



Liquidity Revisited

by: George K. Darling
Chief Executive Officer
Darling Consulting Group

One area of balance sheet management that continues to confuse financial managers is liquidity measurement and management. As a result, very few asset/liability management processes have integrated effective approaches for managing liquidity.

For purposes of this discussion, liquidity will be defined simply as “Having money when you need it ... to meet loan commitments and deposit withdrawals”. Further enhancing this definition is the statement that a financial institution’s ability to raise cash quickly without principal loss is the best way to measure its liquidity position.

See Page 2 for complete article

One area of balance sheet management that continues to confuse financial managers is liquidity measurement and management. As a result, very few asset/liability management processes have integrated effective approaches for managing liquidity.

For purposes of this discussion, liquidity will be defined simply as “Having money when you need it ... to meet loan commitments and deposit withdrawals”. Further enhancing this definition is the statement that a financial institution’s ability to raise cash quickly without principal loss is the best way to measure its liquidity position.

Traditional approaches are no longer valid

With the definition of liquidity described above, financial managers should ask themselves if traditional measures they may use today are still valid; measurements such as loan to deposit ratio and twelve month cashflow analyses.

The Loan to Deposit Ratio was introduced by the regulators as a measurement of a bank’s liquidity when the only investments a bank could make were U.S. Governments. If a financial institution had a 50% loan to deposit ratio, by definition, it had 50% of its deposits invested in very liquid treasury securities. Is this still a valid assumption? Today, a financial institution could have a majority of its investments in depreciated corporate bonds, municipals, or collateralized mortgage obligations. How liquid are these investments and what is the bank’s ability to convert them to cash quickly without principal loss?

Twelve Month Cashflow Analysis as a measurement of liquidity, while important, is also not as valid a measure as it once was. If the bank needs cash over the next two months, what good is a maturity six to twelve months from now? In the event of a run on the bank (the greatest liquidity crisis), this analysis is totally worthless.

Basic Surplus Deficit

In today’s environment, financial managers need a measurement of liquidity that provides answers to the following questions:

1. How much cash can the bank raise without principal loss over the next thirty days?

2. What is the bank's ability to survive a run on the bank?
3. How does the current liquidity position relate to anticipated funding requirements?
4. What is the cost of the bank's liquidity?

Any approach utilized for liquidity measurement and management should enable financial managers to answer these questions. One approach that most banks would find effective is the Basic Surplus/Deficit used in conjunction with short-term cashflow forecasting of funding requirements.

The Basic Surplus/Deficit is a measure of the cash a financial institution can raise within a thirty day timeframe without principal loss adjusted for the liabilities that might leave in the event of a loss of confidence in the institution.

The first step is to measure the cash that can be raised quickly without principal loss. This requires an inventory of assets that can be converted to cash quickly through maturity, sale, or use as collateral for borrowings. Items considered to be Liquid Assets might include:

1. Fed Funds Sold that converts to cash daily.
2. Cash and Due net of float and reserves (cash that could be used to fund outflows in the event of a deposit run).
3. The market value of unpledged securities that can be borrowed against in the wholesale market through repurchase agreements or may ultimately be used as collateral at the Federal Reserve discount window. These items generally include U.S. Governments and Agencies; mortgage-backed securities guaranteed by GNMA, FHLMC, or FNMA; and, collateralized mortgage obligations (CMOs) that are eligible for use as collateral. If securities that are currently used for collateral will be freed up over the next thirty days, they should be included in this calculation.
4. Loans that could be sold within 30 days without loss such as a mortgage pipeline, student or SBA loans.
5. Cashflow maturities under thirty days from items such as municipals, corporates, bankers acceptances, Eurodollar CDs, term fed funds, etc.
6. Other assets that might be sold quickly without principal loss. These might include equities with market value above book value, mutual fund holdings, etc.

The next step is to estimate the liabilities that might leave the bank in the thirty day period following a loss of confidence in the financial institution. For

purposes of this exercise, the bank should attempt to estimate which liabilities might leave after three quarters of reported losses and a negative article in the local paper. These short-term liabilities would usually include:

1. Federal funds purchased.
2. 0-100% of Jumbo CDs maturing in the next thirty days. Usually the expected run-off for planning purposes is 30-40%.
3. Repurchase agreements that mature in the next thirty days that might not be renewed (Note: the collateral will be freed up in the Liquid Assets calculation outlined above).
4. 0-50% of Consumer CDs that are maturing in the next thirty days (Note: the attrition of these deposits may be mitigated by federal insurance as has been the case in Texas and New England).
5. Other volatile liabilities which might include some estimate of core deposit run-off, Treasury tax and loan (TT & L) run-off, etc.

The third step in measuring liquidity is to calculate the coverage of Liquid Assets to Short-Term Liabilities. The difference between the two is referred to as the Basic Surplus/Deficit as shown in Exhibit 1 below.

Exhibit 1

Liquid Assets

- Fed Funds Sold _____
- Cash and Due (net of float and reserves) _____
- Market Value of U.S. Governments and Agencies not pledged beyond thirty days (@ 100%) _____
- Market Value of GNMA, FNMA and FHLMC securities not pledged beyond thirty days (@ 95%) _____
- Market Value of eligible CMOs not pledged beyond thirty days (@ 90%) _____

- Loans held for immediate sale (or that could be sold within thirty days) _____
 - Cashflow maturities < 30 days _____
 - Other marketable assets _____
- Total Liquid Assets _____

Short Term Liabilities

- Fed Funds Purchased @ 100% _____
 - Repurchase Agreements < 30 days _____
 - 0-100% of Jumbo CDs < 30 days _____
 - 0-50% of Consumer CDs < 30 days _____
- Total Short-Term Liabilities _____

Liquid Assets - Short-Term Liabilities = Basic Surplus/Deficit

Implications

The Basic Surplus/Deficit is a measurement of:

1. The financial institution’s ability to withstand a run.
2. The extent to which the financial institution is funding with “hot money”.
3. The volume of new or replacement assets that could be funded without raising new deposits.

Of particular importance to financial managers should be the manner in which excess liquidity is carried and the “coverage” of the Basic Surplus as a percentage of assets.

- If excess liquidity is carried in fed funds and short-term money market instruments, is the bank giving up too much income.
- What is the Basic Surplus as a percentage of assets? For most financial institutions a Basic Surplus of less than 3-5% should generally cause some concern.

Overall, the Basic Surplus/Deficit allows managers of financial institutions to better understand how much liquidity they have and how they are carrying it. However, by itself, it does not measure how much liquidity the institution may need. To answer this question one more step is required.

Analyzing Funding Requirements

To determine how much liquidity a financial institution needs requires management to forecast cash requirements over some horizon to determine if at the end of the horizon, the Basic Surplus/Deficit will still be adequate. This requires management to establish minimum levels beyond which liquidity should not be allowed to decline.

To forecast the Basic Surplus/Deficit necessitates that loan officers involved in the A/L process be required to provide estimates of net new loan fundings over some horizon, for example, ninety days. Additionally, executives responsible for deposit gathering should also forecast anticipated net deposit flows. A forecast of future liquidity could be accomplished as follows:

Basic Surplus/Deficit at beginning of period	_____
less: net new loan fundings*	_____
plus: net deposit flows	_____
plus: cashflow maturities 31-90 days	_____
Equals: Basic Surplus/Deficit at Horizon	_____

* Includes loan sales.

The forecast of funding requirements over a horizon has implications for both investment strategies and deposit pricing. If the basic surplus is materially increasing, excess cashflows should be anticipated and could even be pre-invested. An expected increase in liquidity should also ensure that the financial institution is not pricing liabilities at the top of the marketplace. Conversely, a drop in liquidity below a minimum acceptable level dictates that investments be kept relatively short or in securities that can be easily used as collateral for borrowings and that liability prices be set at the upper end of the market.

Conclusion

The use of the Basic Surplus/Deficit for measuring liquidity combined with a short-term cashflow forecast can provide management of a financial institution with an improved structure within which to develop investment strategies and liability pricing policies. The net result should be more informed balance sheet management, an improved net interest income contribution from the liquidity portfolio and more intelligent liability pricing.

George K. Darling
Chief Executive Officer
Darling Consulting Group, Inc.
gdarling@darlingconsulting.com
Tel: 978.463.0400 x118

George Darling is the Chief Executive Officer of the Darling Consulting Group (DCG), a firm that provides comprehensive business solutions to financial institutions, primarily in the areas of Balance Sheet Management and Strategic Planning.

Mr. Darling's professional experience includes: thirty years with his own company, two years as a senior executive with a \$2 billion financial institution; two years with a Big Five Accounting firm and ten years with IBM. He is a nationally recognized resource for assisting financial institutions in the areas of interest rate risk management, liquidity management and capital planning.

Mr. Darling is a contributing editor to the monthly Bank Asset/Liability Management newsletter, and a co-author of The Business of Banking for Bank Directors published by Robert Morris Associates. Mr. Darling is a graduate of the University of Massachusetts, Amherst, Massachusetts.

This article was written in April 1990.