

Case Study: Revisiting The Last Fed Taper and Rate Hike Periods

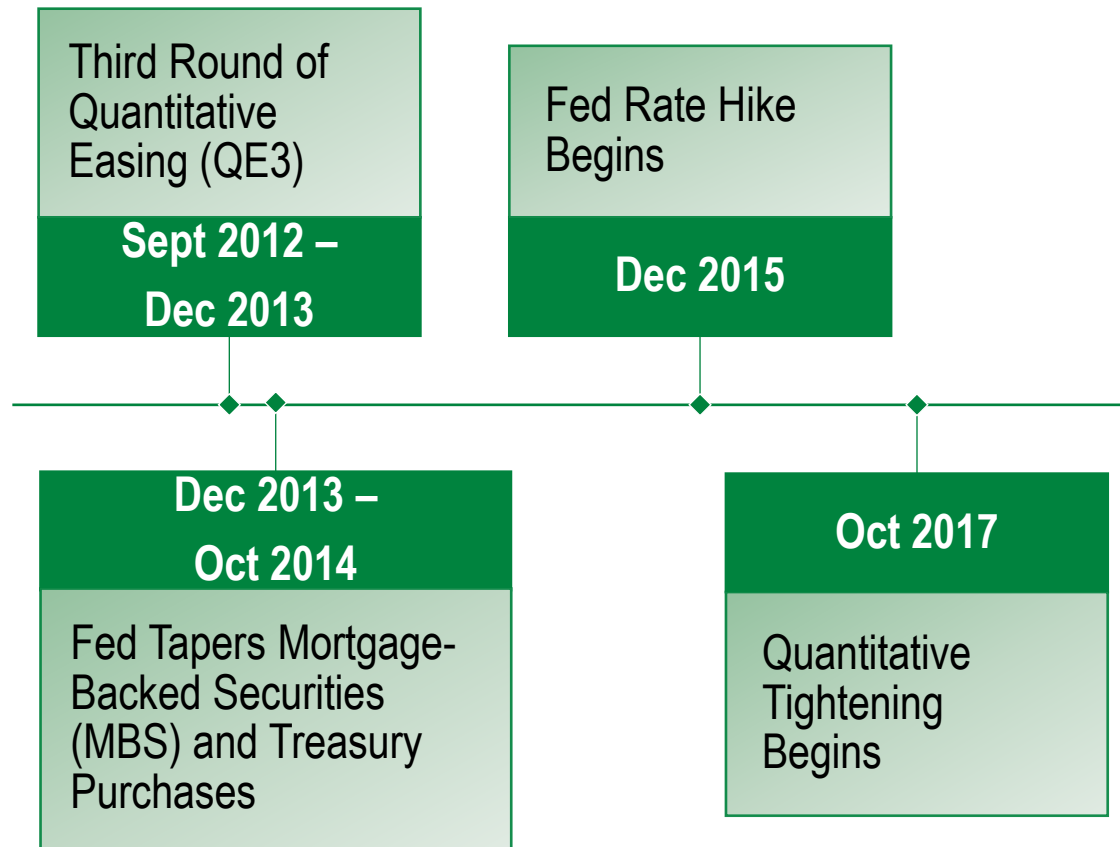
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A Brief History of The Last Cycle



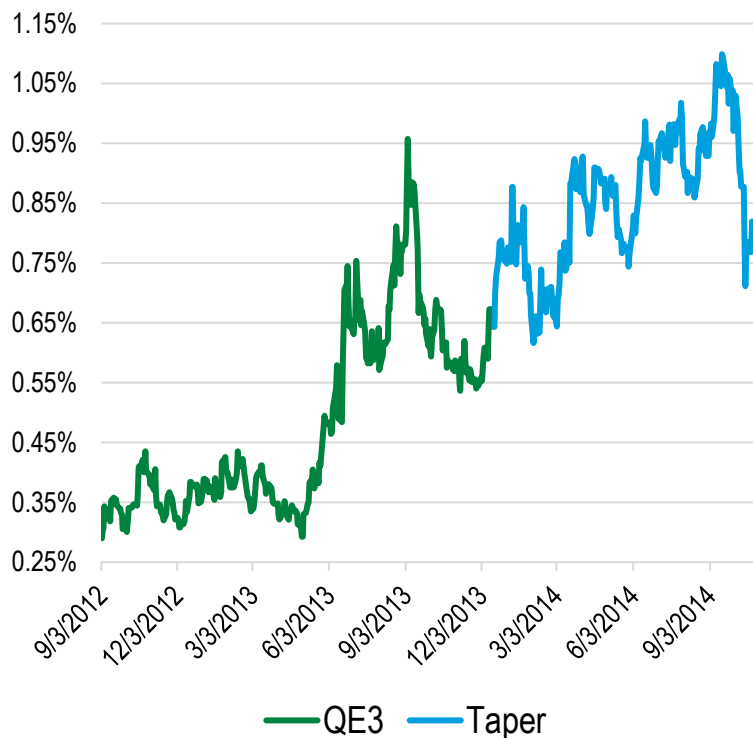
What Happened Last Time?

- Impact to long-term Treasury rates
- Revisiting curve steepness
- Impact to cash balances at depositories
- Deposit betas

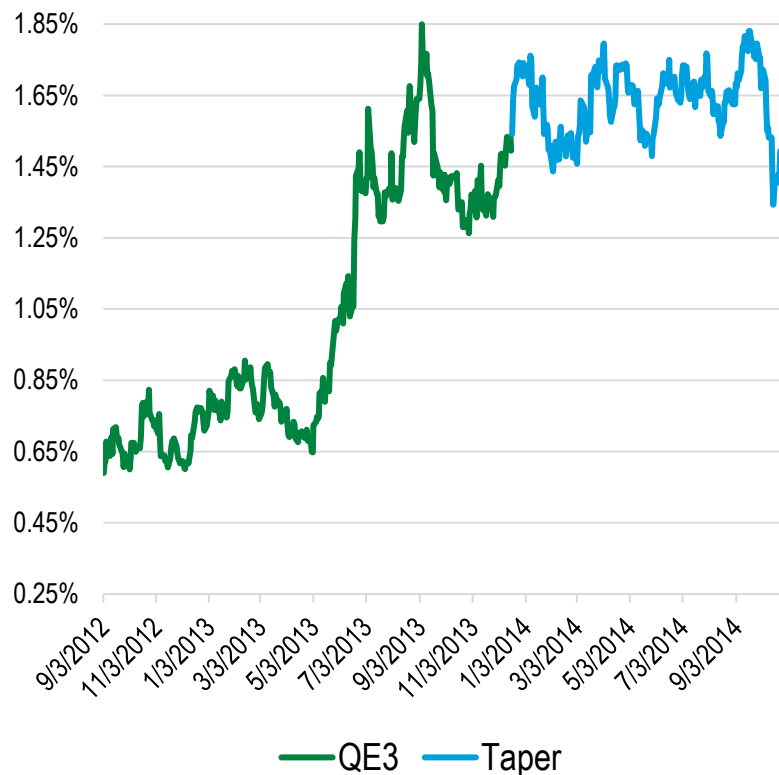
Taper: Intermediate and Long-Term Treasuries

If you look back to the end of QE3 and the taper period from 2013 to 2014, you see that the curve flattened quite a bit as the 10-year Treasury dropped, while the 3-year Treasury rose throughout the taper.

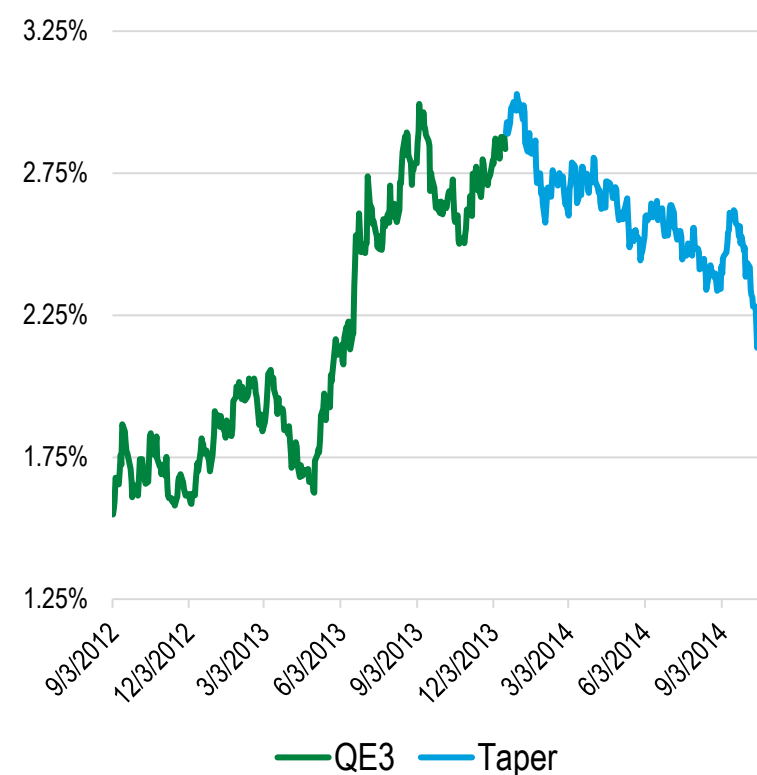
3-Year Treasury Yield: During QE3 & During Tapering



5-Year Treasury Yield: During QE3 & During Tapering



10-Year Treasury Yield: During QE3 & During Tapering

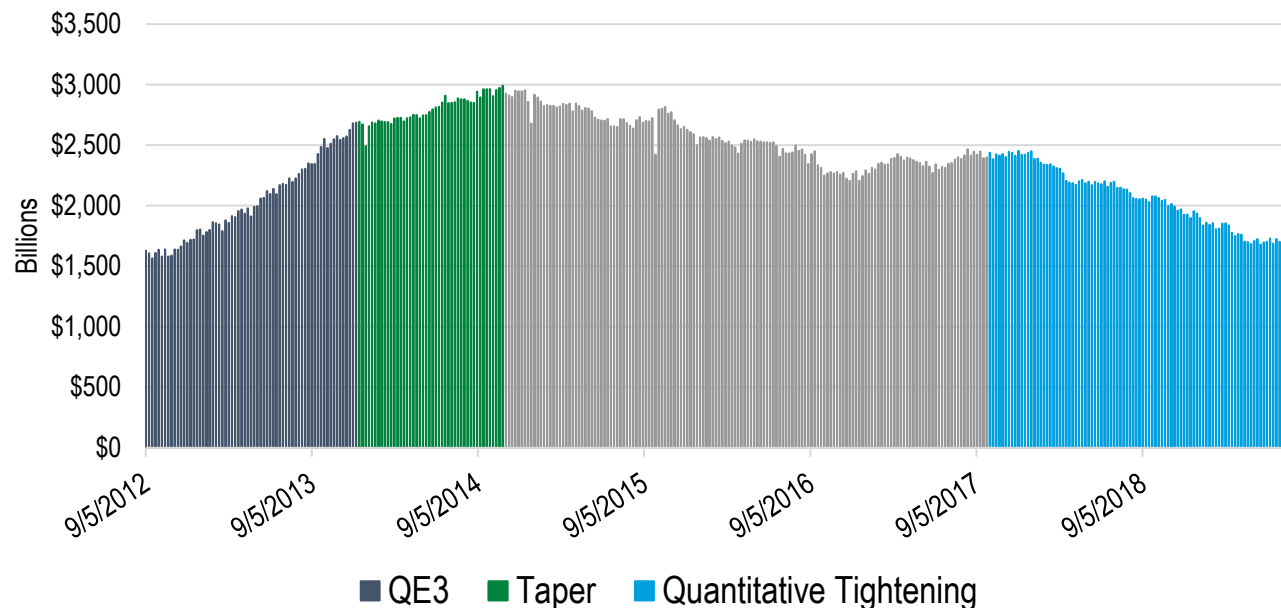


Source: Federal Reserve Bank of St. Louis, FHLBank Boston

Taper: Cash Balances Continued to Grow

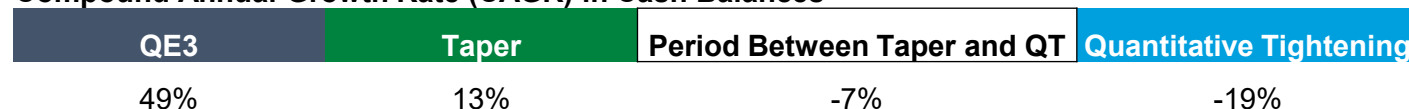
When we look at the last taper between 2013 and 2014, you see cash balances continued to grow. It wasn't until tightening began in 2017 that significant shifts took place.

Cash Assets, All Commercial Banks



- Taper is a slowing down of asset purchase, not a decrease in the size of the balance sheet.
- Throughout QE3 and the last taper, cash balances grew throughout.
- It wasn't until quantitative tightening began two years after the end of the taper where we saw large decreases in cash.

Compound Annual Growth Rate (CAGR) in Cash Balances

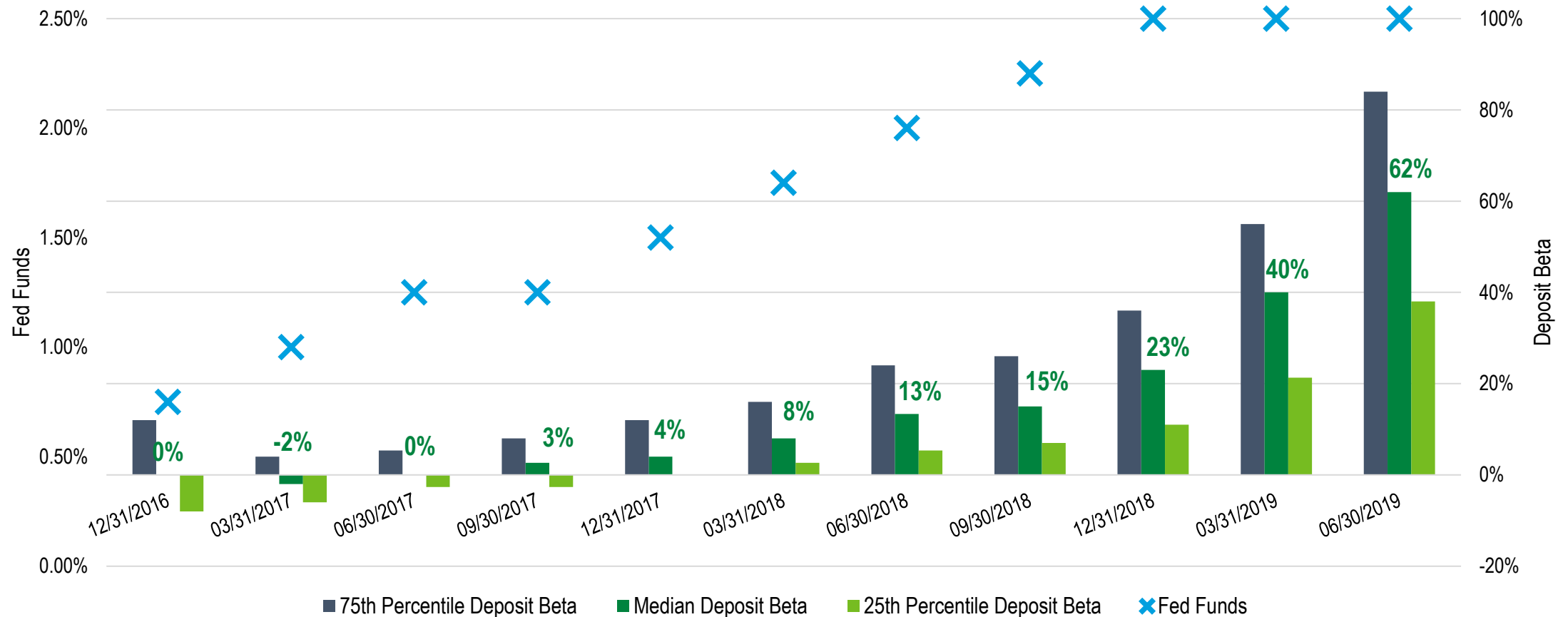


Source: Federal Reserve Bank of St. Louis, FHLBank Boston

Deposit Beta

Deposit beta remained low until late 2018, but that was after the Fed already raised rates nine times from 2015 to 2018.

FHLBank Boston Depository Members - Historical Deposit Beta



Strategy: Deploy Assets Longer

With many members becoming increasingly more asset sensitive along with historic excess cash sitting on balance sheets, there are opportunities to extend out on the curve to protect margins and manage interest-rate risk.

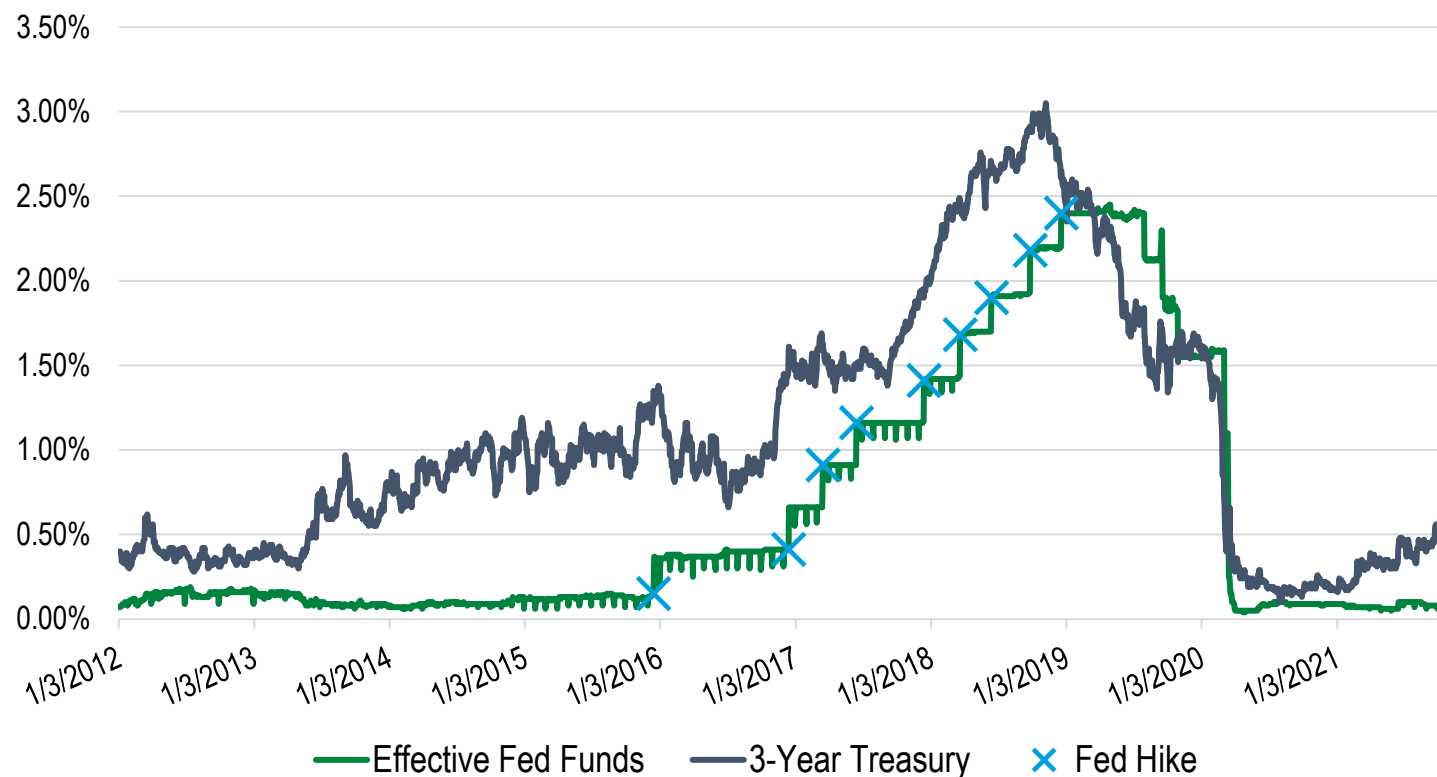
Strategy	20-Year MBS Yield	MBS Avg. Life (yrs)	Funding	Funding Rate	Funding Avg. Life (yrs)	Spread (bps)	3-Month Change (bps)	Avg. Life Spread (yrs)
1	1.70%	5	Core Deposits	0.10%	5	160	▲ 34	0
2	1.70%	5	50% Core Deposits (10 bps) with 50% 1-Year Classic Advance	0.21%	3	149	▲ 24	2
3	1.70%	5	50% Core Deposits (10 bps) with 50% 2-Year Classic Advance	0.48%	3.5	122	▲ 13	1.5

Source: Fannie Mae, FHLBank Boston

Strategy: Funding Longer Assets

As we mentioned previously, deposit betas were slow to increase during the last cycle, but if you have more rate sensitive deposits and/or are more wholesale funding dependent, keep an eye on the Fed's playbook.

Effective Fed Funds vs. 3-Year Treasury



- This chart shows EFFR alongside the 3-year Treasury. Historically, rate movements track closely as the Fed has a greater impact on the short-end of the curve.
- It's important to note the market, or 3-year Treasury in this case, prices in rate moves before they happen. Rates started to move in 2013 and 2014, much sooner than the first rate hike.
- As you can see on the right side of the chart, with increased discussion around possibly sooner rate hikes, the 3-year Treasury rate is beginning to price in hikes.
- If your deposits are more rate sensitive, do you need to extend liabilities longer in order to purchase longer bonds?

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

Strategy – Restructure + Invest

Members that have excess cash and want to take advantage of the steepening yield curve but are liability sensitive and worried about rising short-term rates can take advantage of this strategy to afford themselves the ability to purchase longer assets.

Option 1	Asset	Cash 0.15%	➔	20-Year MBS 1.70%	Yield Impact (bps) +155	Avg. Life (yrs) 5	While +100bps would be welcomed by most, do you have the ability and willingness to extend assets 5 years through purchasing MBS?
Option 2	Asset	Cash 0.15%	➔	20-Year MBS 1.70%	Yield Impact (bps) +155	Avg. Life (yrs) 5	Restructure + invest affords you the ability to extend assets longer while mitigating interest-rate risk through also extending your liabilities. ~4-year average life provides +210 vs +155 at 5 years.
	Liability	Old Advances 2.15%	➔	Restructured Advances 1.64%			
				Net Impact	+210	3.7	

Source: Fannie Mae, FHLBank Boston

Thank You

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