

Deposit Valuation Analysis

Part 1: Overview

July 2022



Disclaimer

Disclaimer: The data, material, and information provided in this presentation (“Content”) does not, and is not intended to, constitute legal, accounting, consulting, or other professional advice. The Content is for general informational purposes only, may not constitute the most up-to-date legal, accounting, or other information, and may become stale. Some Content is unaudited. Content identified herein with a third-party source is provided without any independent verification by the Bank, the Bank does not guarantee the accuracy, adequacy, completeness, timeliness or availability of any Content, and the Bank expressly disclaims any responsibility for providing any additional information that might be necessary to make the Content not misleading. Accordingly, you are cautioned against placing any undue reliance on the Content. You should consult with your accountants, counsel, financial representatives, consultants, or other advisors regarding the extent the Content may be useful to you and with respect to any legal, tax, business or financial matters. In no event shall the Bank be liable for any damages, costs, expenses, legal fees, or losses (including lost income or lost profit and opportunity costs) in connection with any use of the Content. Reproduction of any Content, in any form, is prohibited except with the Bank’s prior written consent.

Sean Carraher

Senior Financial Strategist

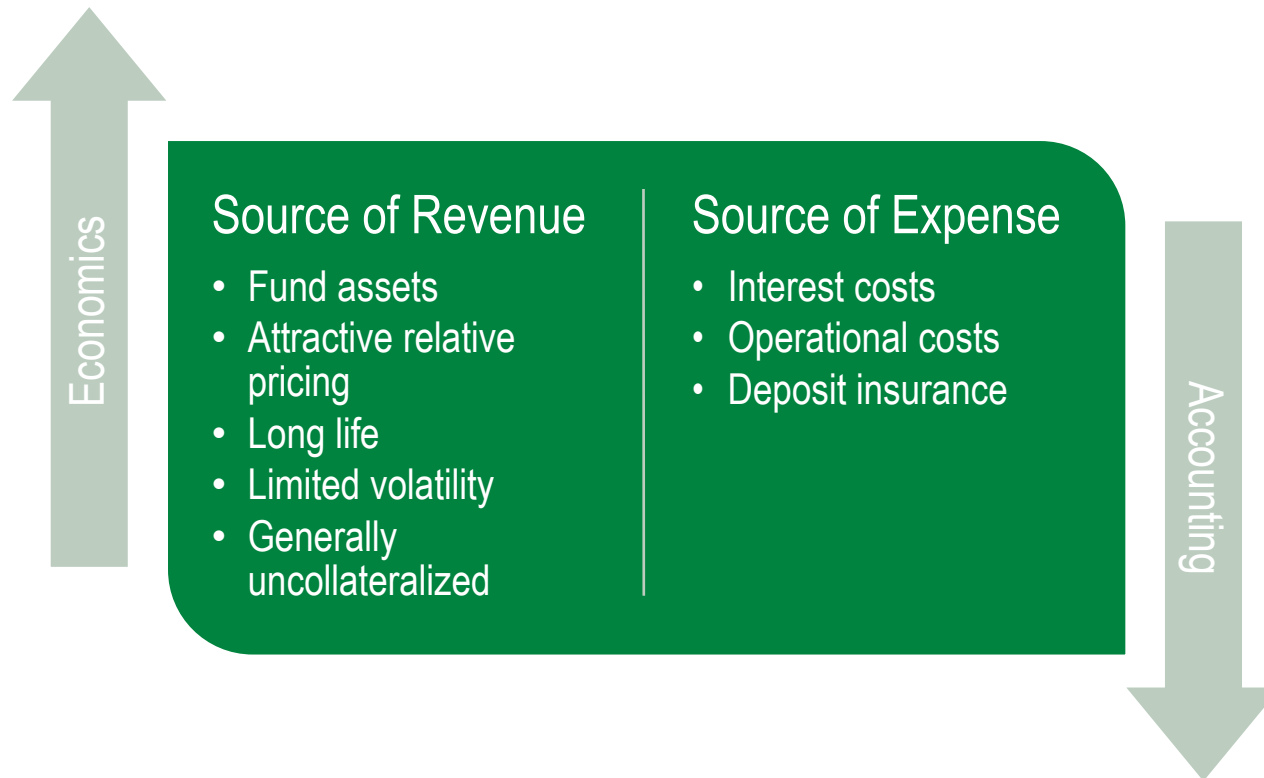


- Joined FHLBank Boston in May 2022 as the new senior financial strategist
- More than 20 years of experience in banking and in financial analysis
- Served as treasurer for two different multibillion-dollar FHLBank Boston members in recent years
- Has chaired ALCOs, created and managed profitability and risk frameworks, and identified and executed funding and derivatives strategies

Why Try to Value Deposits?

- **Enables better funding decisions**
 - How can the value of customer deposits vs. wholesale funding be assessed?
 - Should a deposit special be introduced?
- **Helps determine the value of products, business strategy**
 - What is the value of a DDA relative to a Savings account?
 - Is this branch really profitable?
- **Helps determine the value of customer relationships**
 - How might the value of deposits relate to the pricing on a lending relationship?
 - Should the fees on this relationship be waived?

Deposits, Economics vs. Accounting



- Economic reality can be seen to be at odds with accounting statements for deposits
- Deposits have significant economic value, but are expense-generating liabilities for accounting purposes

Valuation, Fixed Income vs. Deposits

Fixed income valuation is relatively easy for instruments with defined terms.

A bullet bond with 2% annual coupons and three years remaining to maturity might be valued as below.

	Cash Flow	Discount Rate	Discount Factor	PV of CF
Year 1	2	2.85%	97.23%	1.944579
Year 2	2	3.45%	93.99%	1.879729
Year 3	102	3.60%	90.72%	92.53491
				96.35922

The value of the bond in this example would be 96.36.

Non-maturity deposits (NMDs) can be difficult to value because they lack easily observed characteristics.

- No contractual pricing
- No contractual term
- Liquidity is not guaranteed

But if everybody would agree that NMDs have real value, **how can that value be quantified?**

Deposit Valuation Intuition

How would you rank the relative value of the four major NMD product types? Are DDAs worth more or less to an institution than MMDAs?

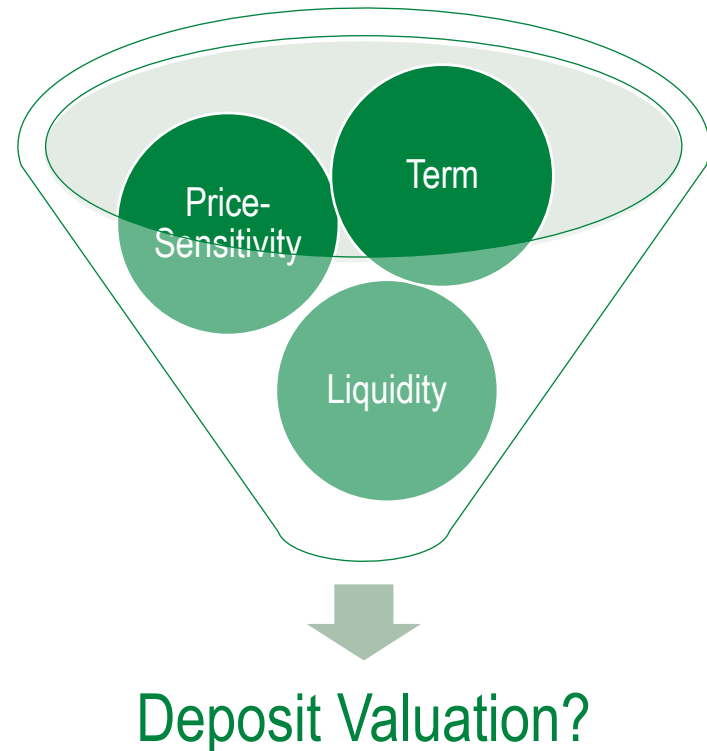
Do all accounts within a product type exhibit the same behaviors?

Does the interest rate environment matter? Are deposits worth more or less with lower rates or higher rates?

Deposit Valuation Intuition

Generally, DDAs have a greater value to a depository institution than MMDAs. But why?

- Lower price-sensitivity by the nature of the product
- Likely longer life because DDA depositors are doing more with the depository
- Likely lower aggregate volatility because funds are likely used for predictable day-to-day income and expenses, not extraordinary activity



Deposit Economics + ALM Metrics

- **Deposits derive economic value from several attributes**
 - The *degree* to which pricing adjusts with market changes
 - The *speed* with which pricing adjusts with market changes
 - The *volatility* of balances at any given time
 - The *amount of time* over which the deposit is expected to remain outstanding
 - The *opportunity benefit* of maintaining client funds relative to wholesale funds

- **Each economic attribute has an associated ALM metric**
 - Beta = degree of pricing adjustment
 - Lag = speed of pricing adjustment
 - Decay rate = volatility
 - Life = amount of time a deposit is expected to exist
 - Term Liquidity Premium (TLP) = opportunity benefit of maintaining client funds

Deposit valuation methodologies should account for each of these economic attributes.

Coming in Deposit Valuation: Part 2

- **Assessing the attributes that drive deposit valuation**
 - How *price sensitive* are my deposits?
 - How *volatile* are my deposits?
 - What is the *average life* of my deposits?
- **How to efficiently price deposits using FHLBank Boston advances**
 - Perform scenario and sensitivity analysis to answer the question of “should I run a deposit special or is it more cost-effective to borrow?”

Thank You

If you have questions or if you want more information about how to use the FHLBank Boston Deposit Pricing Analysis tool, please contact me or your relationship manager.



Sean Carraher

Sean.Carraher@fhlbboston.com

617-292-9616

