolidation of internal pricing mechanisms and product pricing**, and advocate a careful study of the potential impact on borrowing and lending activities.

In the next section, we elaborate on each of these topics with regards to the principles outlined in the consultation paper. In the final section of this document, we describe an economic analysis of the effect of liquidity costs on loan pricing, which ties together several of the points we address. In particular, the analysis serves to illustrate the potential impact of distressed funding conditions on the credit costs charged to borrowers. Further, it demonstrates the importance of a holistic risk framework in calculating the transfer price of exposures.

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## 2. General Comments

### Consistency of Liquidity Management Framework

Guideline 1 of the consultation paper states that: “The liquidity cost benefit allocation mechanism is an important part of the whole liquidity management framework. As such, the mechanism should be consistent with the framework of governance, risk tolerance and decision-making process.” We fully endorse the principle of consistency across the different functions of the liquidity management framework. Further, in keeping with the proportionality principle, we believe that the methodologies for liquidity risk management and pricing adopted by financial institutions should be aligned with the risk management practices of the institution and the complexity of the balance sheet. In particular, we advocate the use of economic models which provide a unified framework for measuring and managing liquidity risk, as well as for pricing and cost/benefit allocation. Guideline 5, which emphasizes the need for a robust modeling methodology for the purpose of calculating internal prices, suggests that the committee recognizes this important issue.

### Transfer Pricing in a Holistic Risk Framework

Guideline 5 alludes to the fact that in estimating liquidity costs for the purpose of internal pricing or product pricing, multiple risk factors should be considered. In particular, recommendation 23 lists a series of adjustments that can be made to the funding curve in order to account for instrument- or borrower-specific liquidity risk. In considering the various risk factors that might impact the liquidity profile of an exposure, we believe it is important to utilize an analysis framework that considers the different risks in an integrated fashion. This is in contrast to a “siloes” approach which treats each risk dimension separately.

As an example, consider the transfer pricing of a callable corporate (fixed-rate) bond. As suggested in recommendation 23, the internal charge for the instrument should include, among other things, the funding cost, the credit risk charge, as well as the option premium. The value of the call option, in turn, is driven by credit quality dynamics of the bond issuer, as well as by interest rate dynamics. Further, early repayment of debt would impact the liquidity profile of the exposure, and should thus be taken into consideration when estimating the liquidity cost attributed to the instrument. In order to arrive at a price which accurately reflects these set of financial risks, a holistic framework that jointly accounts for the different risk dimensions and the interactions between them should be utilized. The importance of a holistic risk analysis is demonstrated further in Section 3, where we elaborate on the interaction between the funding costs charged to the lending institution and the option to repay the debt.

### Calculating Contingency Liquidity Costs

Annex 2 of the consultation paper proposes an approach for calculating the contingency liquidity costs corresponding to different exposures. The approach associates contingency liquidity costs with the cost of maintaining a liquidity buffer, which, in turn, is decomposed into the funding cost of the liquidity buffer, and the opportunity cost of holding low-yielding assets in the buffer. We agree that these two components should be considered when calculating the cost of maintaining a liquidity buffer. In addition to the cost of the buffer, we feel

that it would be useful to compute the marginal contribution of exposures on the balance sheet to the liquidity buffer. In particular, we advocate the definition of an economic measure that accounts for cross sectional variation in exposures' contribution to the required liquidity buffer contribution. In order to quantify the marginal contribution of an exposure to the liquidity risk on the balance sheet, the measure should utilize information beyond statistics such as the size of exposure, and include instrument-specific characteristics such as cash flow structure, optionality, etc. Such a measure of marginal risk contribution would facilitate accurate pricing of liquidity risk at the individual exposure level.

### Consolidating Internal Pricing with Product Pricing

Recommendation 24 of the consultation paper states that: "Product approval and internal pricing processes should be integrated. Selling only fairly priced products can be considered to be a major criterion for the long-term functioning of an institution. Since liabilities (funding) are the material from which institutions make their commodity, it is obvious that the cost of the material (funding) must be fairly taken into account when the price of a product is being determined." We are supportive of the initiative to align internal pricing systems with product pricing, in a manner that ensures that products are fairly priced to include the economic cost of funding. That said, we believe that the impact of added liquidity costs on borrowing and lending should be studied in more detail. Indeed, while there is general agreement in the industry regarding the need for firmer liquidity standards, the potential impact of the proposed liquidity measures is a subject of much debate. We elaborate on this matter in the next section, where we argue that an increase in liquidity charges to banks might result in non-trivial effects on borrowers' cost of credit.

### 3. Accounting for Liquidity Costs in Loan Pricing

The preceding paper on liquidity buffers published by the CEBS recognizes that:<sup>1</sup> “Such intervention may have important effects on banks’ costs, which, in turn, influence economic activity indirectly. For example, such intervention may restrict lending capacity, raise the cost of financing for borrowers, and eventually lead to reduced investment and output.” We agree with the view that an increase in liquidity costs to banks will manifest itself in increased borrowing costs and may ultimately hinder borrowing and lending activity. In particular, we believe that the potential impact of the new liquidity regimes recommended by the CEBS and other regulatory bodies should be analyzed in detail. To that end, this section describes an analysis of loan pricing under different funding environments in a simplified setting. The analysis, conducted in a stylized setting to maintain tractability, points to some potential implications of transferring liquidity charges to borrowers.

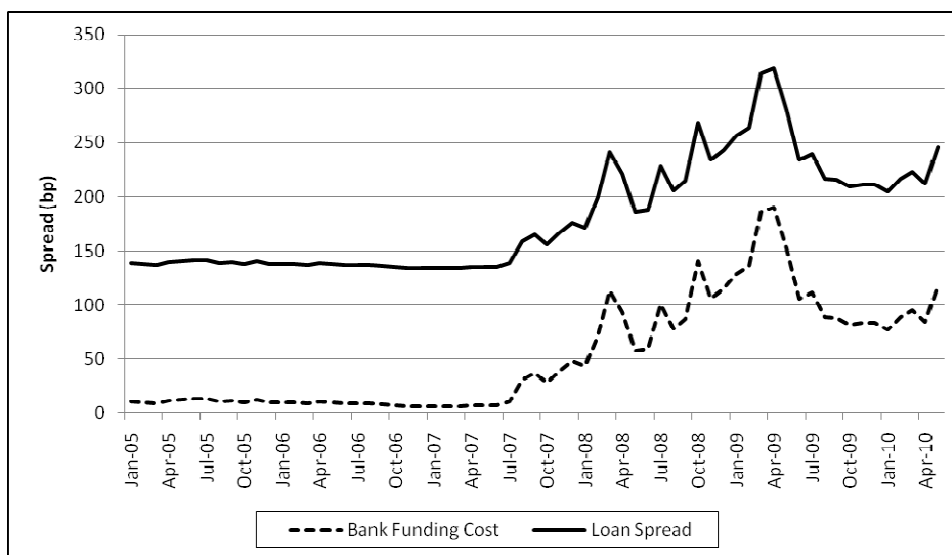
In detail, we consider a stylized setting in which a bank is lending a 5 year floating rate loan to a corporate borrower, whose annualized default probability is 1%. We assume that the bank funds the loan to the borrower with a term loan whose maturity is matched to the originated loan, i.e., with maturity of 5 years. In return for the funding amount, the bank faces some spread above the risk-free rate, which can be thought of as the funding cost. In this analysis, we focus on funding costs as the source of liquidity costs; however, the discussion can be generalized to include indirect costs such as liquidity contingency support.

We begin by assuming that the loan to the borrower is not prepayable (prepayment options will be considered in detail below). Economic analysis of the cash flows reveals that in order for the bank to break even, it effectively needs to recoup its funding cost and pass the charge to the borrower. Consequently, in periods of challenging funding conditions, the fees charged to the borrower would be markedly higher. To illustrate the magnitude of the effect, Figure 1 shows a graphical depiction of the funding cost, as well as the breakeven spread charged on the loan. As a proxy to the funding cost the bank faces, we utilize the median 5 year CDS spread of the 20 largest European banks over the period January 2005 to April 2010.<sup>2</sup> We notice that the spread charge on a loan originated in distressed funding conditions can be more than double the spread charged during “normal” periods.

This effect has implications on a bank’s competitiveness. Specifically, consider two banks, bank A and bank B, identical in all dimensions, with the exception that bank A faces a lower liquidity charge (i.e., funding cost), compared with bank B (this can happen, for example, if bank A’s credit quality is better than bank B’s credit quality). If both banks transfer their funding costs to the borrower, bank A’s breakeven rate will be lower than bank B’s, allowing it to charge a lower fee from borrowers, and thus attract more business. In order to remain competitive, bank B might have to originate loans with contractual fees below its breakeven rate.

<sup>1</sup> CEBS Guidelines on Liquidity Buffers, Recommendation 18, 9 December 2009

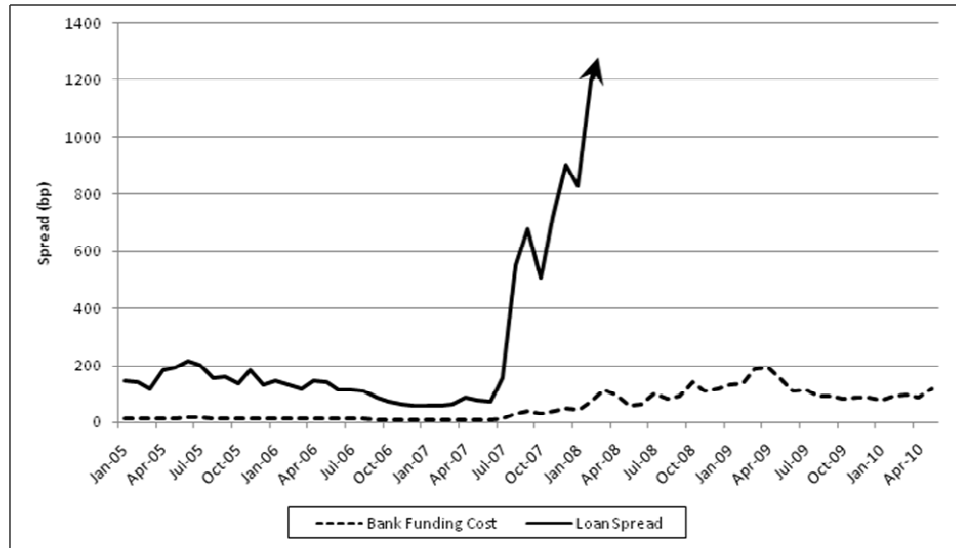
<sup>2</sup> We recognize that CDS spreads may not provide a complete view of banks’ funding costs; we utilize them in this analysis for illustrative purposes.

**Figure 1: Breakeven Spread of Non-Prepayable Floating Rate Loan**

This effect becomes even more pronounced when prepayment options are prevalent. To extend the analysis for the case of a prepayable loan, assume the following conditions hold:

- >> The borrower can refinance the loan at its par value at any time between origination of the loan and its maturity.
- >> The funding term used to fund the loan to the borrower is matched to the contractual maturity of the loan, i.e., equal to 5 years.

Figure 2 depicts the loan spread charged to the borrower that offsets the liquidity charges (i.e., the funding cost) of the originating bank. The figure demonstrates that as the bank's funding costs rise, the spread charged to the borrower dramatically inflates, at a rate significantly higher than the increase evidenced in the non-prepayable case. The economic interpretation of this result is as follows. Similar to the analysis in the non-prepayable case, as the bank's funding costs increase, it transfers the liquidity charges to the borrower, resulting in increased loan fees. All else equal, this increase in fee will tend to increase the borrower's likelihood to prepay. An increased likelihood of prepayment, in turn, erodes the economic value of the loan, since the bank is less likely to receive the interest income that offsets the funding costs. To mitigate this effect, the bank needs to inflate the loan spread even further. In other words, the prepayment contingency creates a feedback effect that results in dramatically increased loan fees when funding costs are high. While this example is highly stylized, it serves to demonstrate the importance of a holistic model that accounts for the convoluted effects of funding liquidity on other components of the loan pricing problem.

**Figure 2: Breakeven Spread of Prepayable Floating Rate Loan**

In summary, we see that in periods of elevated funding costs, the increase in loan fees needed to offset the cost of funds can be dramatic, particularly when loans feature an embedded prepayment option. As we alluded to, this has implications on banks' competitiveness in credit markets, as well as on the overall cost of credit. While financial institutions can utilize different techniques to reduce the magnitude of such effects, the broad impact on credit markets is likely to remain a concern. In addition, the analysis highlights the importance of using a holistic risk framework in internal pricing systems employed in banks. Such an economic framework would allow banks to consistently integrate liquidity pricing with other risk management functions such as stress testing and scenario analysis.