ALM FIRST

Could Your Institution Afford a $2.2 Million Drop in Investment Yield?

Reinvestment Risk Rears Its Ugly Head, Savvy Managers Seek Alternatives to Ladder Portfolios

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If your depository has historically invested in passive Treasury and bullet ladders, it may be time to re-evaluate your investment strategy and seek more actively managed alternatives moving forward. As shown in the chart below, the average $100 million ladder portfolio reinvested today would yield an average of approximately $2 – 2.2 million less than it would have earned just two short years ago.

With interest rates now at historic lows, reinvestment risk impairs the bullet ladder's yield. As credit unions and community banks continue to serve consumers by offering payment deferrals, fee waivers, and other emergency assistance amid a high degree of economic uncertainty, it is becoming more critical than ever to effectively generate income from their investment portfolios.

Portfolio Size ($'000's)	100,000				
UST Yields (%)	**Portfolio Weight**	**2020**	**2018**	**Yield Change**	**Dollar Change**
1 Year	25%	0.15	2.10	-1.95	(489)
2 Year	25%	0.21	2.38	-2.17	(543)
3 Year	25%	0.26	2.52	-2.26	(566)
5 Year	25%	0.36	2.68	-2.32	(581)
Total	**100%**	**0.24**	**2.42**	**-2.18**	**(2,178)**
Agy Yields (%)	**Portfolio Weight**	**2020**	**2018**	**Yield Change**	**Dollar Change**
1 Year	25%	0.26	2.04	-1.78	(445)
2 Year	25%	0.35	2.32	-1.97	(493)
3 Year	25%	0.35	2.43	-2.08	(520)
5 Year	25%	0.55	2.70	-2.15	(536)
Total	**100%**	**0.38**	**2.37**	**-1.99**	**(1,995)**

At ALM First, we strive to serve as an unbiased strategic partner for our clients and often talk about our "Core Spread" strategies which are primarily invested in Agency MBS, Agency CMBS, bank notes and RMBS both fixed and floating (the spread sectors). We also talk about keeping the duration close to home and not making any significant bets on the direction of interest rates. We compare the performance of our actively managed portfolio strategies to passive Treasury and bullet ladders, computing the "excess" returns over time. As margin compression returns and other losses may loom on the horizon, the ability to generate "excess" investment returns and avoid disproportionate reinvestment risk may prove vital.

In Low Rate Environments, Spread Becomes Even More Critical for Depositories

Since many of our clients are deposit funded institutions, we thought it might be a helpful exercise to introduce a "Core Deposit Funding" index composed of a mix of DDA, Savings and MMDA accounts. We can then compare Ladder and Core Spread strategies to this Core Deposit index for yield, spread and expected return. Exhibit 1 shows our equally weighted Core Deposit Index comprised of checking, savings and money market accounts.

Exhibit 1

Account type	Weight	Base	BETA (Fed Funds)	Duration
Interest Checking	33%	0.050%	10.00%	2.50
Savings	33%	0.100%	20.00%	4.00
Money Market	33%	0.250%	50.00%	1.00
Total	**100%**	**0.133%**	**26.67%**	**2.50**

A typical structure for Core Deposit modeling in an ALM framework is to establish a base rate and a BETA coefficient to compute the interest cash flows and a decay rate with a final maturity to compute the principal cash flows. In this form, core deposits can be evaluated using a simple amortizing bond model and, because their principal and interest cash flows are independent of each other, can be weighted into a single line item. Exhibit 2 shows this single "Core Deposit" funding index.

Exhibit 2

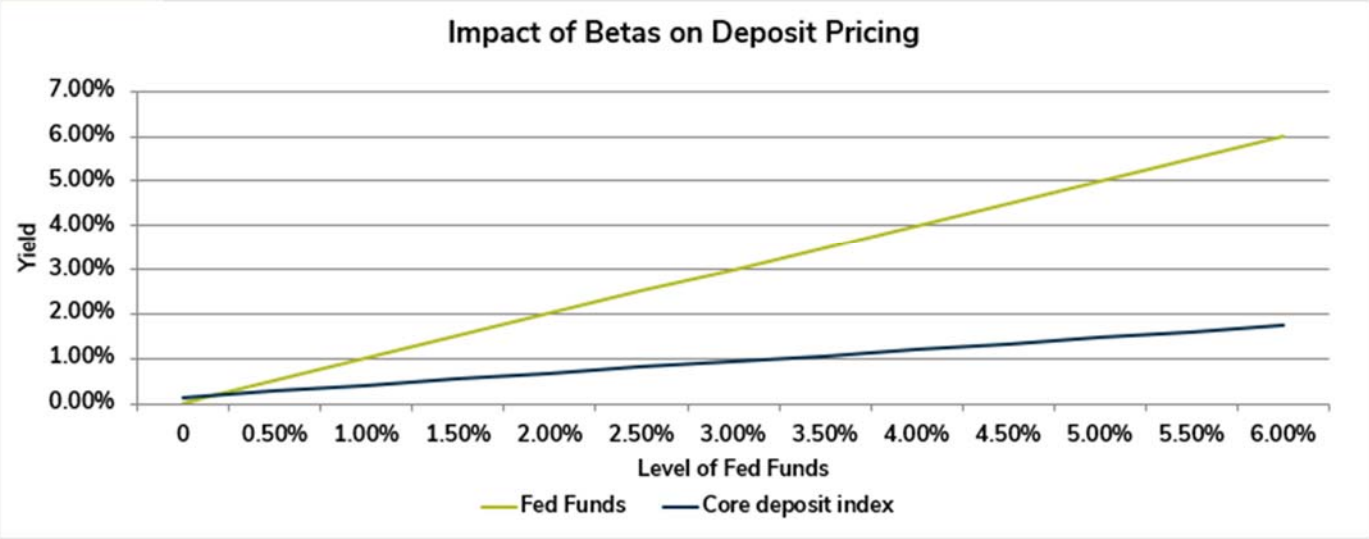
Core Deposit Index	
Base Rate	0.13%
BETA (Fed Funds)	26.7%
Duration	2.50

Exhibit 3 below shows the funding index at varying levels of Fed Funds ranging from zero to six percent in 50 basis point increments also shown graphically in Exhibit 4. Lower-rate funding in a higher-rate environment has a huge benefit, however funding costs can only go so low as rates drop. An extremely low-rate environment makes your portfolio choices much more critical.

Exhibit 3

Impact of Betas on Deposit Pricing													
Fed Funds	0	0.50%	1.00%	1.50%	2.00%	2.50%	3.00%	3.50%	4.00%	4.50%	5.00%	5.50%	6.00%
Core deposit in	0.13%	0.26%	0.40%	0.53%	0.66%	0.80%	0.93%	1.06%	1.20%	1.33%	1.47%	1.60%	1.73%

Exhibit 4



Now that we have a funding index established let's look at how a couple of common portfolio structures hold up at differing levels of interest rates. Portfolio A is a 5-year bullet ladder comprised of 20 quarterly maturities of equal weight. Portfolio B is ALM First's Core Spread model portfolio. Both portfolios have approximately the same duration of 2.50% and the Core Spread portfolio's yield is approximately 34 basis points higher that the Treasury ladder. Exhibit 5 summarizes the composition of these two portfolio strategies.

Exhibit 5

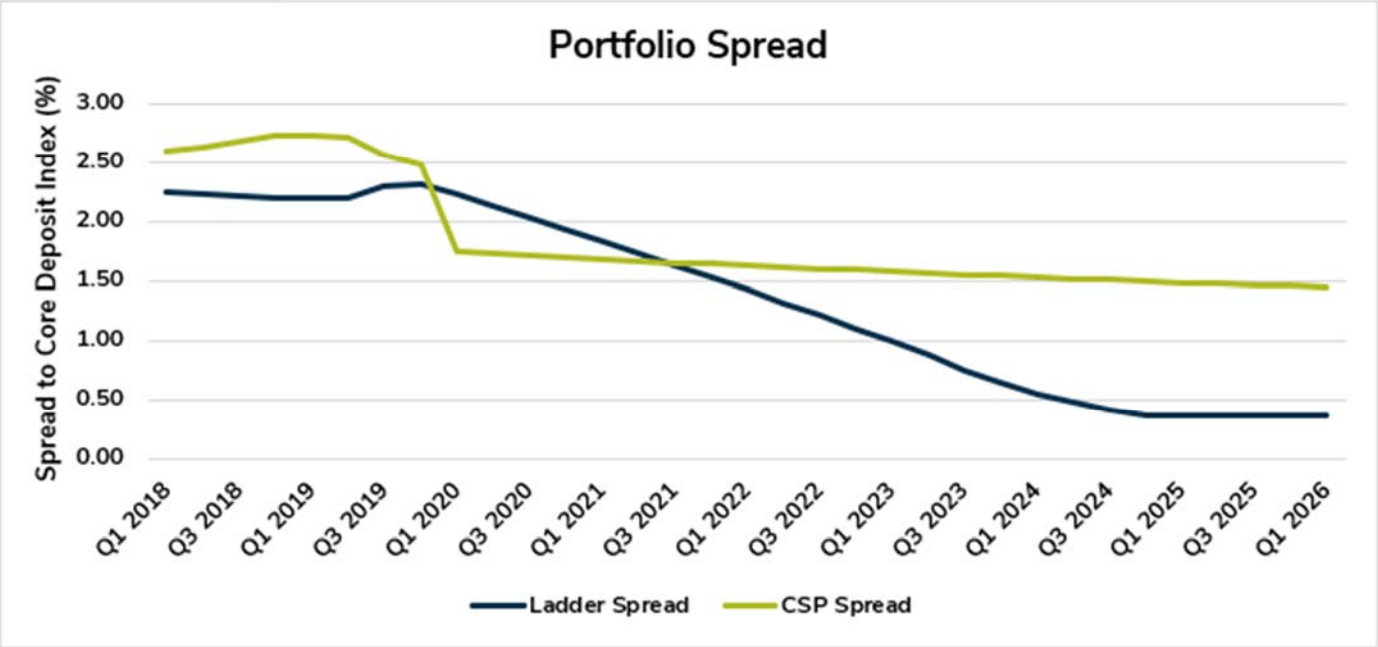
Portfolio 1	Weight	Portfolio 2	Weight
Floaters	50%	Bullets: 3mo - 60mo, 3mo Increments	5% for each Maturity
15-Year MBS	25%		
30-Year MBS	25%		

With interest rates now at historic lows, reinvestment risk impairs the bullet ladder's yield by a disproportionate amount when compared with the Core Spread strategy when both are funded with our Core Deposit funding index. For the purposes of this simulation, the two portfolios were both constructed in the first quarter of 2018 and then evolved following the path of rates between then and the first quarter of 2020. The portfolios were then reinvested forward for five years and assumed that rates continued at their current level over that entire period.

The Core Spread portfolio's 50% allocation to floaters reset every quarter at a spread of 50 bps over an index, Fed Funds + 10 bps (to normalize LIBOR). The 50% allocation to MBS, evenly split between 15- and 30-year MBS used the yield of the ICE BofA Indices. For the MBS, it was assumed that 4% of the allocation ran off and was reinvested at the next quarter's index yield.

The simulation for the bullet ladder was more straight forward. Each quarter the shortest rung of the ladder was reinvested at the next quarter's 5-year yield.

Exhibit 6



As Exhibit 6 illustrates, the Core Spread portfolio may see a sharp decline in its yield spread vs the Core Deposit index in the first quarter of 2020 as the floaters that make up half of the portfolio reset lower following the decline in Fed Funds. But as the portfolios evolve through time, the bullet ladder may see its yield spread fall below that of the Core Spread as more of the ladder gets reinvested at lower rates compressing its spread. The difference is significant as the bullet spread falls to 35 bps over the Core Deposit index while the CSP spread stabilizes at 144 bps over the core deposit index. Exhibit 6 further highlights the benefit of investing in assets that provide a spread over rates in times of very low rates. Investors in bullet ladders will see their margins compress as there is no spread cushion to insulate their portfolios from declining rates.

Over time, any "excess" yield on your institution's investment portfolio could prove critical to your overall financial performance. This is especially true in today's uncertain environment as annual budgets for 2020 have already been blown and consumers' needs – and ability to repay their debts – continue to evolve.

Today, over 300 clients depend on ALM First to manage approximately $28 billion in assets. Learn more about how the ALM First team can provide unbiased advice and active investment management for your depository.

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