

Case Study: Match Funding with Flexibility

September 2020



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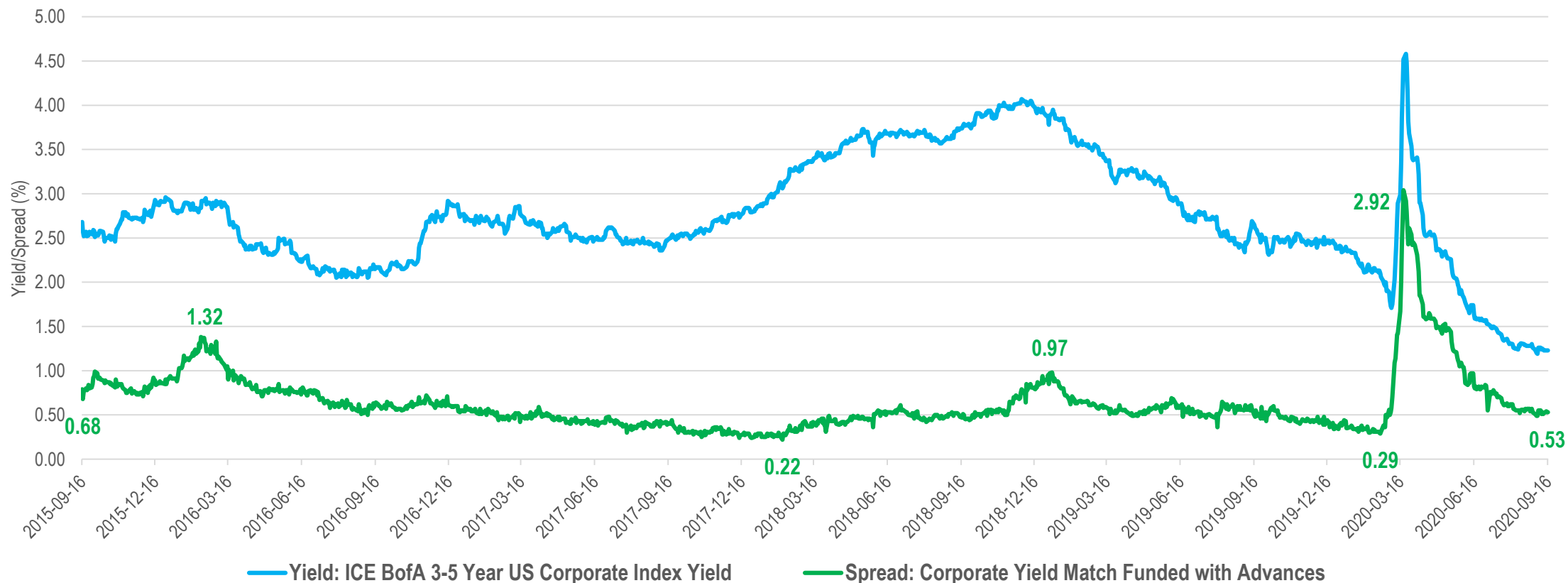
Opportunity: Match Fund with Flexibility

- Be opportunistic when asset spreads become attractive
- Mitigate interest rate risk
- Control the ability to reprice or reduce funding if needed
 - Member-Option Advance
 - Symmetrical Prepayment Advance

Spread Fluctuations

As investment spreads go through periods of weakness, advances typically remain more stable, allowing for enhanced earnings from match funded transactions

Investment Grade Bond Yields and Spread to Funding

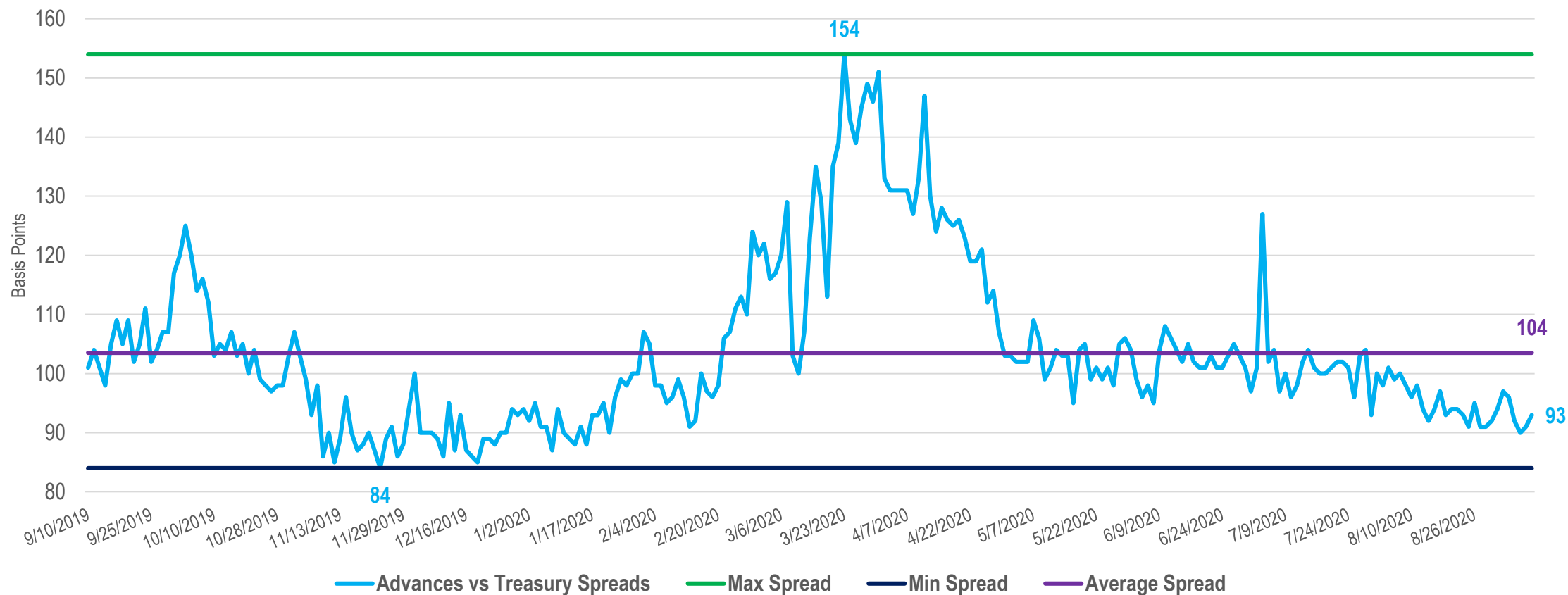


Source: Federal Reserve Bank of St. Louis, FHLBank Boston

Reduced Volatility

Quantitative Easing has stabilized markets and lowered expectations for interest rate volatility. Accordingly, the incremental cost for optionality has dropped.

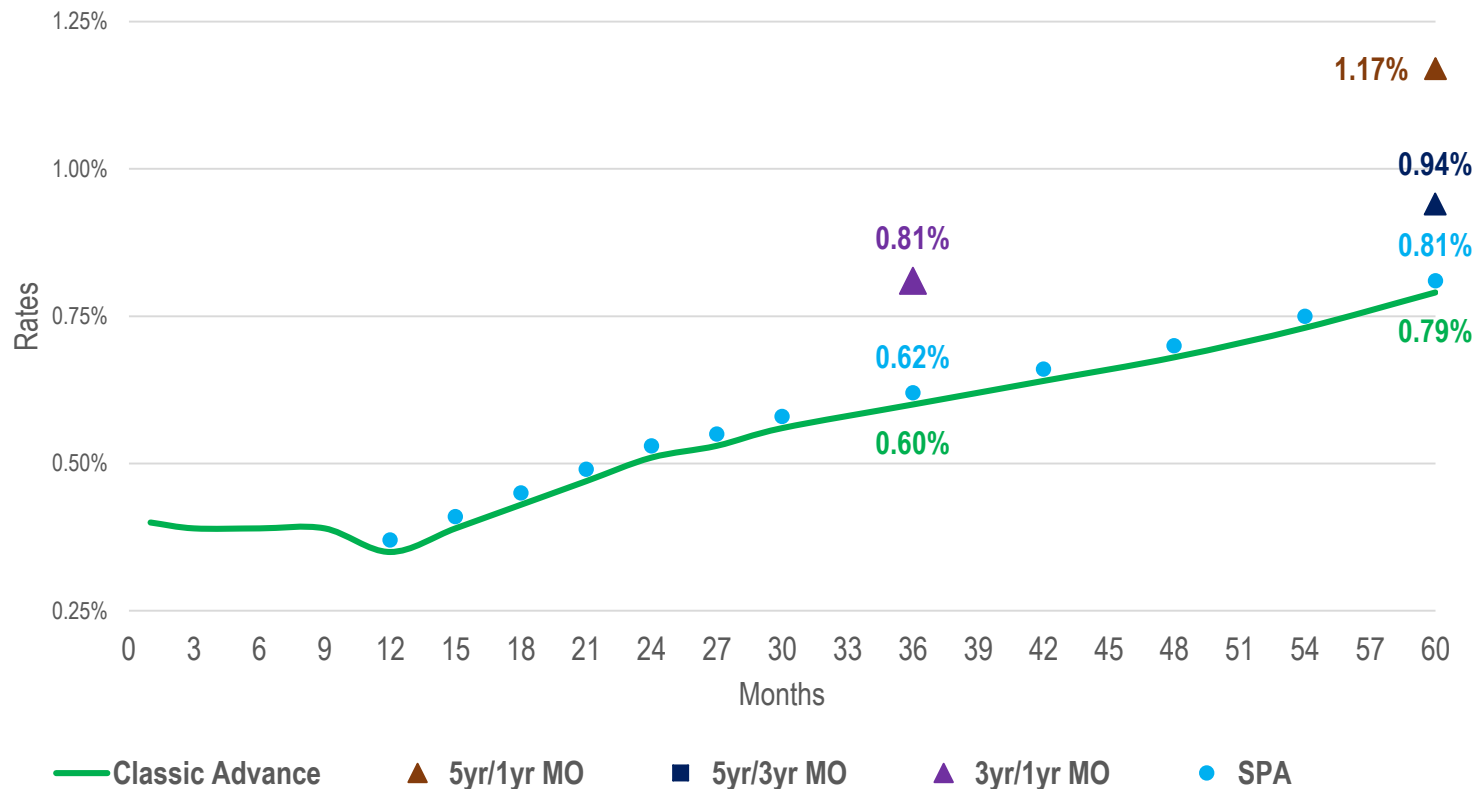
Spread: 5-year/1-year Member-Option Advance vs. Treasuries



Source: FHLBank Boston

Advance Solutions

Member-Option & Symmetrical Prepayment Advances



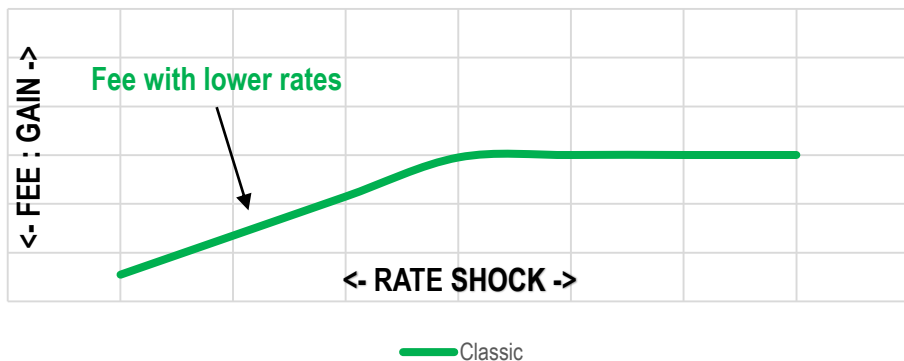
Member-Option Advance:
Prepay with no fee at call dates

Symmetrical Prepayment Advance:
Prepay at market value, potentially receiving a gain in a higher rate scenario

Source: FHLBank Boston

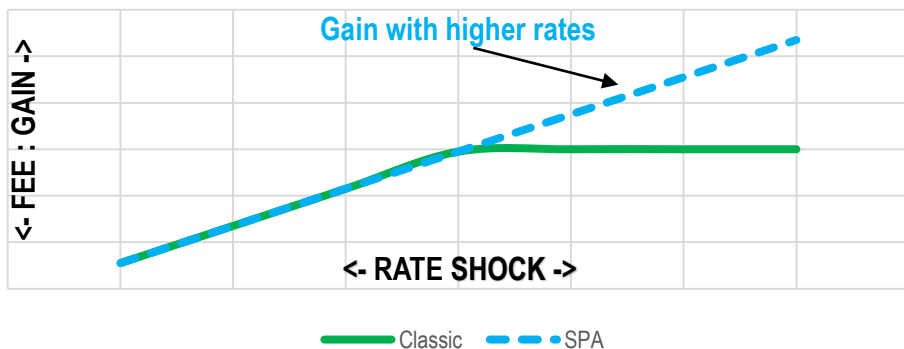
Prepayment Profile

Prepayment Profile: Classic Advance

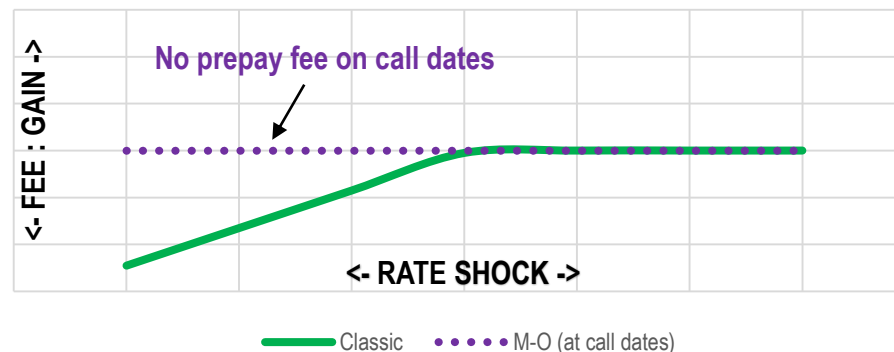


Depending on rate outlook and asset profile, the Member-Option and the Symmetrical Advances allow you to extend liability duration but shorten it when needed.

Prepayment Profile: Classic Advance vs. Symmetrical Prepayment Advance



Prepayment Profile: Classic Advance vs. Member-Option Advance (on call date)

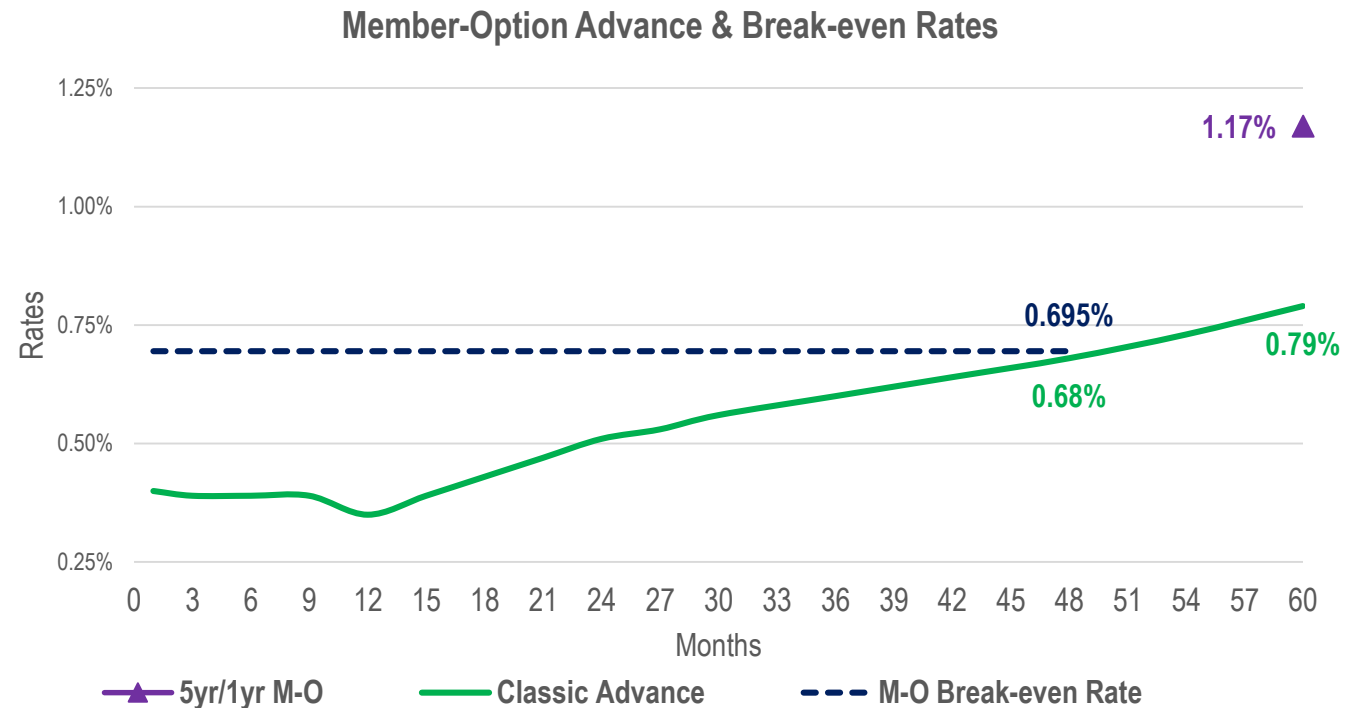


Source: FHLBank Boston

Member-Option: Determining the Break-even Rate

Advance Type	Rate
4-year Classic	0.68%
5-year Classic	0.79%
5-year/1-year Member-Option	1.17%

Action	Result
Classic Advance: Total Interest cost over 5 years	$0.79\% \times 5 \text{ years} =$ 3.95%
Member-Option Advance: Cost over first year	$1.17\% \times 1 \text{ year} =$ 1.17%
Break-even cost for remaining 4 years	$3.95\% - 1.17\% =$ 2.78%
Break-even cost in annual terms	$2.78\% / 4 \text{ years} =$ 0.695%



Source: FHLBank Boston

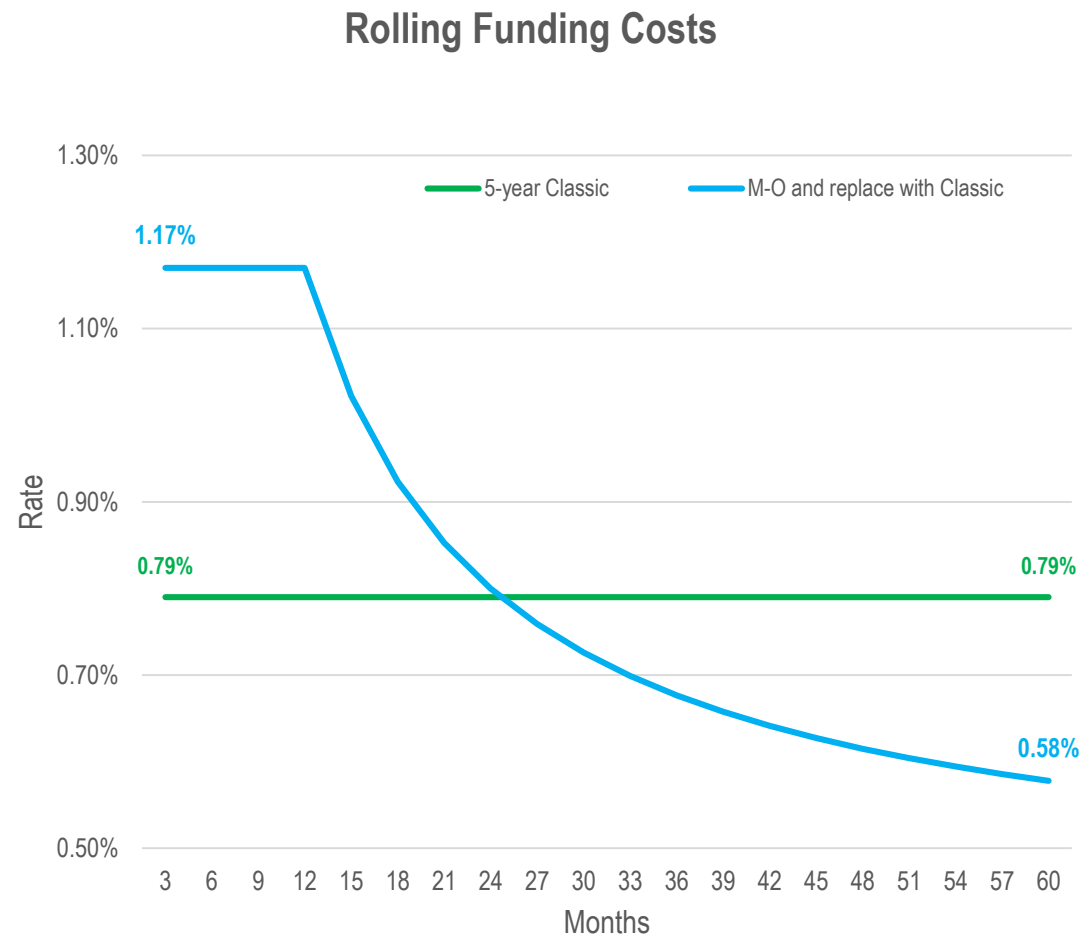
“How low do rates have to go in order for it to make sense to exercise the call?”

The lower option cost and the shape of the curve allows for “rolldown”- **the break-even rate is higher** than the current rate at the relevant point on the curve

Member-Option: Repricing Funding Lower

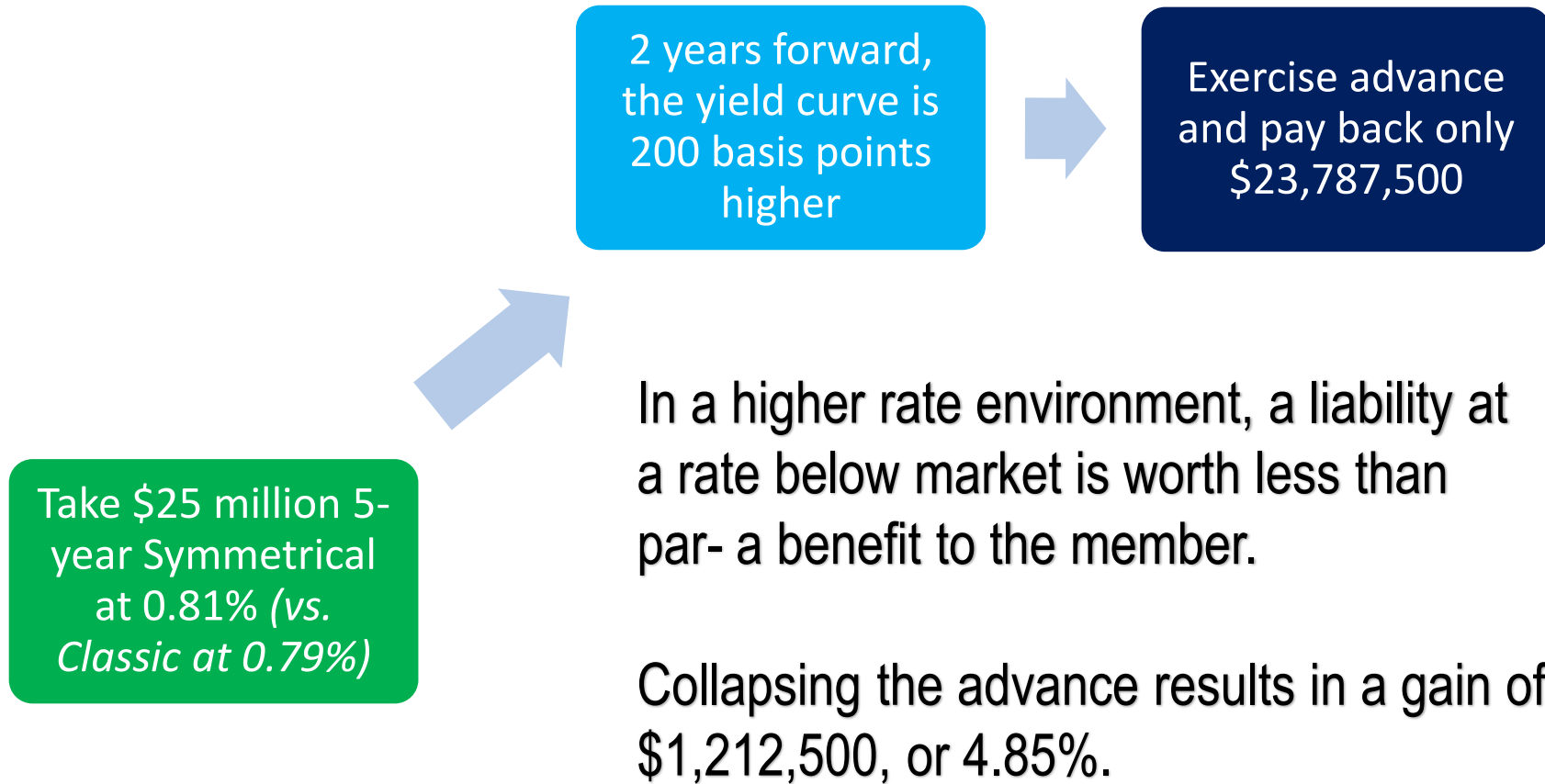
Assumptions
Take \$50 million 5yr/1yr Member-Option
At the first call date, rates have dropped 25 bps
Exercise call, and replace funding with a 4-year Classic

Strategy	Total Interest Cost
5-year Classic at 0.79%	\$1,975,000 (0.79%)
5yr/1yr M-O at 1.17% for 1 st year, repricing to 4-year Classic at 0.43%	\$1,445,000 (0.58%)
Savings	\$530,000 (0.21%)



Source: FHLBank Boston

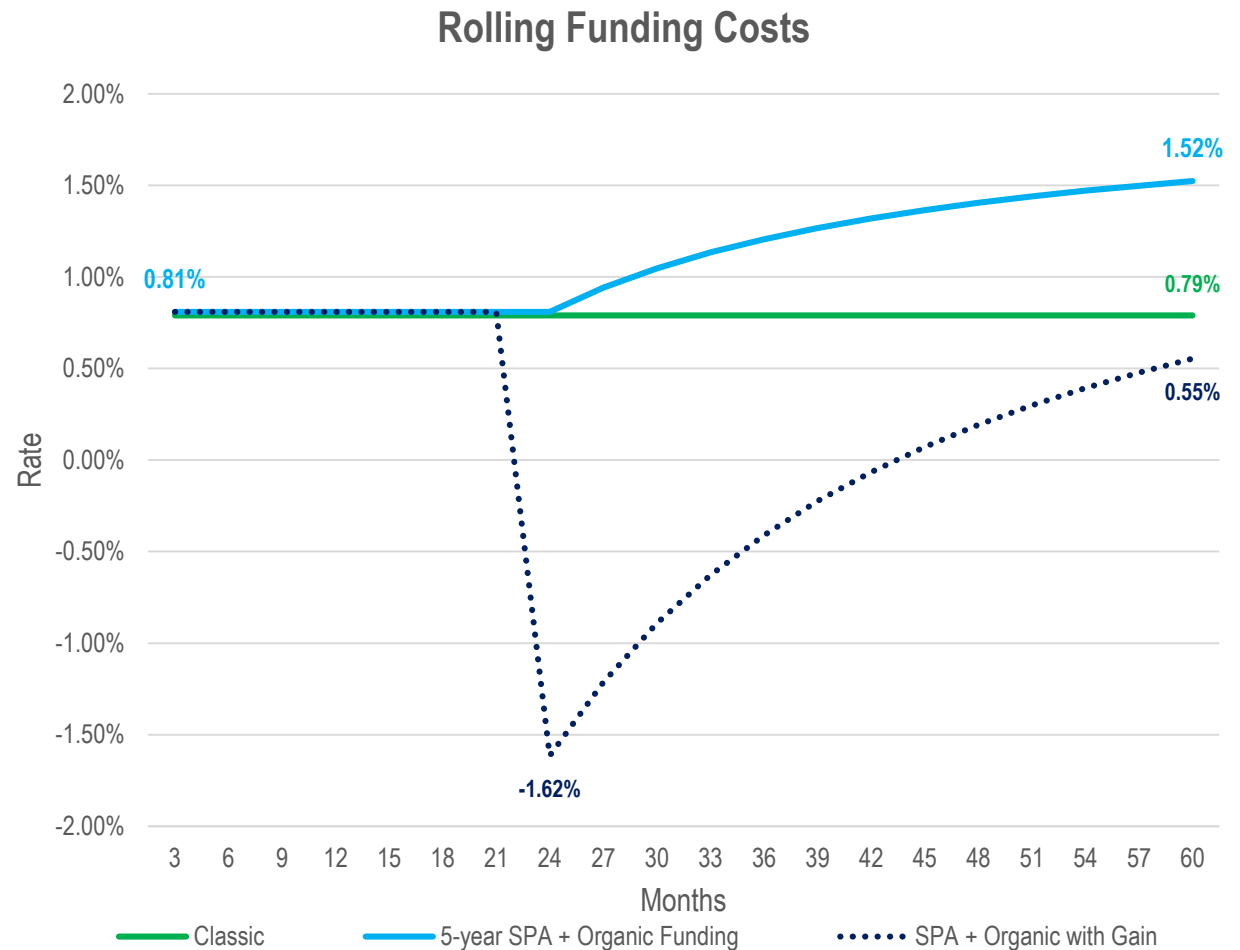
Symmetrical: Capturing Market Value



Source: FHLBank Boston

Symmetrical: Adapt to Market Changes

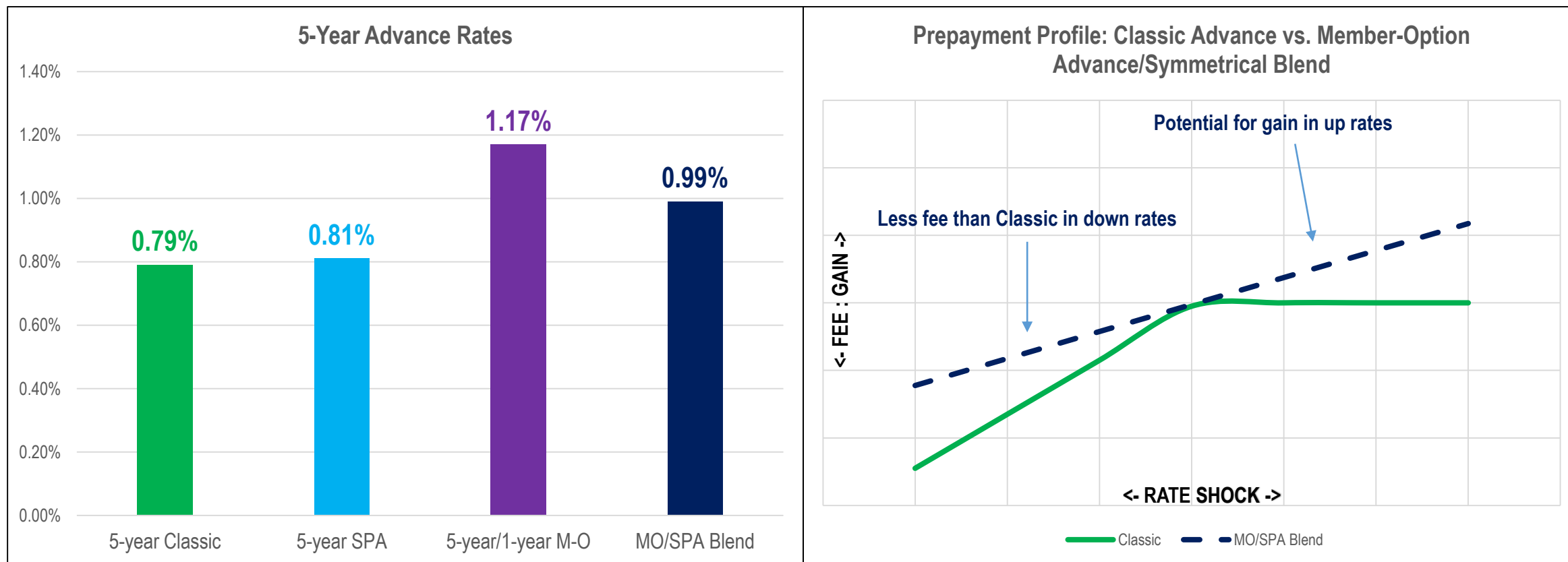
Assumptions	
Take \$25 million 5-year Symmetrical at 0.81%	
2 years forward, rates are higher by 200 bps	
Exercise call, take gain of \$1,212,500 (4.85%)	
Replace with organic funding at 2.00%	
Action	Result
Classic: Total Interest Cost over 5 years	0.79% x 5 years = 3.95%
SPA: Total Interest Cost over first 2 years	0.81% x 2 years = 1.62%
SPA: Realized Gain	4.85%
Organic funding cost for last 3 years	2.00% x 3 years = 6.00%
Total Funding Costs (Interest – Gain)	1.62% - 4.85% + 6.00% = 2.77% (0.55% annualized)



Source: FHLBank Boston

Summary

A 50/50 blend of the Member-Option and Symmetrical Prepayment Advance can provide flexibility in up and down rates



Source: FHLBank Boston

Thank You

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