FHLBank INDIANAPOLIS

Should You Raise Deposit Rates?

Evaluating Marginal Cost

After each rate hike, industry analysts like to speculate if banks and credit unions will be increasing deposit rates. When a rate increase occurs, do you follow? By how much? It is important to have a plan in place to think through this decision. Determining the marginal cost associated with increasing deposit rates is an important part of making that decision.

Marginal cost is defined as the change in cost (in this case interest expense) divided by the change in volume (in this case funding). For example, let's say a bank has two types of deposit accounts, both paying .75% currently.

Deposit Account A	$5M balance
Deposit Account B	$95M balance

The bank decides to increase the rate on Deposit Account A from .75% to 2% in hopes of attracting new deposits. The bank attracts $1M in new deposits but $5M of Deposit Account B moves into the higher paying 2% account. When looking at the effect on the bank's total financials, it doesn't look so bad, does it?

	Before		After
Total Deposits	$ 100,000,000		$ 101,000,000
Total Interest Expense	$ 750,000		$ 895,000
Total Cost of Deposits	.75%		.89%

But stop and consider that a $145,000 change in interest expense produced only a $1,000,000 increase in deposits. The marginal cost was 14.5%.

	Before		After		Change
Total Deposits	$ 100,000,000		$ 101,000,000		$ 1,000,000
Total Interest Expense	$ 750,000		$ 895,000		$ 145,000
Total Cost of Deposits	.75%		.89%		14.5%

But wait, as shown above, the financials show an average cost of .89%. But the bank paid 14.5% for the new deposits. Did management know from looking at the financials what the true cost was? Did they evaluate marginal cost before and after setting the deposit rate?

What drives marginal cost is the amount of new deposits and the movement of current deposits to the promotional rate. The greater the amount of new deposits obtained, the lower the marginal cost. The lower the amount of cannibalized deposits, the lower the marginal cost. Deposits that move from lower-paying accounts to higher promotional accounts are considered to be "cannibalized". If you are repricing deposits that would have stayed anyway, those deposits are being "cannibalized". So in the example above, up to $10M is being cannibalized ($5M from Account B and the $5M in Account A that might of stayed anyways). If you project a certain percentage of deposits will be cannibalized, marginal cost can be projected ahead of time by using the following formula:

$$\boldsymbol{Marginal\ Cost} = \boldsymbol{Rn} + (\boldsymbol{Rn} - \boldsymbol{Ro}) \times \left(\frac{\boldsymbol{C}\%}{\boldsymbol{1} - \boldsymbol{C}\%}\right)$$

To illustrate, assume you are evaluating setting the promotional rate at 2%. You have a current deposit base in which you pay on average .75%. The depositors have the ability to move to the new promotional account if they wish. As shown below, as more accounts move from the lower cannibalized rate, the marginal cost of the new money increases.

New Rate (Rn) =	**2.00%**
Cannibalized Rate (Ro) =	**0.75%**

New Deposits	From Cannibalized Deposits	Total Deposits	Cannibalized % of Total (C%)	New Money % of Total	Marginal Cost
$ 1,000,000	$ -	$ 1,000,000	0%	100%	2.00%
$ 900,000	$ 100,000	$ 1,000,000	10%	90%	2.14%
$ 800,000	$ 200,000	$ 1,000,000	20%	80%	2.31%
$ 700,000	$ 300,000	$ 1,000,000	30%	70%	2.54%
$ 600,000	$ 400,000	$ 1,000,000	40%	60%	2.83%
$ 500,000	$ 500,000	$ 1,000,000	50%	50%	3.25%
$ 400,000	$ 600,000	$ 1,000,000	60%	40%	3.88%
$ 300,000	$ 700,000	$ 1,000,000	70%	30%	4.92%
$ 200,000	$ 800,000	$ 1,000,000	80%	20%	7.00%
$ 100,000	$ 900,000	$ 1,000,000	90%	10%	13.25%

<u>What alternatives are out there if you see that marginal cost will be higher that what is acceptable?</u>

By developing strategies to increase the amount of new money raised, or lower amount of cannibalized deposits, you can lower marginal cost.

To make the optimal funding decision you should calculate the projected marginal cost of raising deposits rates, compare to FHLBank advance alternatives, and determine the best option.

In summary, when pricing deposits, banks and credit unions should remember to:

- Calculate expected marginal cost when making their pricing decisions
- Look for ways to minimize cannibalized deposits or increase new deposits
- Compare marginal cost to FHLBank Indianapolis advance rates

For additional assistance in analyzing funding strategies, contact your Account Manager or FHLBank Indianapolis Member Services 800.442.2568 or memberservices@fhlbi.com