

Weekly Post **Liquidity Coverage Ratio**

Challenge

Liquidity Coverage Ratio (LCR) is a measure of liquidity adequacy defined as the ratio of the monthly sources of funds to the uses of funds, and that is the dollar amount covering each dollar outflow. This risk measure is important for regulatory purpose (*Liquidity, Safety and Soundness Comptroller's Handbook 2012*), as well as for internal management. For example, you may have more than adequate liquidity, as measured by LCR, thus lowering earnings. However, measuring LCR is complex. Prepayment of loans and MBS, callability of CDs, agency bonds and municipal bonds, and withdrawal of deposits are some examples where inflows and outflows of funds are not pre-specified and difficult to estimate.

- How to determine the monthly Liquidity Coverage Ratio?

Solution

As explained in my past 3 Posts, the THC model reverse-engineers how capital markets value balance sheet items and call securities. Using the estimated market perception of rate uncertainty (4/21 Post), the THC model forecasts how capital markets exercise the embedded options under each interest rate scenario. For example, in the EaR report, our model may project your callable step-up coupon agency bond will be called by the end of the year, but the bond's life may extend significantly under 100 basis point shocked up, as discussed in extension risk 3/1 Post.

- Advanced financial models can replicate capital market decision making process to project balance sheet monthly cash inflows and outflows based on your growth plan and rate scenarios

Numerical Example

The XYZ Bank's Uses and Sources of Funds table below, taken from our Directors Dashboard 3/2015, reports the LCR to be 2.96 for April. The LCR increases monthly because the model in this case assumes that the income is invested in cash raising the LCR over time. You may incorporate your growth plan in this projection.



Uses and Sources of Funds(\$000)	1mo	2mo	3mo	4mo	5mo	6mo
Cash	19,118	18,773	18,427	18,084	17,152	16,230
Investments	660	595	1,180	160	606	151
Loans	5,291	4,617	4,513	3,484	3,107	2,955
Cash Income	249	246	246	245	244	244
Total Sources of Funds	28,358	31,013	34,559	28,371	23,460	24,311
Borrowings	1,585	785	785	498	231	35
Deposits	2,049	6,589	9,997	7,078	3,285	5,850
Total Uses of Funds	9,585	12,586	16,475	11,219	7,229	8,991
LCR(Liquidity Coverage Ratio,%)	2.96	2.46	2.10	2.53	3.25	2.70

Summary

Liquidity Coverage Ratio enables us to measure, monitor and manage your liquidity adequacy, thus enhancing your earnings. You may also seek to ensure LCR to be greater than 2 as a benchmark for monitoring liquidity adequacy.

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