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Funding strategy allows your bank to hold mortgages yet increase profitability

Are you carrying too much liquidity on your balance sheet? But when you look at the alternative investment options, are you finding yields to be too low? On the other hand, are you also selling those long-term fixed rate mortgages that are yielding more than 2% over other investment options? If you answer yes to these questions, you might consider holding those mortgages as an alternative to the investments, particularly when other lending opportunities are not providing sufficient growth for your institution. This article shows you a funding strategy for holding those mortgages that can earn returns in excess of 150 basis points after taxes, and yet mitigate the interest rate risk.

A profitable funding strategy for holding mortgages uses a combination of your liquidity and long-term advances. Redeploying low yielding liquidity into higher yielding mortgages can add over 200 basis points in the current rate environment. This pickup in yield makes the strategy highly profitable. At the same time, using long-term advances, while putting a drag on the profitability, mitigates the income volatility from movements in interest rates.

The art of this funding strategy is to balance the proportion of liquidity with the long-term advances to achieve a risk / profitability mix suited to your institution. One way of making this decision is to conceptually divide the cash flows of the mortgages into two classes. The first class receives all the initial principal payments from the mortgages until it is paid off. It should be constructed to have an average life appropriate for your investment portfolio, typically 1 to 3 years. The second class receives the remaining principal payments and will have a longer term average life that should be balanced with the long-term advances. This strategy will also work if you use only advances instead of combining advances with your own liquidity.

To illustrate how this strategy works, we will examine a $1 million pool of 30 year fixed rate mortgages. Using dealer prepayment estimates, current coupon mortgages have an average expected life of approximately 6.9 years. If you make the first class 50% of the mortgages, it will have an expected average life of 2.3 years. This leaves the second class with an expected average life of 11.5 years. Note that the two classes sum up to the mortgage pool (2.3 x 50% + 11.5 x 50% = 6.9). By changing the sizes of the classes, you alter their expected average lives. Exhibit 1 provides three examples of different sized classes and the impact on their average lives.

Exhibit 1
Average Life

Class 1		Class 2	
40%	1.8 years	60%	10.3 years
50%	2.3 years	50%	11.5 years
60%	2.9 years	40%	12.9 years

To evaluate the profitability of this strategy, we make the following five assumptions.

1. Mortgages yield 7%.
2. Short-term investments yield 5%.

This *Insider* was written by Robert A. Ott, vice president and director of financial strategies. Back issues of the *Insider* are available on the Bank's website.

3. Long-term advances cost 6%.
4. Operating expenses average 25 basis points.
5. The marginal tax rate is 34%.

If we maintain a $1 million pool of mortgages and fund half with liquidity and half with advances, the strategy in this example will earn an additional after tax net income of $8.25 thousand as detailed in Exhibit 2. Since the example here only increases assets $500 thousand, the marginal ROA is 1.66% (8.3/500).

While earning an ROA of 1.66% is attractive, you may want to know what will happen to these earnings over time when interest rates rise or fall. In the example above, we simulated the net income for 10 years, allowing the earnings to be reinvested in the mortgages. The reinvestment of the earnings results in net income growing over time. It is important to note that this increase in earnings adds to capital and can cushion any adverse impact on net income from changes in interest rates.

When we simulated the above strategy assuming no change in interest rates, net income grew from the $8.3 thousand in the first year to $12.2 thousand by year 10. Over the 10 year period, net income averaged $10.1 thousand and yielded an average marginal ROA of 1.86%.

We then simulated the net income if interest rates rise 300 basis points and if they decline 100 basis points. We chose these two scenarios because we believe that in the current low interest rate environment interest rates are more likely to rise substantially than to fall dramatically. The results of the simulation suggested net income would average $6.4 thousand if rates rise and $7.6 thousand if rates fall. On an ROA basis, shocking this strategy up 300 basis points will reduce the average ROA to 1.21%. On the other hand, if rates fall 100 basis points, the ROA will average 1.43% over a 10 year period. While the long-term advances do not eliminate income volatility, they do result in less severe swings in income. Even under these changes in interest rates the strategy produced attractive ROAs at the margin.

You may prefer viewing this strategy under different conditions. If interested, we have provided access to a model on Member Link that allows you to evaluate the risk and profitability of alternative mortgage funding strategies. You can look at different types of mortgage loans, customize the prepayment assumptions, set the rate scenarios you wish to evaluate the strategy under, and select the amounts and terms of the funding. We believe that you will find that holding long-term fixed rate mortgages can add significantly to your institution's profitability.

Exhibit 2
Profitability

Mortgage interest ($1 mm x 7%)	$70.0
Less investment income ($0.5 mm x 5%)	25.0
Increase in interest income	45.0
Less advance cost ($0.5 mm x 6%)	30.0
Increase in net interest income	15.0
Less operating expenses	2.5
Net income before taxes	12.5
Less taxes	4.2
Net income after taxes	$8.3

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