Balance Sheet Strategy:
Understanding Your Exposure and Knowing Your Options

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Table of Contents

Balance Sheet Trends and Themes

- Liquidity and cost of funds continues to be a focus
- Curve inversion
- Down rates: Not so crazy anymore
- Boards and management struggling with quantity vs quality (ROE vs. ROA)
- Investment Portfolio: Loss trades vs. stock repurchase (not mutually exclusive)
- New hedge accounting simplifications must be understood
- Credit remains pristine, but for how long?
- Using ALCO meetings as a weapon

Recent Federal Reserve Discussions

- On January 30th, Federal Reserve Chairman Jerome Powell announces a pause
  - The next move, up or down, will depend on incoming data
  - Fed sees numerous cross-currents in the global economy

- On March 20th, Mr. Powell signals that the pause could last for a while
  - "It may be some time before the outlook for jobs and inflation calls clearly for a change in policy"
  - Fed officials temper their economic projections

- Fed Funds of 2.25-2.50% is approaching the "neutral zone"
  - The current median projection of long-run Fed Funds is 2.75%
  - This projection has been moving lower over the past several years

- Futures now expect Fed Funds to move lower
  - Probability of a hike through January 2020 is < 0%
  - Probability of a cut increases through January 2020 to ~ 69%[1]

[1] Source: Bloomberg, Probability of Fed Funds, Priced March 31, 2019

Yield Curve Reactions

Index	2yrs Ago	1yr Ago	6mo Ago	3mo Ago	3/31/19
Fed Funds Target	1.00%	1.75%	2.25%	2.50%	2.50%
2 Year Treasury	1.25%	2.27%	2.82%	2.49%	2.26%
5 Year Treasury	1.92%	2.56%	2.95%	2.51%	2.23%
10 Year Treasury	2.39%	2.74%	3.06%	2.68%	2.41%
FFT-5 Year Treasury Spread	0.92%	0.81%	0.70%	0.01%	-0.27%
2-10 Year Treasury Spread	1.14%	0.47%	0.24%	0.19%	0.15%

Source: Bloomberg, Fed Funds Target is Upper Bound

New Hedge Accounting Rules & Strategy Implications

Key Cash Flow Hedge Accounting Simplifications:

Rule Simplification	Strategy Implication
Concept of benchmark rate removed & effectiveness testing is a binary assessment	Money Market Deposit Account proxy hedge
Option Premium Amortization & Time Value Exclusion	Use of floors and collars to protect NIM from falling rates

Key Fair Value Hedge Accounting Simplifications:

Rule Simplification	Strategy Implication
Shortcut hedge accounting backup relief	Single Asset Hedging
"Last of Layer" rule for pool of prepayable assets	Hedging pools of residential mortgages

Down Side Protection: Thoughts

On Balance Sheet Options:	
Investment Portfolio Tactics	• Lockout • Don't just add duration • Minimize optionality risk • Loss Trades
Deposit Product Offerings	• Indexed based CDs • Indexed based MMDA
Wholesale Funding	• Fund with short term wholesale • Convert fixed-rate debt to floating • Callable CDs (bank owns option)

Off Balance Sheet Options:	
Floors or Collars	• Consider the benefits of each
Receive-Fixed Swap	• Provide certainty of rate protection • No option risk and positively convex

Strategic Bond Restructuring: Considerations

Balance Sheet Strategic Repositioning Opportunity:

- Strong regulatory capital and interest rate risk position
- Sell low-yielding securities and use proceeds to either
  - Reinvest into securities at higher yields **OR**
  - Fund loan growth (if available and if liquidity is sufficient) **OR**
  - Pay down short-term wholesale funding

Financial Considerations:

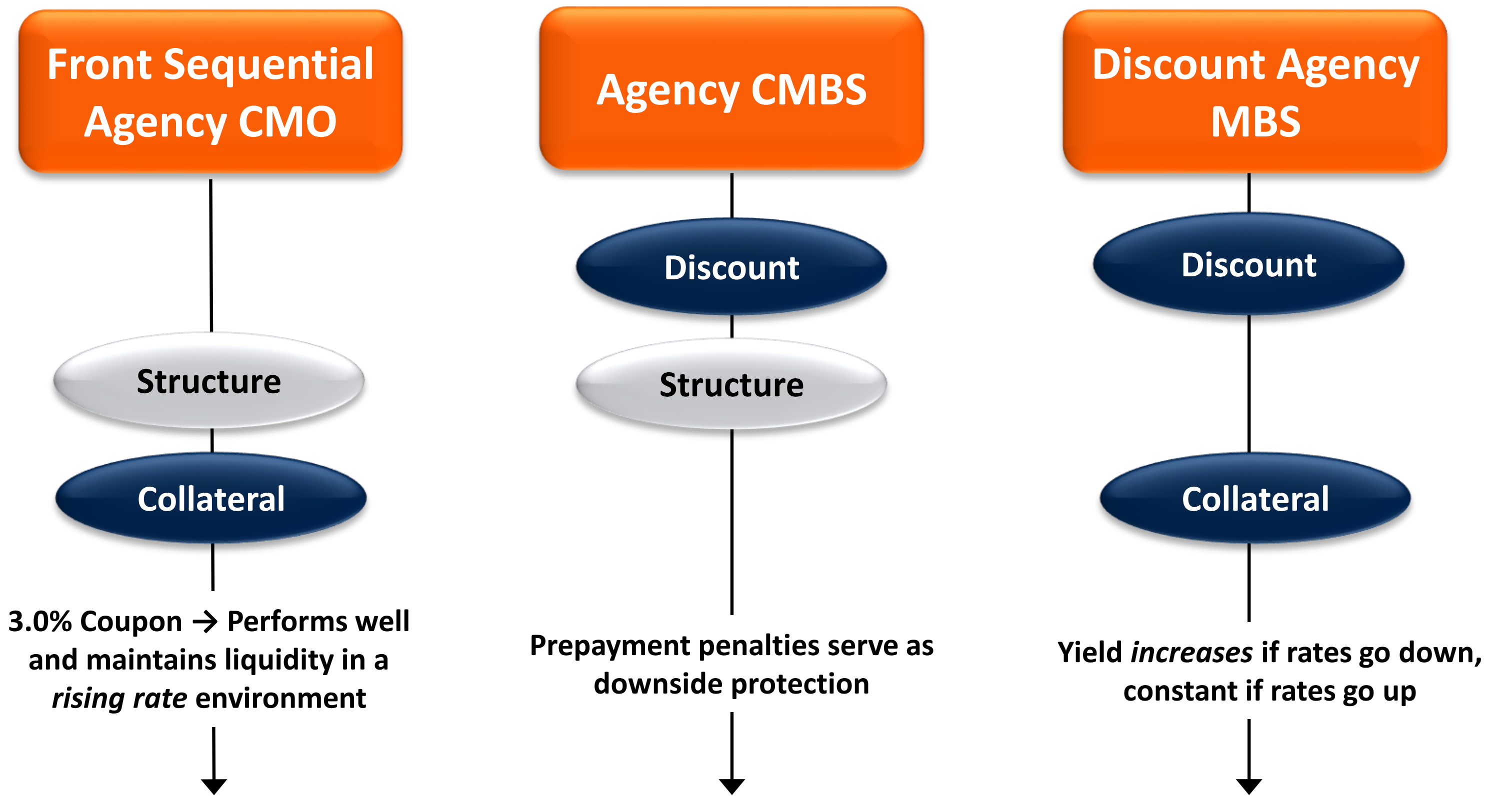
- Accretive to go-forward earnings, expand NIM, maintain interest rate risk position
- No additional credit risk (depending on the reinvest)
- Minimal execution risk
- Limited impact on TCE ratio and TBV (most of the unrealized loss should already be housed in OCI/GAAP capital)
- Impact on regulatory capital should be evaluated
- Breakeven period on the loss should be shorter than the average life of securities sold

Comparing Loss Trades vs. Stock Repurchase

	Stock Repurchase	Loss Trade
Description	Repurchase stock to increase EPS and signal to market	Take 1-time loss, reinvest at higher yield to improve forward earnings
Impact		
Net Income	Dilutive	Dilutive, until earned back
EPS	Accretive	Dilutive, until earned back
Tangible Book Value per Share	Dilutive, until earned back	Minimal impact*
TCE Ratio	Dilutive	Minimal impact*
Regulatory Capital Ratios	Dilutive	Dilutive, until earned back
Considerations	- Management signal: stock trading below intrinsic value - Indicative of limited uses of capital?	- Loss classified as 'non-core' - Focus on breakeven period

Note: assumes stock repurchased at a premium to tangible book value
* Assume unrealized losses already included in tangible common equity

What have people been buying in fixed agency products?



Yield % (Avg Life)	CMO	Multi	MBS
-100 bps	2.82% (2.8 Yrs)	3.15% (3.0 Yrs)	2.88% (4.4 Yrs)
Flat	2.86% (3.5 Yrs)	3.12% (4.1 Yrs)	2.83% (5.0 Yrs)
+100 bps	2.89% (4.9 Yrs)	3.12% (4.1 Yrs)	2.82% (5.2 Yrs)
+300 bps	2.90% (5.1 Yrs)	3.10% (5.3Yrs)	2.81% (5.4 Yrs)

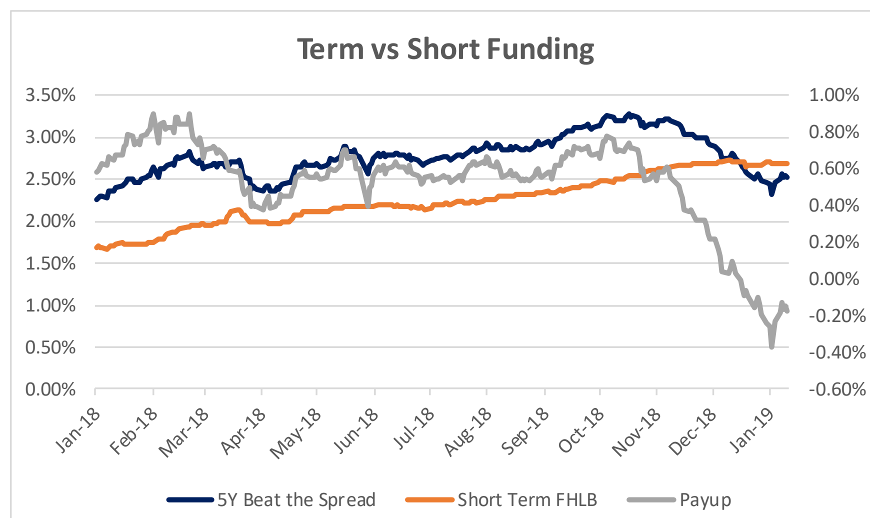
Pricing is purely illustrative

Beat the Spread – New Funding Opportunities

Banks can hedge the rollover risk of short-term funding to extend liability duration:

- Enter into a Pay-Fixed Receive 3 Month Libor interest rate swap
- Take out 3 month advance, settling on the effective date of the swap
- Designate the swap as a cash flow hedge against changes in advance rates (3 month Libor)
- Roll the 3 month advance each quarter matching the reset dates of the swap

The inverted swap curve allows banks to extend liability duration and lower cost of funds at the same time



Source: FHLB Rates: FHLB DM & Brokered CD Rates: Janney funding desk

Hedging Fixed-Rate Bonds

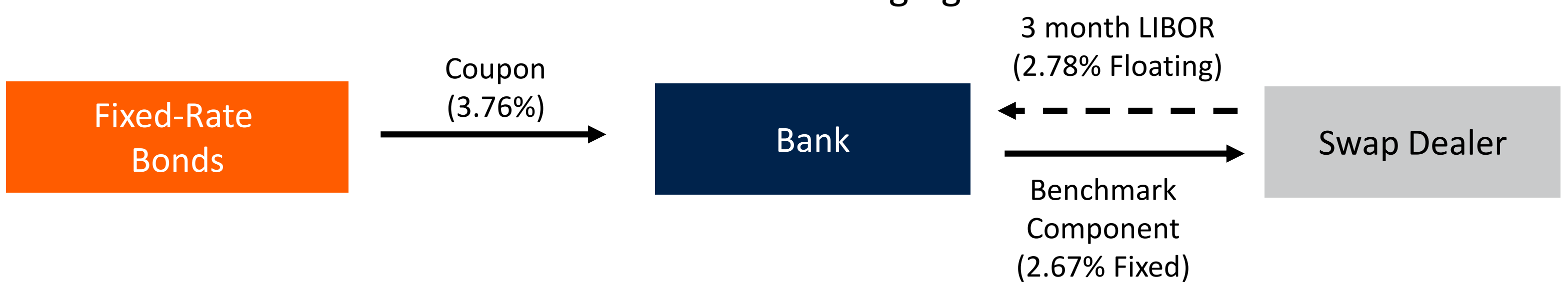
Situation

Bank is interested in reducing the duration of fixed-rate securities it is considering purchasing

Bank Solution:

1. Bank identifies a fixed-rate bond for hedging – either from existing portfolio or purchase candidate
2. Bank enters into a pay-fixed interest rate swap with the dealer hedging the fixed-rate cash flows
3. The Bank sets the maturity date of the swap *early enough to avoid any call features*
4. The swap is designated as a partial-term fair value hedge

Portfolio hedging



Since pay leg is *lower* than receive leg of swap – net impact to income is positive

New Accounting Rules Used:

1. Hedge interest rate risk attributable to benchmark rates only
2. Partial-term Fair Value hedge designation
3. Short cut hedge accounting

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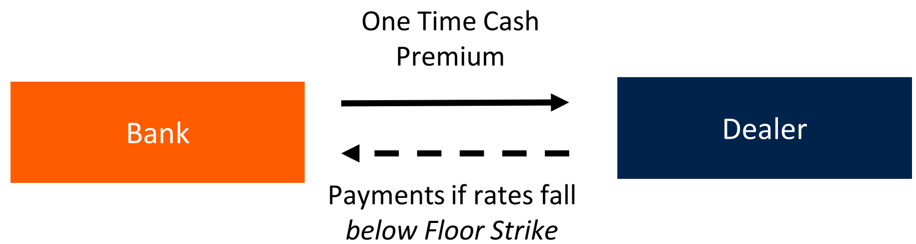
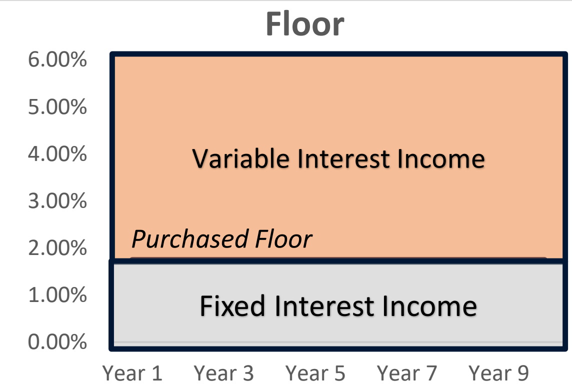
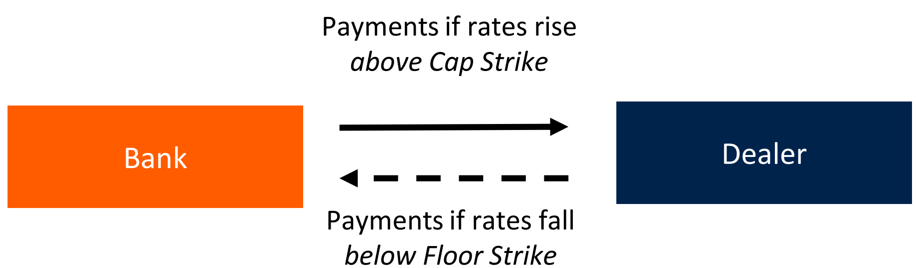
Hedging Falling Short Term Rates

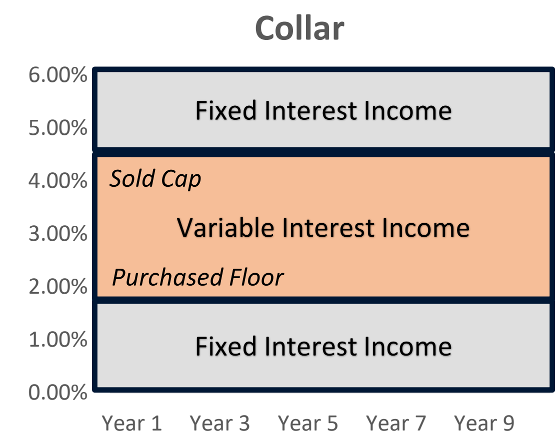
A Purchased Floor on floating-rate assets is an interest rate option that behaves as insurance against falling short-term rates



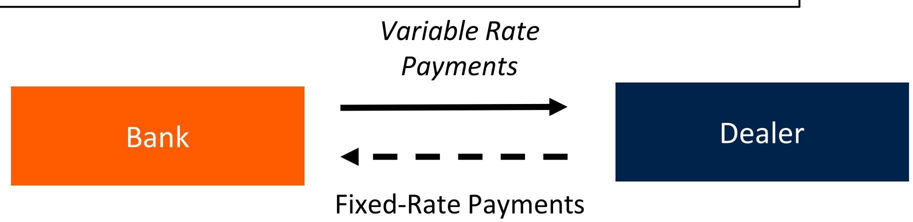


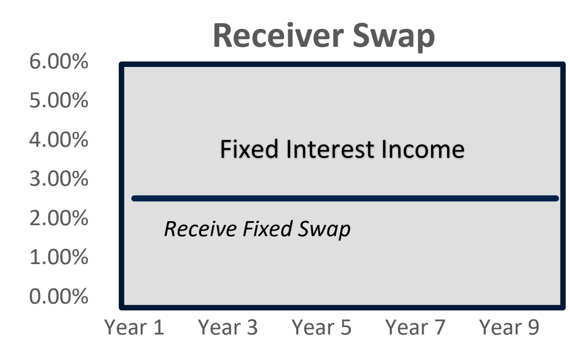
A Costless Collar on floating-rate assets is an interest rate option that behaves as a purchased floor and a sold cap where the premium prices offset





A Receive-Fixed Swap is a way to extend duration on variable-rate assets to protect against changes in rates impacting interest income





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GENERAL INFORMATION AND LIMITATIONS