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Weekly Post: **Dynamic Liquidity Risk Management- Sources and Uses of Funds**

Dear Clients:

Liquidity risk is an important topic for management and examiners today. We have learned several lessons from the financial crisis related to managing liquidity risk.

- Liquidity risk cannot be managed in isolation from interest rate risk.
- The static measure of the liquidity gap, assuming the balance sheet to run off is inadequate. We must take a dynamic approach, assuming the bank is operating under a growth plan.
- Liquidity adequacy has to be evaluated under multiple stress scenarios. Specific regulatory guidelines have been established to address these liquidity issues.

Challenge:

- How should liquidity risk be measured, monitored and managed?
- What level of liquidity is considered adequate?
- How can liquidity be measured for loans with prepayment options to borrowers and non-maturity deposit accounts where there is no stated effective maturity?

Solution:
There are several measures of liquidity risk. In addition to the liquidity gap (a static approach), this week, I explain the **Sources and Uses of Funds** report, which takes a dynamic approach. This report does not assume your balance sheet running off. Instead, the model incorporates your growth plan. For example, you may assume a flat growth, which means originating a loan for the same amount as the loan that is paid down. The core deposit account study and the loan prepayment study are used to determine the inflows and outflows of funds.

Two types of inflows of funds should be noted. First, cash and cash equivalent instruments are considered inflows of funds because you can always rollover the face amount within a month. Second, the net income (cash basis) is also an inflow of funds determined by a dynamic monthly income statement.

Liquidity Coverage Ratio is defined as the ratio of inflow of funds to the outflow of funds at the end of each month. For example, if the liquidity coverage ratio is 2, then there are $2 of inflow of funds to cover every $1 of outflow of funds. This ratio has be used as a measure of liquidity adequacy, but the target level may depend on factors such as your credit and interest rate risk exposure, size of the institution and other factors. To date, in general, a liquidity coverage ratio of 2 is considered adequate.

Example:
The sources and uses of funds report is practical because it measures the liquidity of an operating bank and the projected inflows and outflows of funds are in principle observable, offering a reality check of the models. For this reason, this report is important for regulators and

managers. Because of the importance of the Liquidity Coverage Ratio, THC provides a high level summary of this liquidity risk measure in your Director's Dashboard report. A detailed report is available from THC. Table 1 below gives an example of a hypothetical bank.

Liquidity Coverage Ratio						
Uses and Sources of Funds($000)	1mo	2mo	3mo	6mo	9mo	12mo
Cash	46,063	46,428	47,288	49,679	51,958	54,131
Investments	1,357	917	732	503	528	519
Loans	8,979	9,887	10,149	10,675	11,733	17,028
Cash Income	365	318	281	229	195	149
Total Sources of Funds	99,630	97,448	103,736	103,085	105,684	112,594
Borrowings	24,500	24,500	24,500	24,500	24,500	24,500
Deposits	18,366	15,398	20,785	17,499	16,770	16,267
Total Uses of Funds	53,203	50,160	55,625	52,635	52,989	57,772
Liquidity Coverage Ratio	1.87	1.94	1.86	1.96	1.99	1.95

This example shows that this bank may be slightly below a liquidity adequacy target with the Liquidity Coverage Ratio slightly below 2. For the Liquidity Coverage Ratio to increase from 1.9 to 2.0, the bank will need additional cash of approximately 10% of the total uses of funds or approximately $5 million.

Conclusions:
The Sources and Uses of Funds report measures liquidity risk. In addition, the Liquidity Coverage Ratio should also be monitored. If the ratio is high, then the bank may be holding excess liquidity which can be deployed more profitably. On the other hand, if the liquidity ratio is low, then the bank may need to hold more cash or cash equivalent assets.

The sources and uses of funds analysis is also extended to quantify your Contingency Funding Plan, taking your moderate, severe and crisis scenarios into account. This discussion will be left for a future Weekly Post.

Please do not hesitate to contact us if you have any questions about your Sources and Uses of Funds report and how it relates to the measuring, monitoring and managing of your liquidity risk.

Regards,

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