



MBS Market: Opportunities and Risks

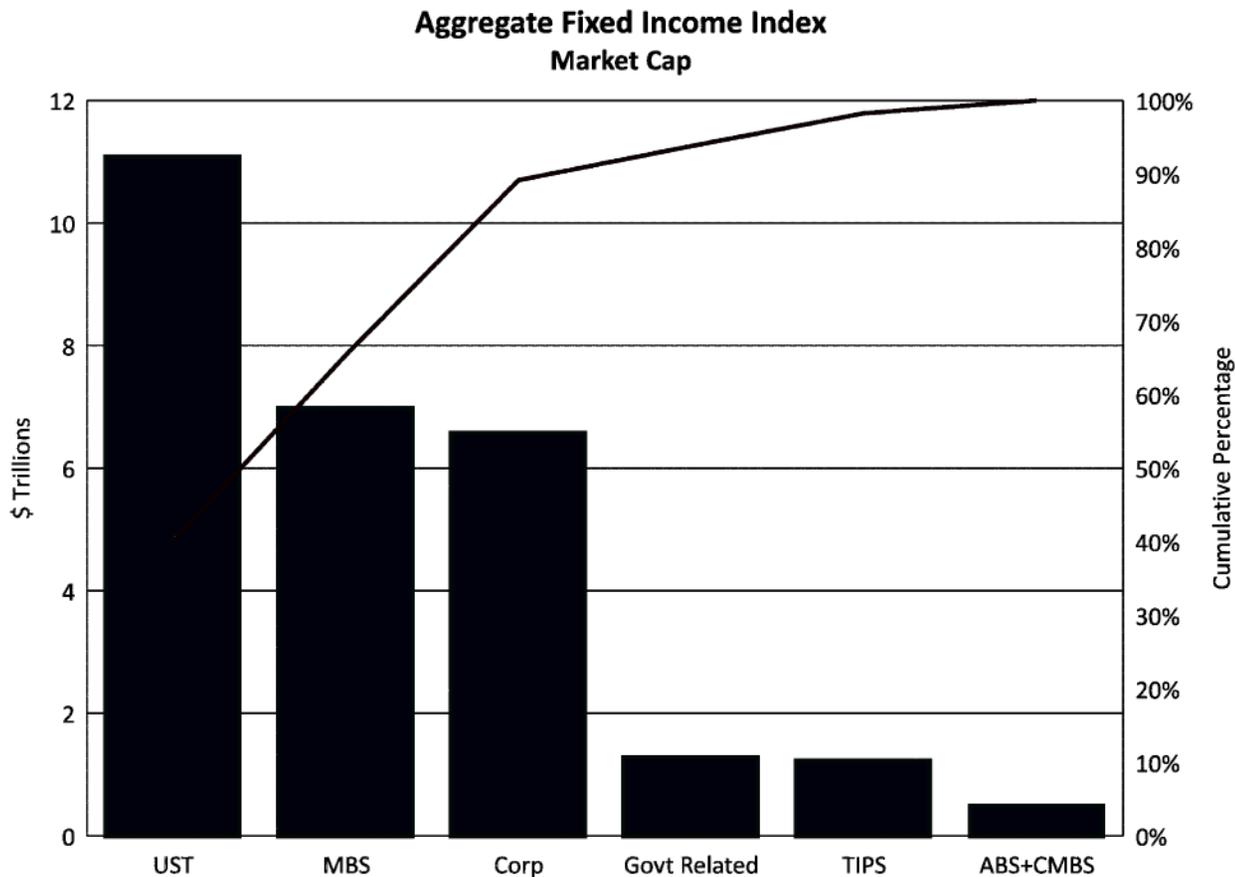
Prepared for: SFBTA Conference 2024

February 2024

Walt Schmidt, CFA, Senior Vice President
Alexis Vilimas, Vice President
Mortgage Strategy Group

1. Market Structure
2. Prepayments
3. Relative Value

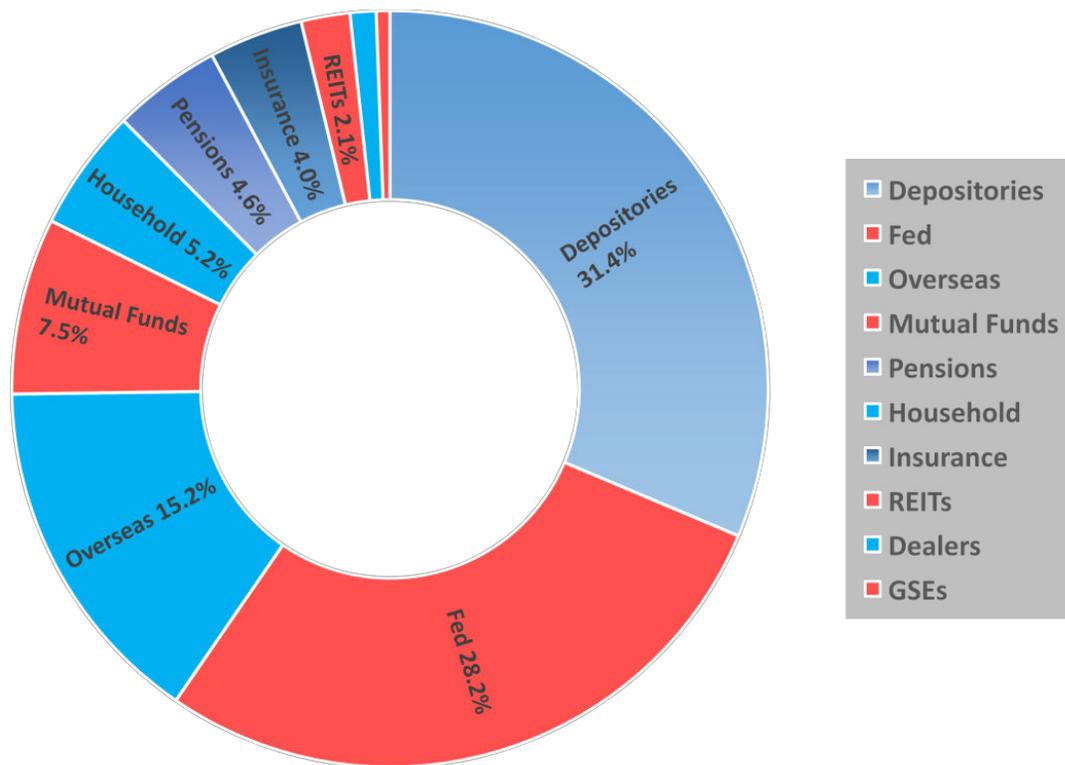
MBS Market is Largest "Spread Sector" in Fixed Income



- Treasury market dominates fixed income at ~70% larger than each of the two main spread sectors.
- UST, MBS, and Corp together comprise ~90% of taxable fixed income universe.
- Tax-free muni sector is \$4 trillion, but not in aggregate index.

Current State of Funding for the Agency MBS Market

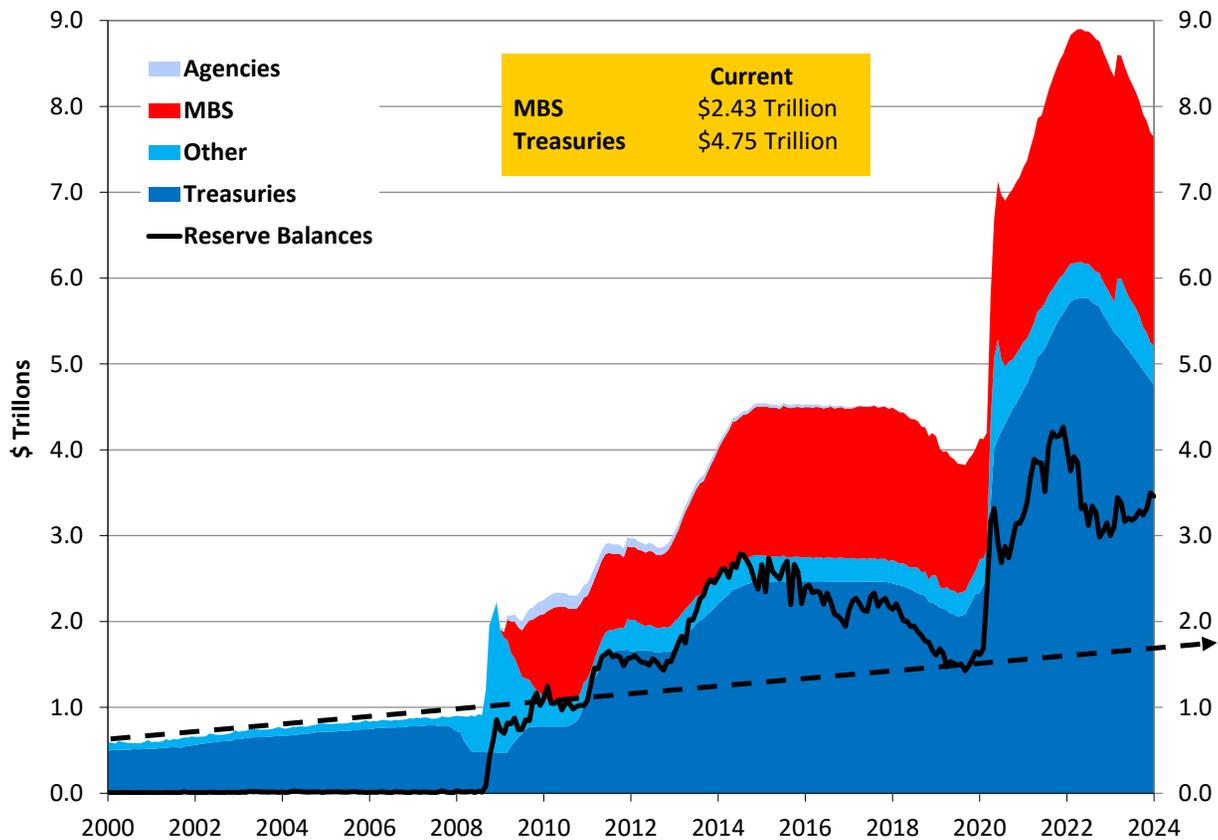
Current Holders of Agency MBS
Approximately \$8.5 Trillion



- Ownership structure dominated by the Fed and banks, but that is changing.
- Overseas investors and asset managers are now the main marginal buyers.
- Hedge funds, pensions, and insurance cos. can move markets during any given session.

Historically Intrusive QE4 Has Resumed Run-Off Mode

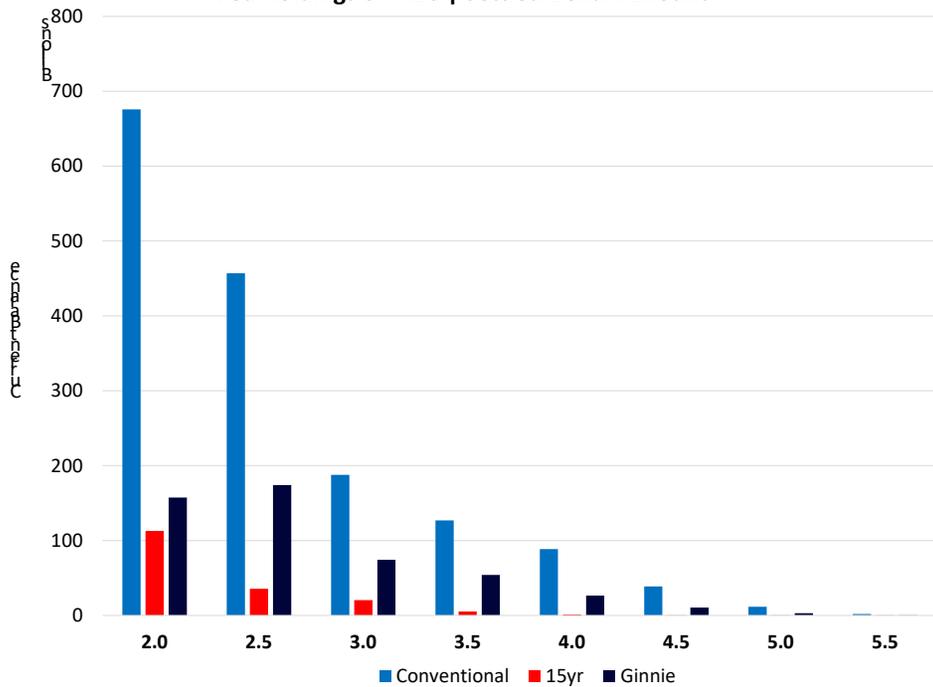
U.S. Federal Reserve Balance Sheet (SOMA)



- The era of QE has brought dramatic changes to the Fed's balance sheet.
- The real monetary effect is in reserve balances and how quickly those are leveraged in the economy.
- At pre-QE run-rate, balance sheet should be *only* \$2 trillion or less.

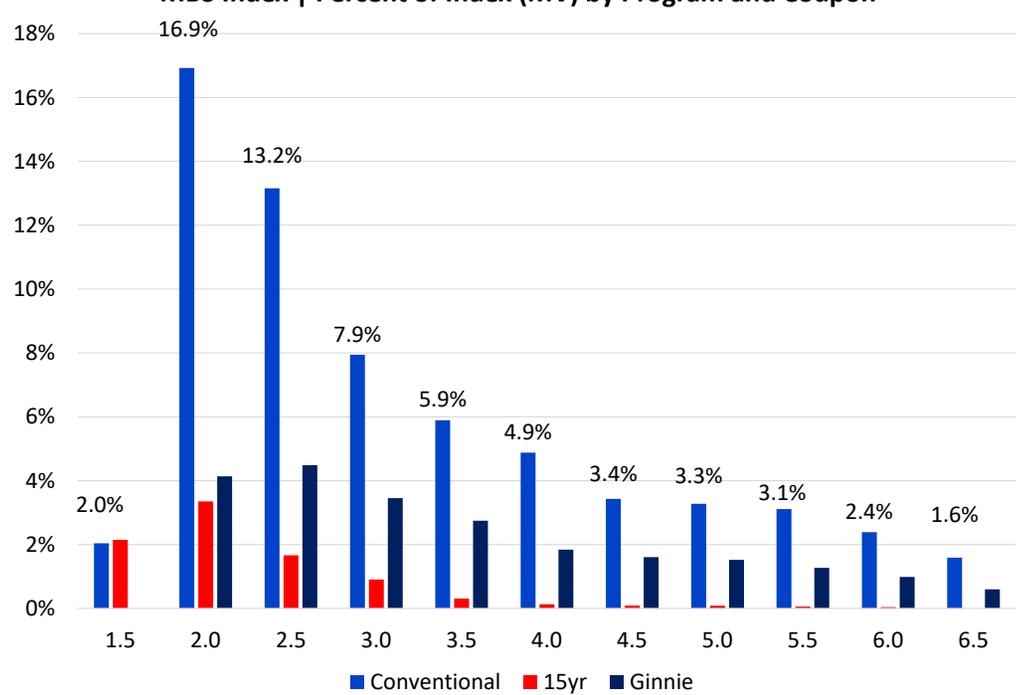
Fed & Market Dominated by Discount Coupons

Fed Holdings of MBS | Settled Dollar Amount



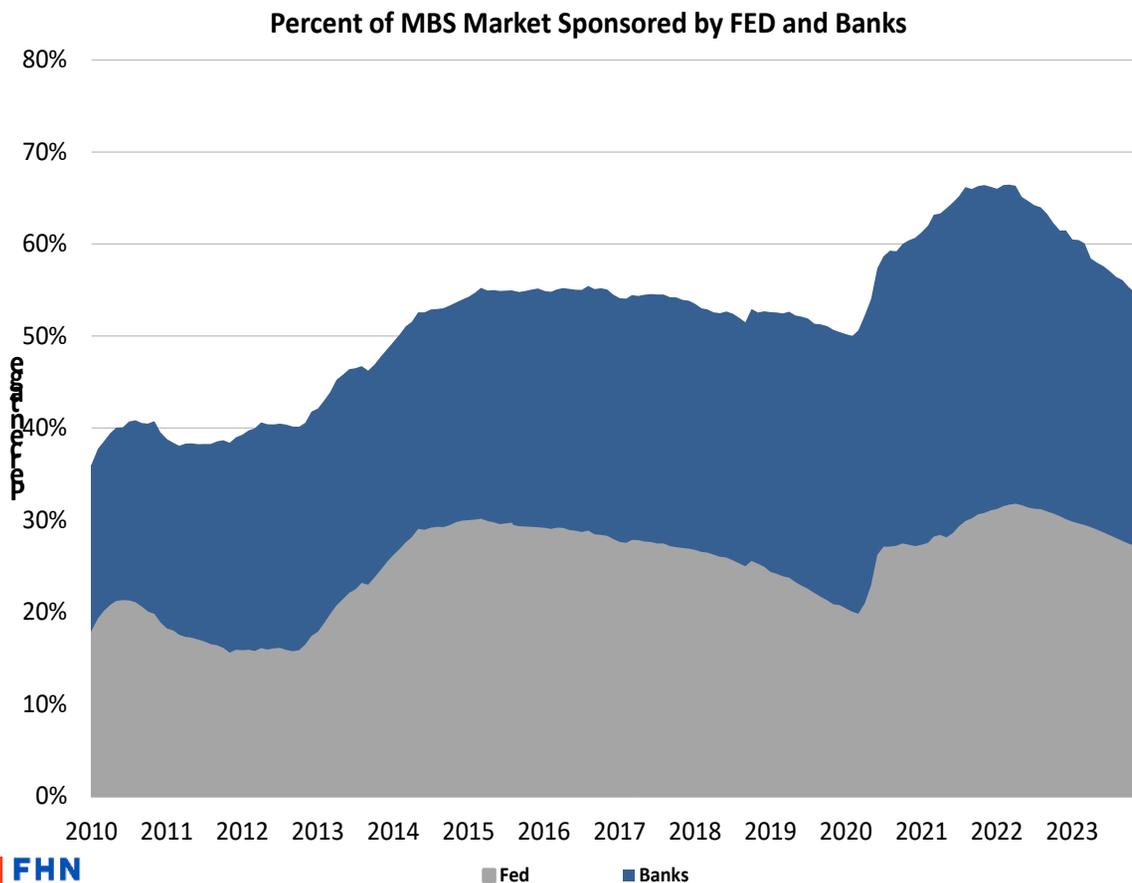
Source: FHN Financial, NY Fed

MBS Index | Percent of Index (MV) by Program and Coupon



Source: FHN Financial, Bloomberg

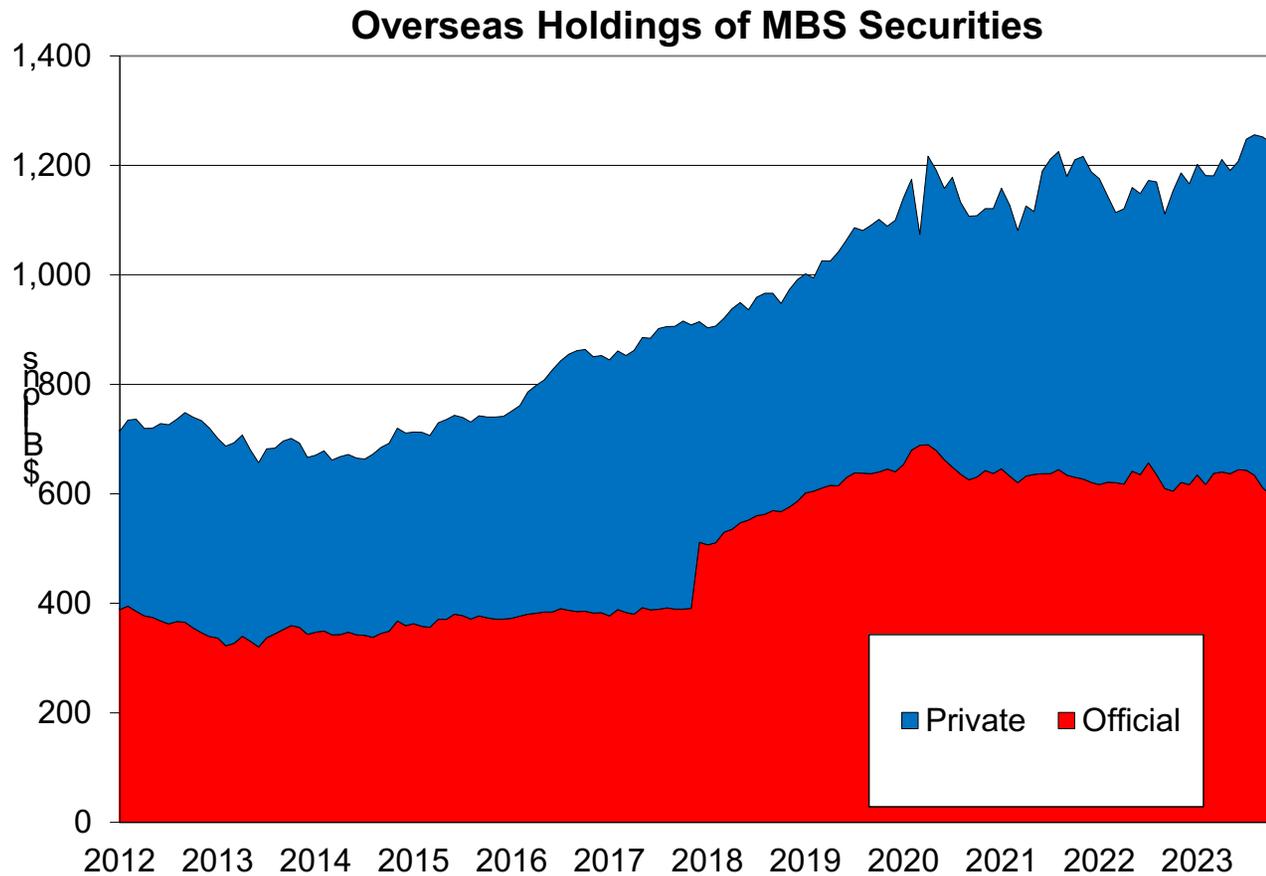
Banks Now Largest Holder of MBS Run-Off Mode Recently Suspended



Bank managers have three questions to ask:

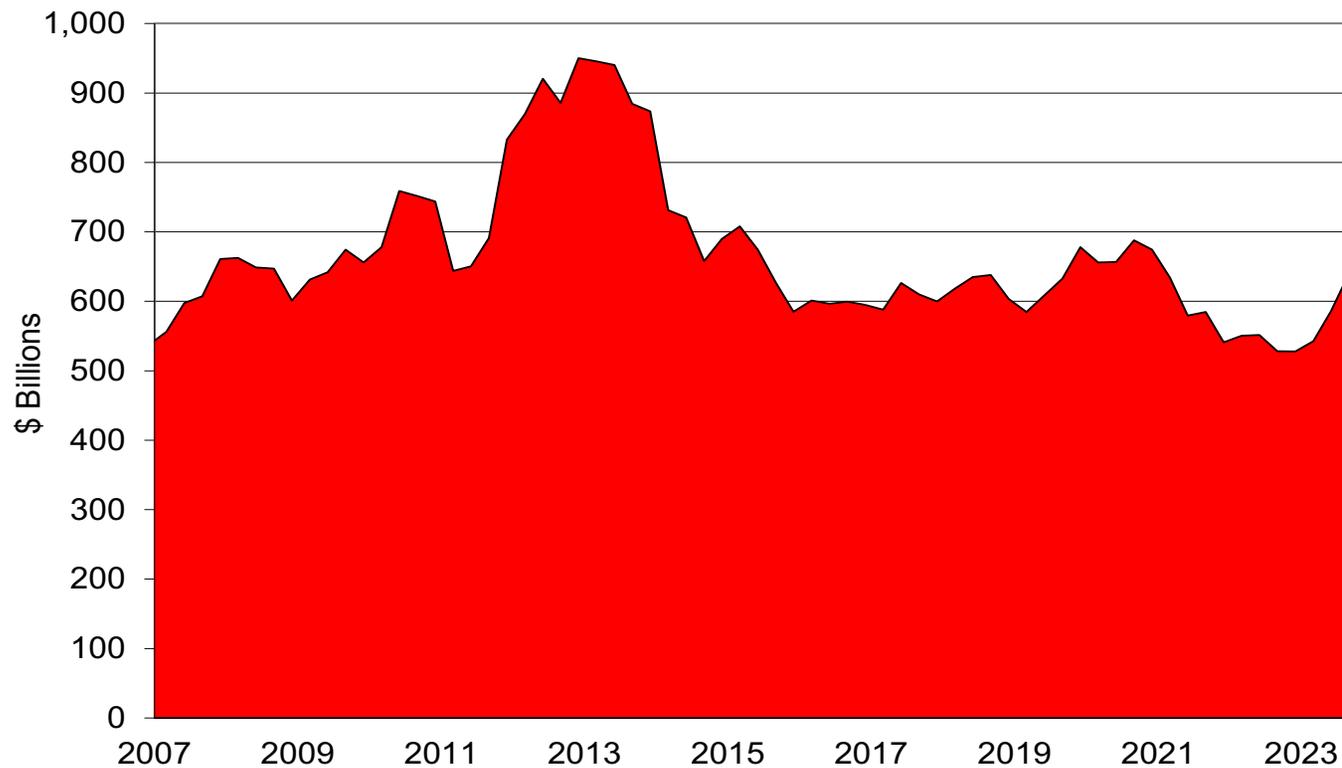
- Is the asset “cheap enough?”
- Do I have room to add relative to capital and liquidity requirements?
- What is my loan demand?

Foreign Holdings of MBS Moving Higher Again

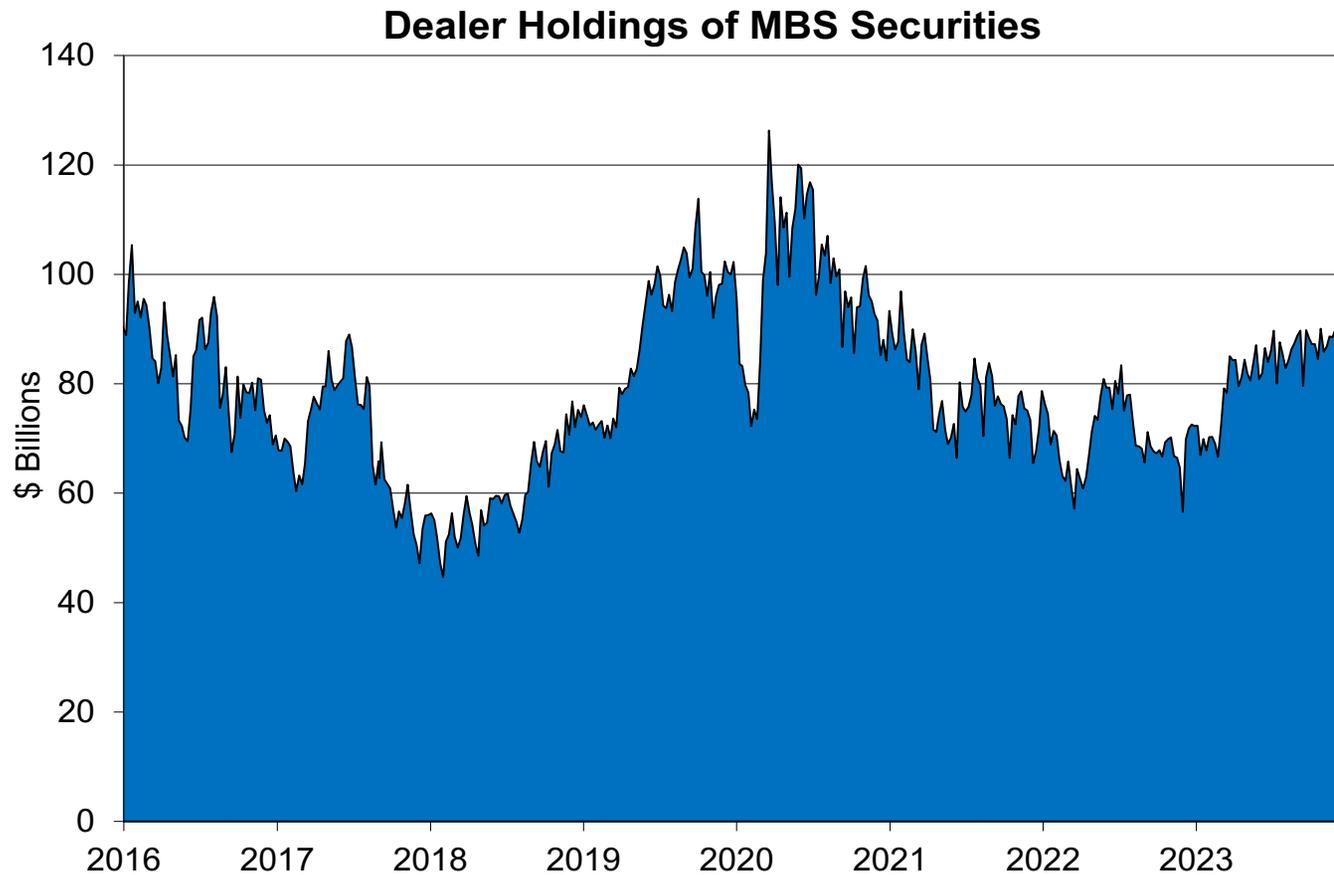


Money Managers Growing Allocations Again, Are Important "Swing Vote"

Mutual Fund Holdings of MBS and Agencies

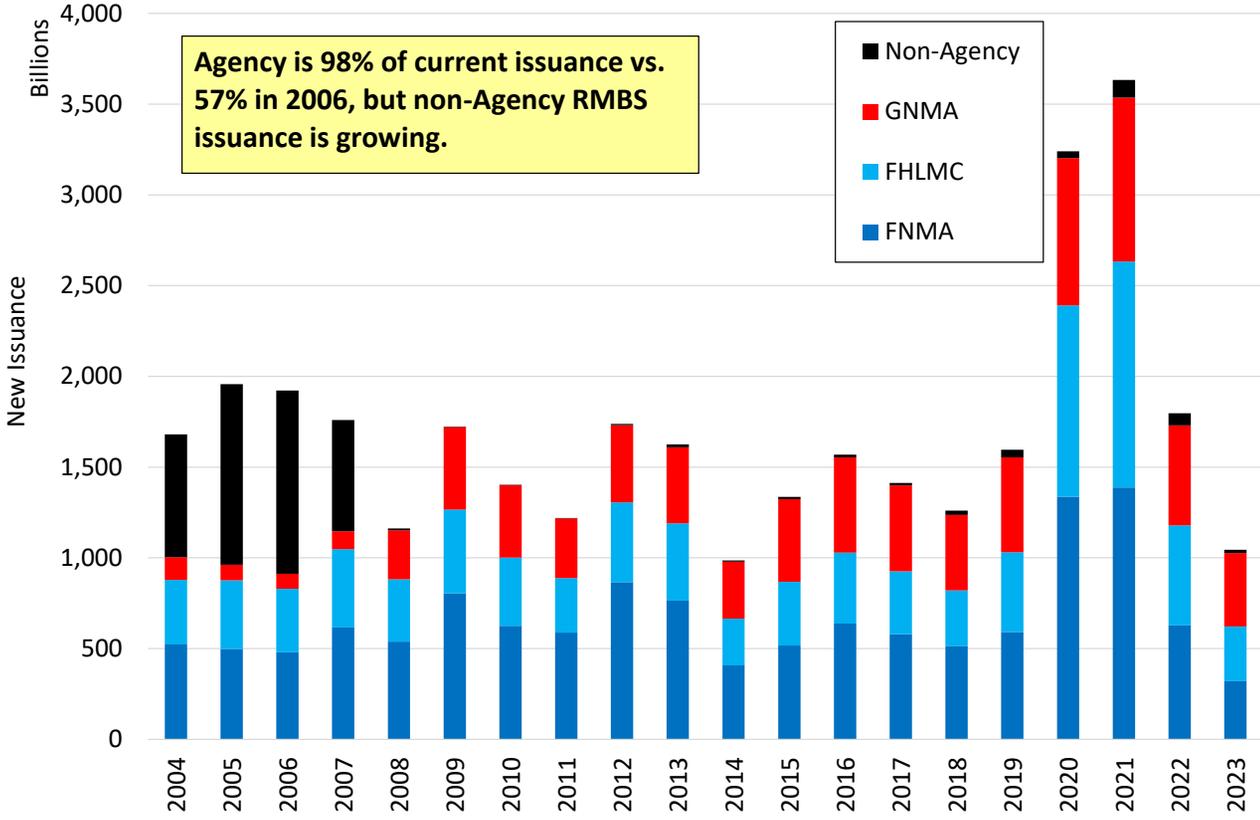


Dealers Have Not Been This Long Since Early 2021



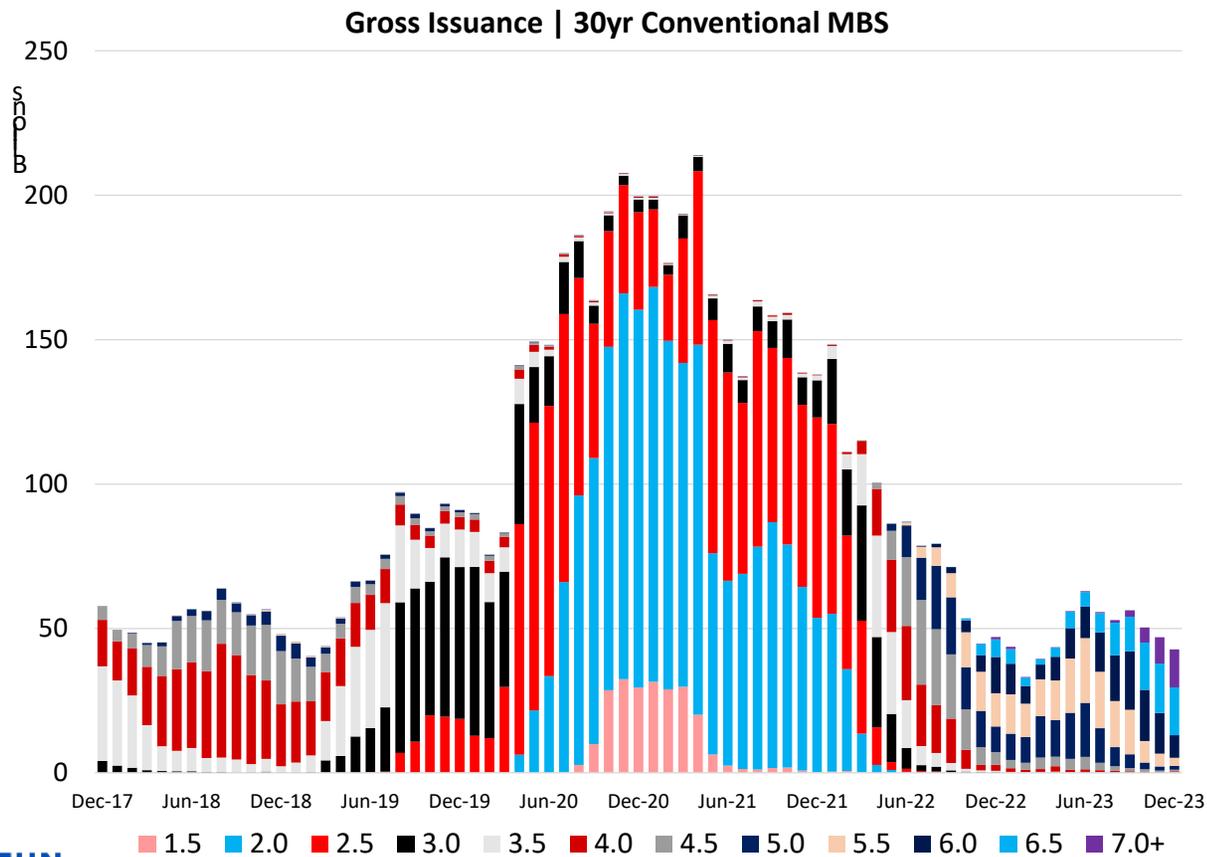
Record Issuance in '20 & '21 Has Been Quickly Reversed

Annual Issuance in Securitized Mortgage Market



- Gross issuance may not reach 2020 and 2021 levels for years, even decades.
- With Fed about-face, market “borrowed” issuance from current and future years in 2020 and 2021.

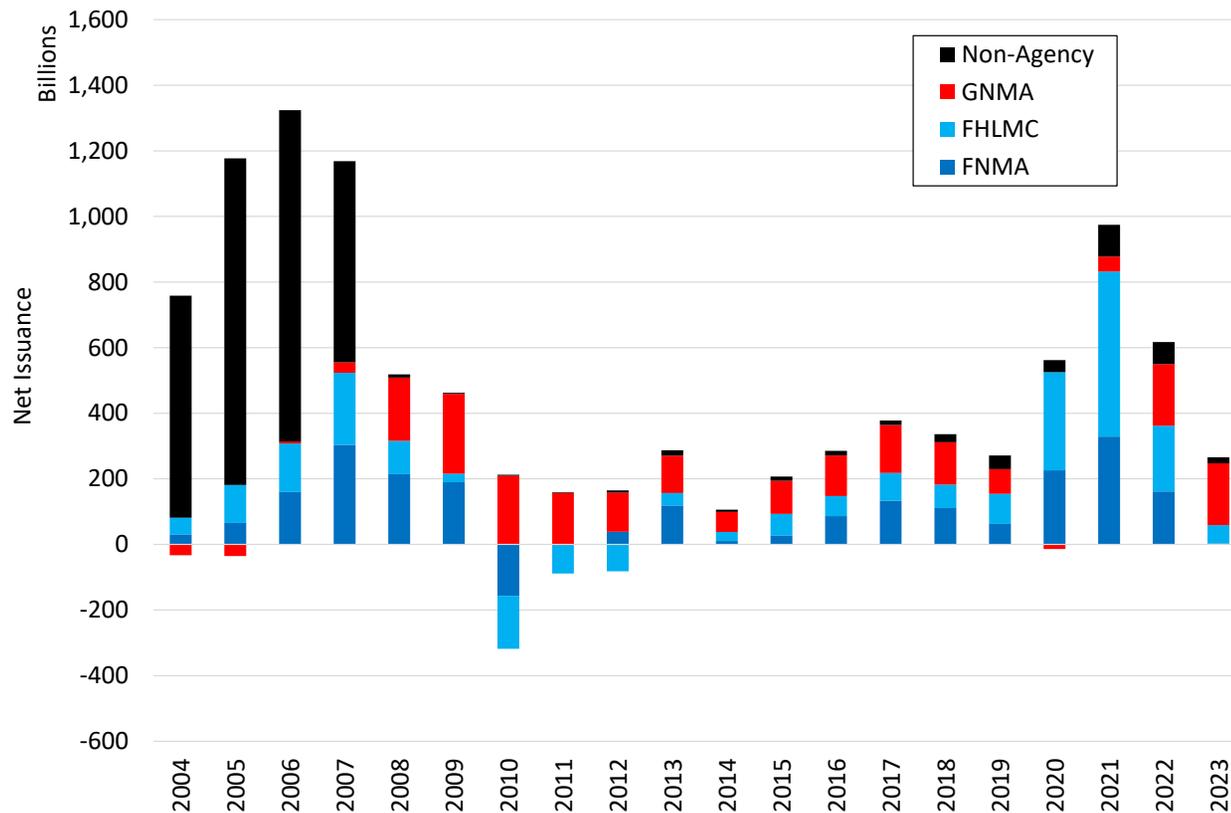
Coupon Profile of Monthly Issuance Has Been Volatile Through QE/QT



- Issuance was dominated by two coupons during height of pandemic lockdowns.
- During the past 24 months, at least \$5 billion has been issued at least once in *10 different coupons*.

Net Annual Agency MBS Issuance Was Still Above Trend in 2022 – Now Falling

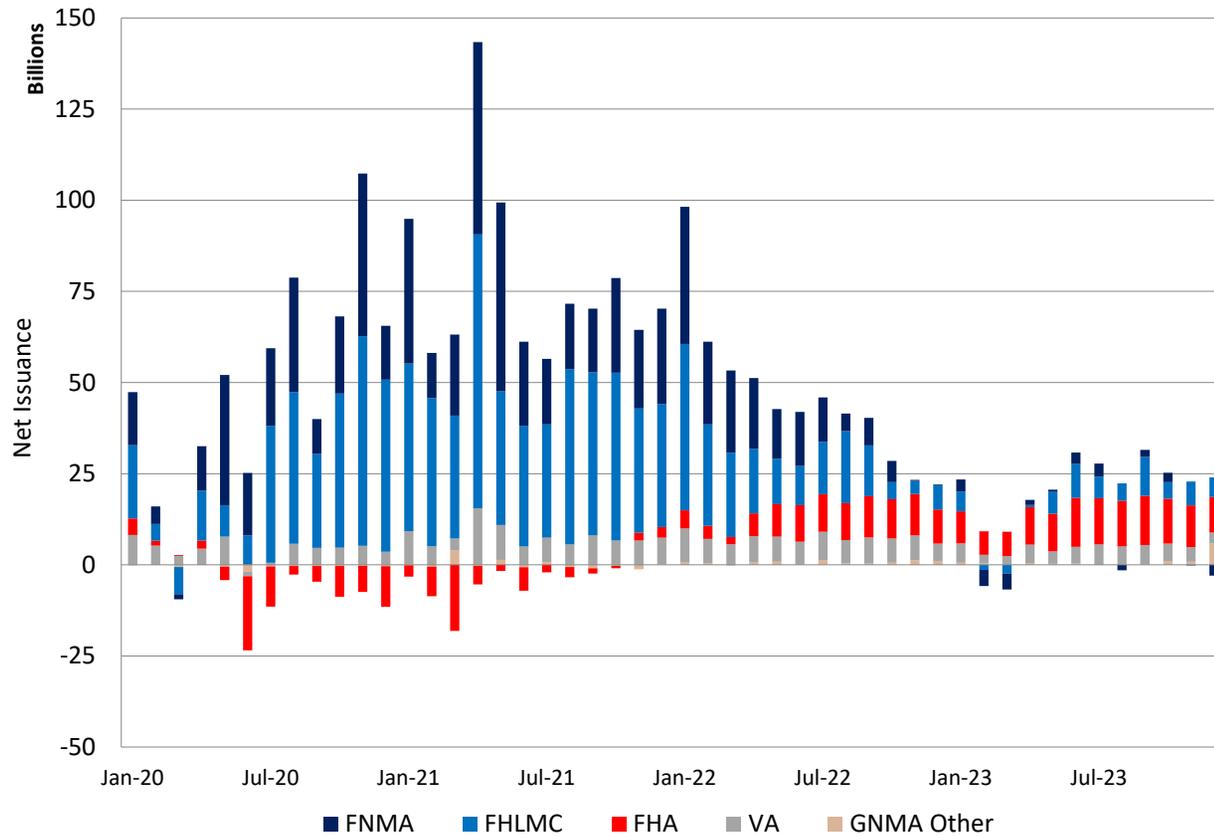
Annual Net Issuance in Securitized Mortgage Market



- Normally, *net issuance* increases when prepayments decline.
- Net issuance in 2023 was short of \$300 billion.

Detail of Monthly Trend Shows Recent Deceleration

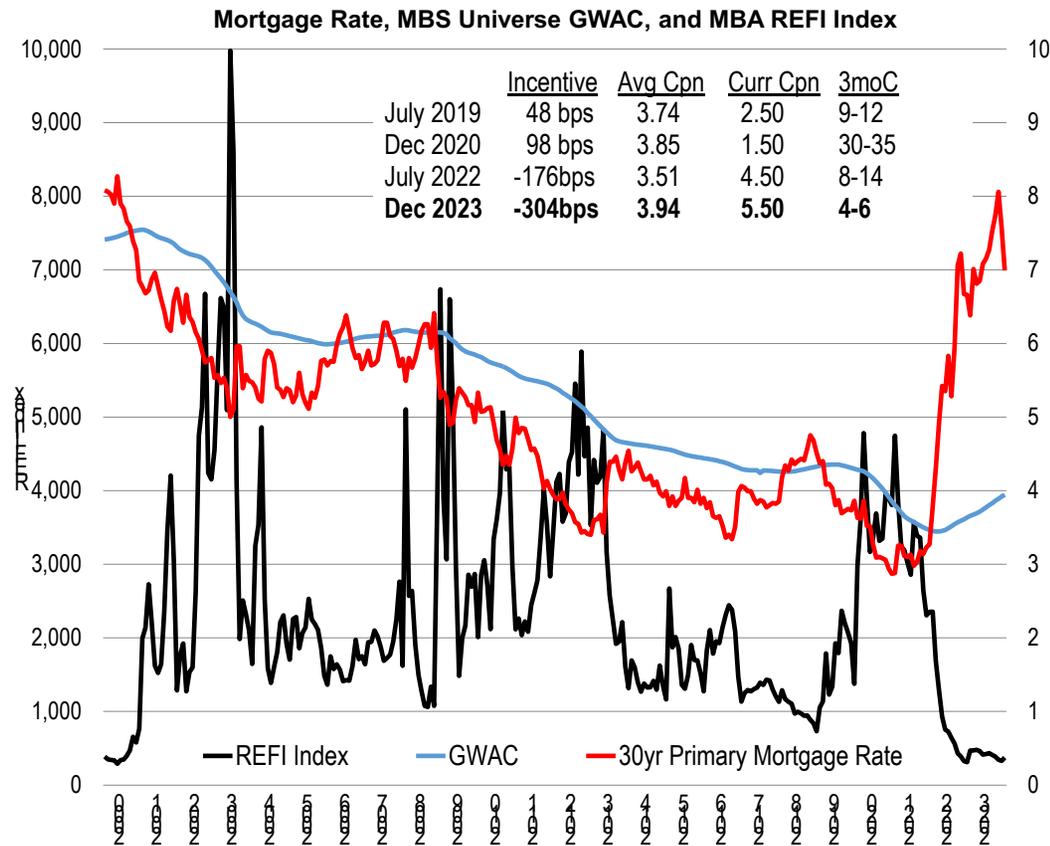
Monthly Agency MBS Net Supply Since January, 2020



- Monthly detail highlights how dramatically net issuance has declined.
- There is a little bit of strength returning during the past few months after *almost negative* net issuance in February and March.

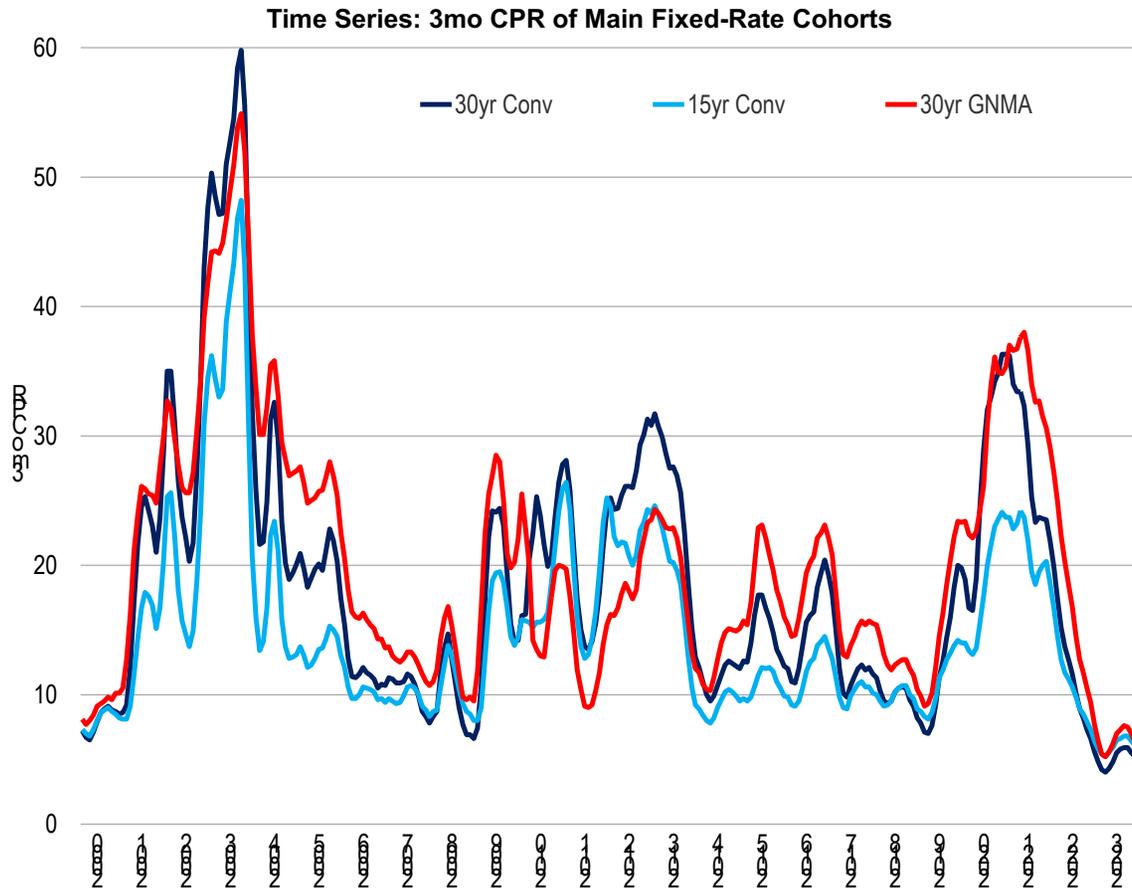
1. Market Structure
2. Prepayments
3. Relative Value

Big Picture: Rates Up, Refi's Down, Incentive VERY Negative

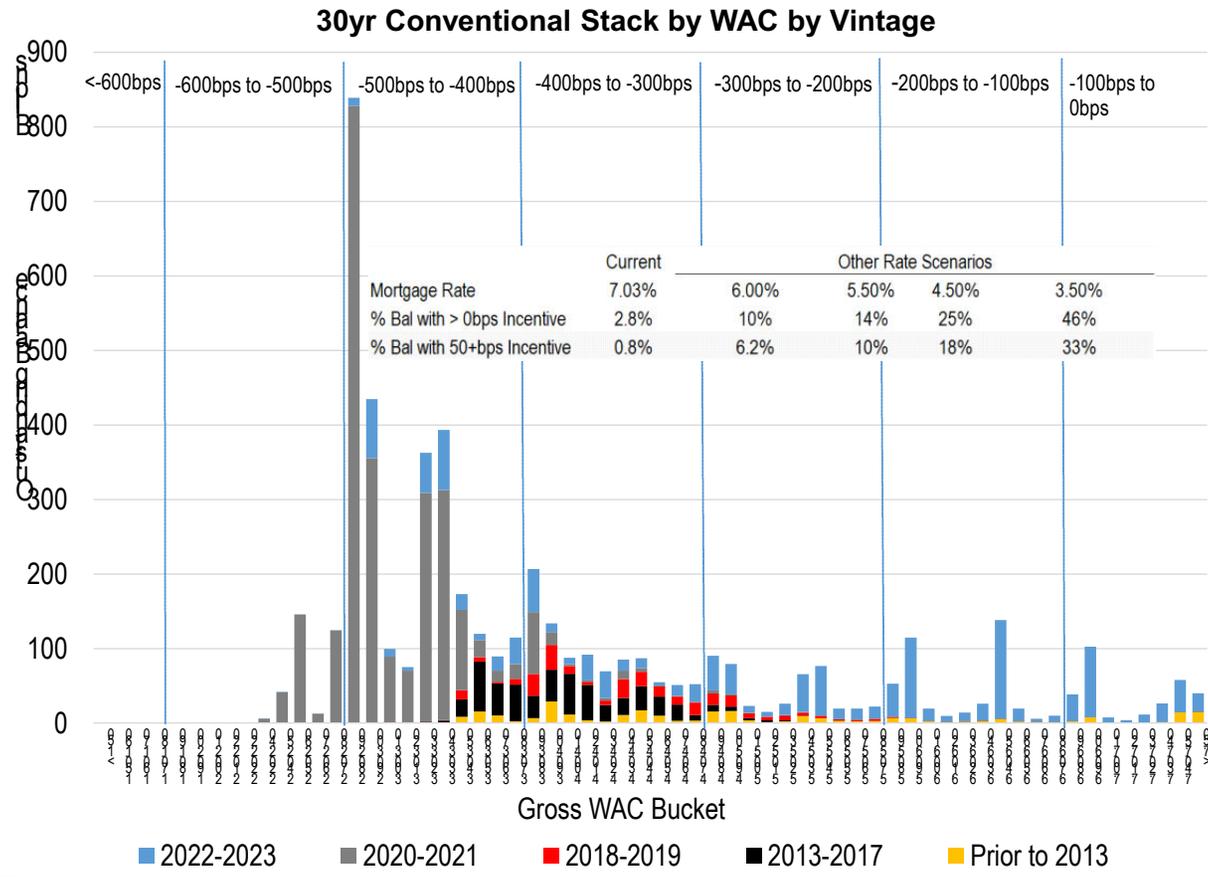


- REFI index still near long-term historical lows.
- Average borrower is paying 3.94% on their mortgage.
- Compared to the 6.98% rate a borrower would lock in today, the average borrower has **NEGATIVE 304bps** of rate incentive.
- *"I hate my house, but I love my mortgage" syndrome.*

Aggregate Prepay Speeds Now at "Modern MBS" All-Time Lows



Virtually 0% of the MBS Market In-The-Money



- 75% of all loans are more than 200bps out-of-the-money.
- Remaining 25% of loans are less likely to refinance even if rates fall due to their age.
- Only 2% of current balance is in 2022/2023 30yr 6.0s and 6.5s.

| Two Questions, One Answer

Premium Loans

How fast would borrowers in higher coupon/recent production refinance if rates fall?

Will they refi as fast as borrowers did in 2019-2021?

Factors Pushing Down on Speeds

- Borrowers have less built-in equity
- Reverse media effect

Factors Pushing Speeds Higher

- Larger loan sizes
- Elevated originator capacity
- Higher share serviced by non-banks

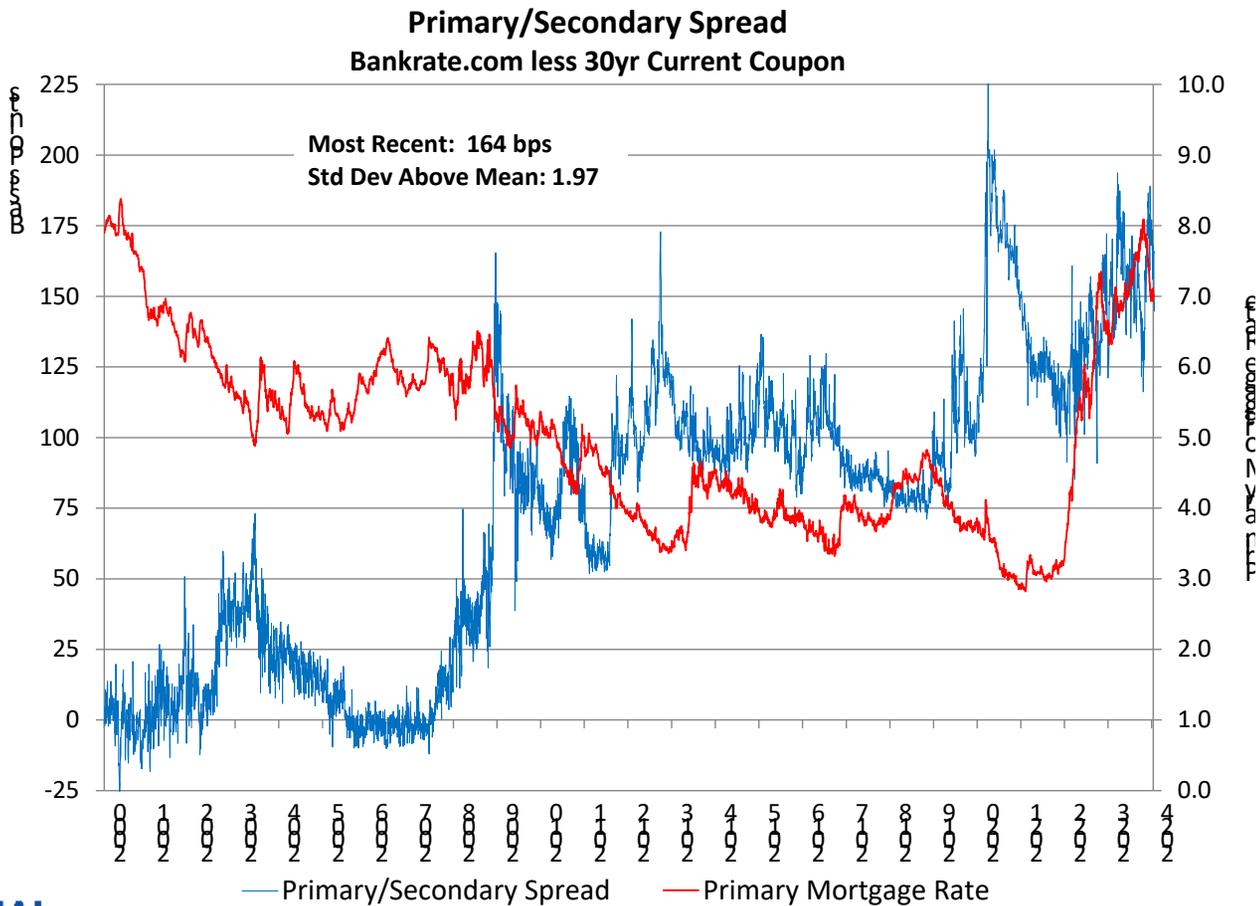
Answer: Target collateral that produces faster turnover speeds as well as slower in-the-money speeds in anticipation of a market turn.

Discount Loans

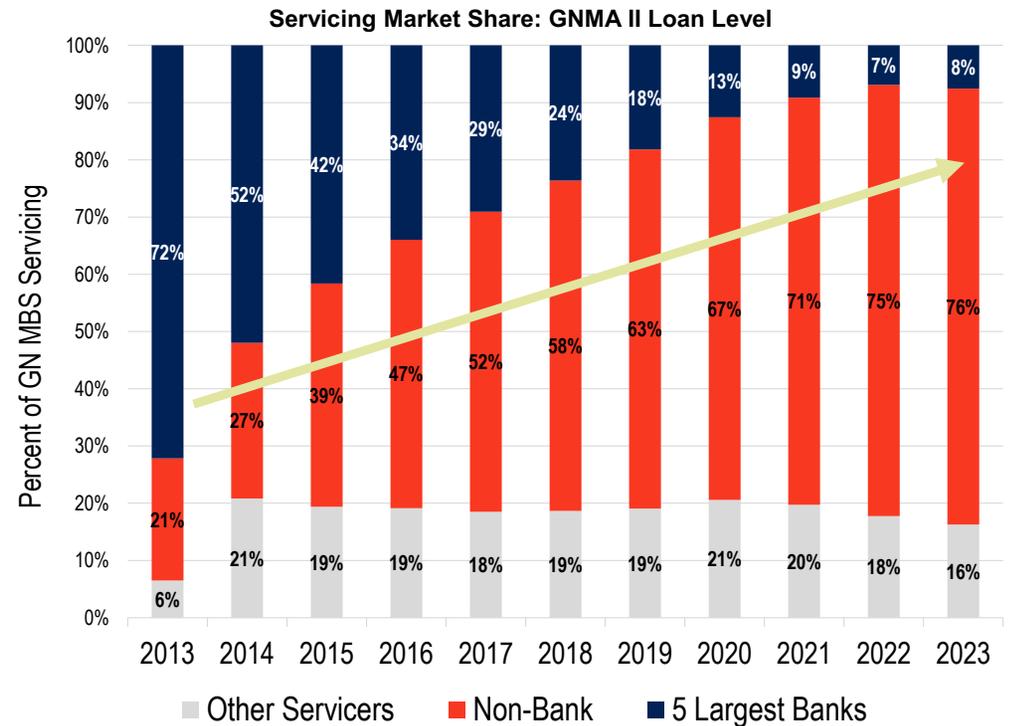
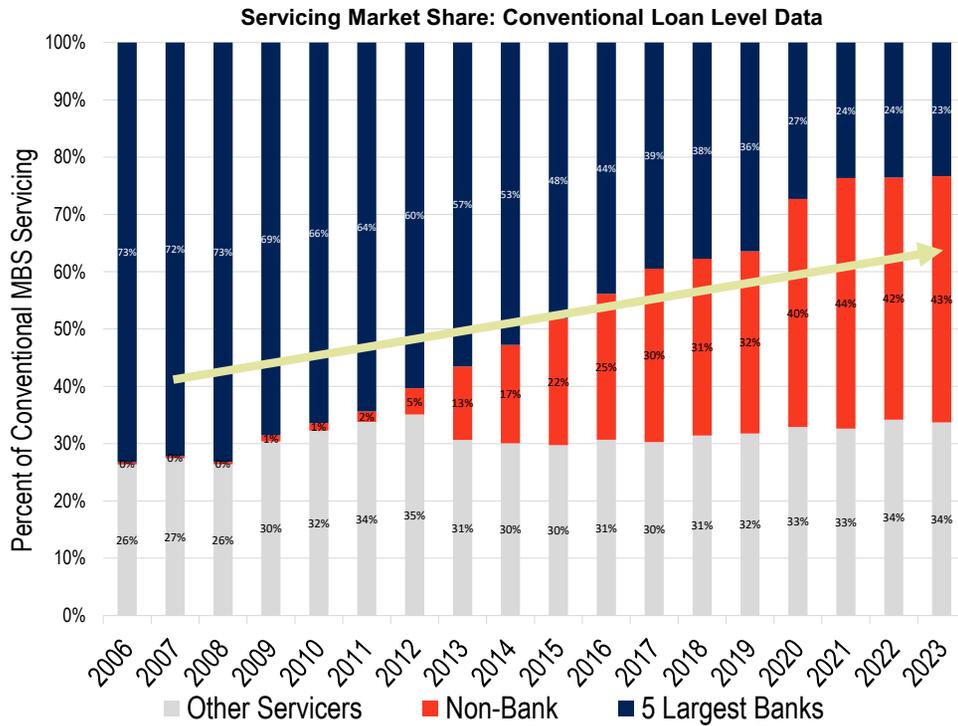
How fast are baseline speeds if rates stay here or move higher?

- Four prepayment drivers:
 1. Turnover (life changes and seasonal)- Primary
 2. Cash-Out Refinancing
 3. Curtailments
 4. Buyouts
- What collateral characteristics indicate faster-than-average turnover speeds?
 - Ginnie MBS
 - Low loan balance
 - Migration GEOs (FL and TX)
 - Rocket-serviced

Primary/Secondary Spread Historically Wide as Originators Seek to Maximize Each Transaction

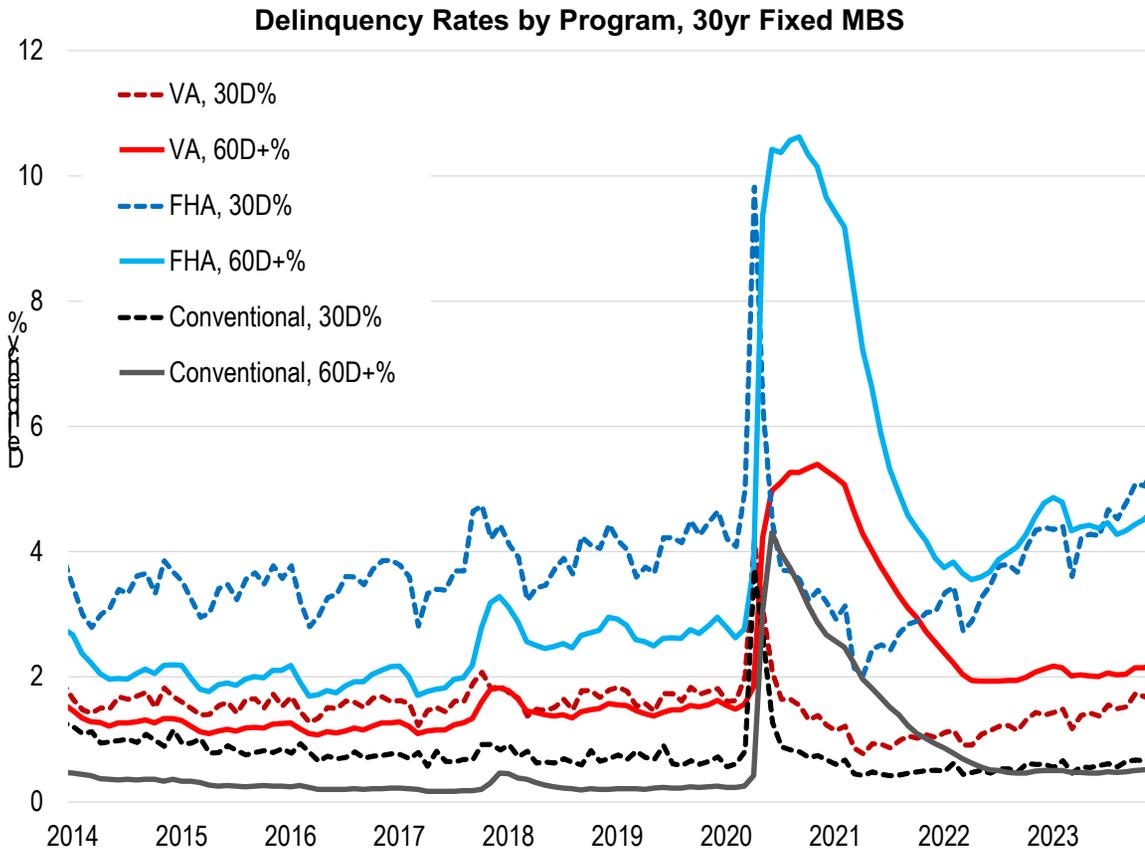


Higher Share for Non-Bank Servicers



- Non-banks service 43% of conventional loans and 76% of Ginnie loans.
- Ten years ago, non-banks only serviced 13% of conventional loans and 21% of Ginnie loans.

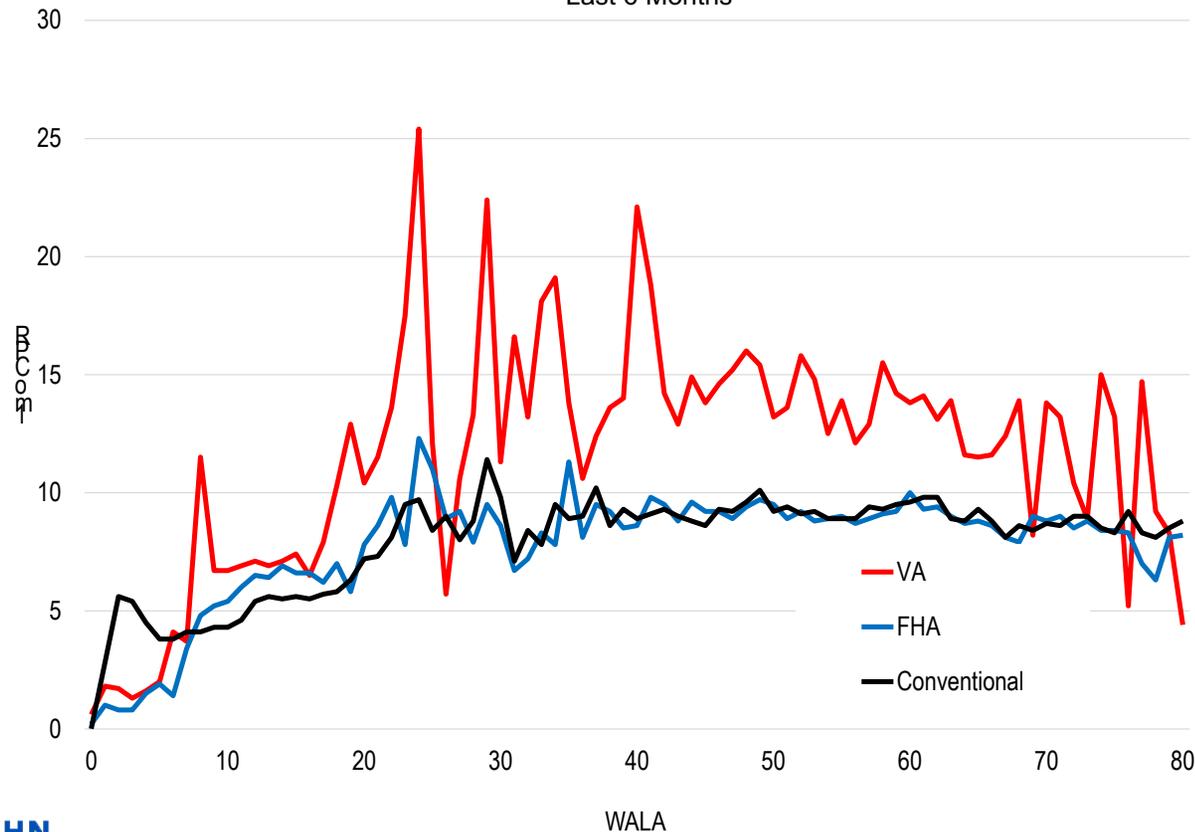
Buyout Risk Low in Conventional, Elevated in Ginnie



- 96% of all loans are current.
- Delinquency steadily declined since peaking in May 2020.
- Serious delinquencies higher in GN.
- FHA and VA delinquencies growing again since early 2022.

Buyouts to Contribute to Faster Ginnie Speeds

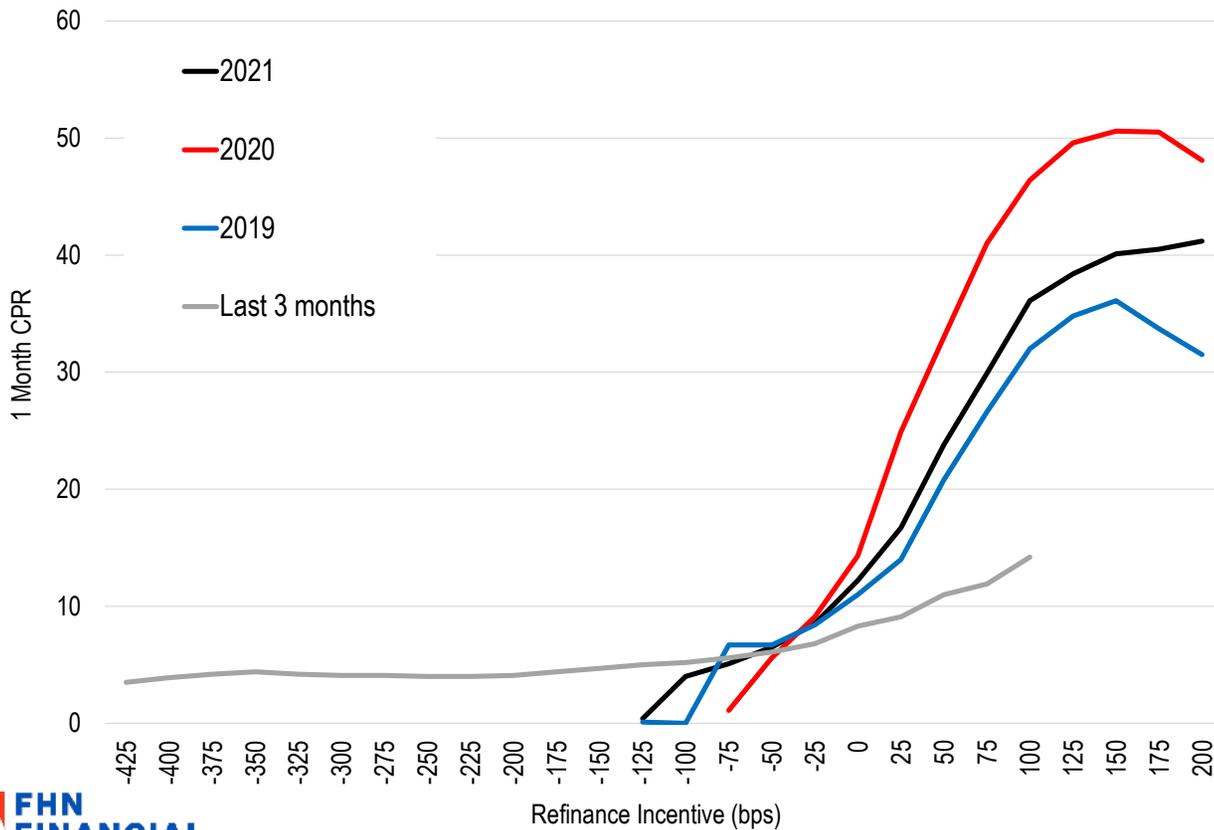
A-Curve Analysis | -100bps to 50bps Incentive
Last 6 Months



- Ginnie speeds faster due to *higher buyouts*, *aggressive servicers*, and stronger demand for *cash-out refinancing*.
- Aggregate speeds converged some year-over-year.
- Expect Ginnie speeds to print speeds 2-4 CPR faster going forward.

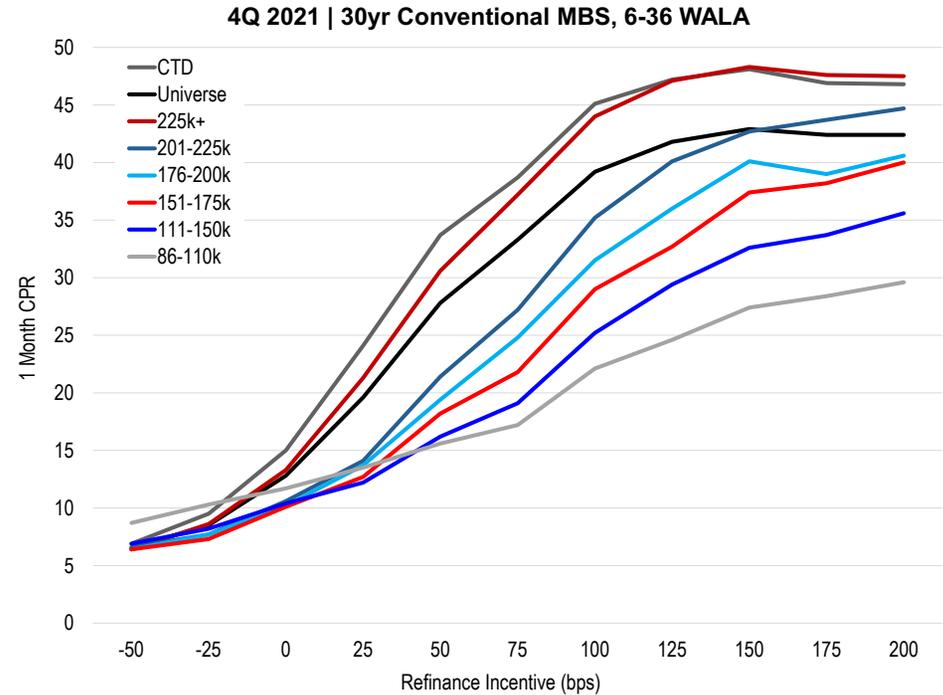
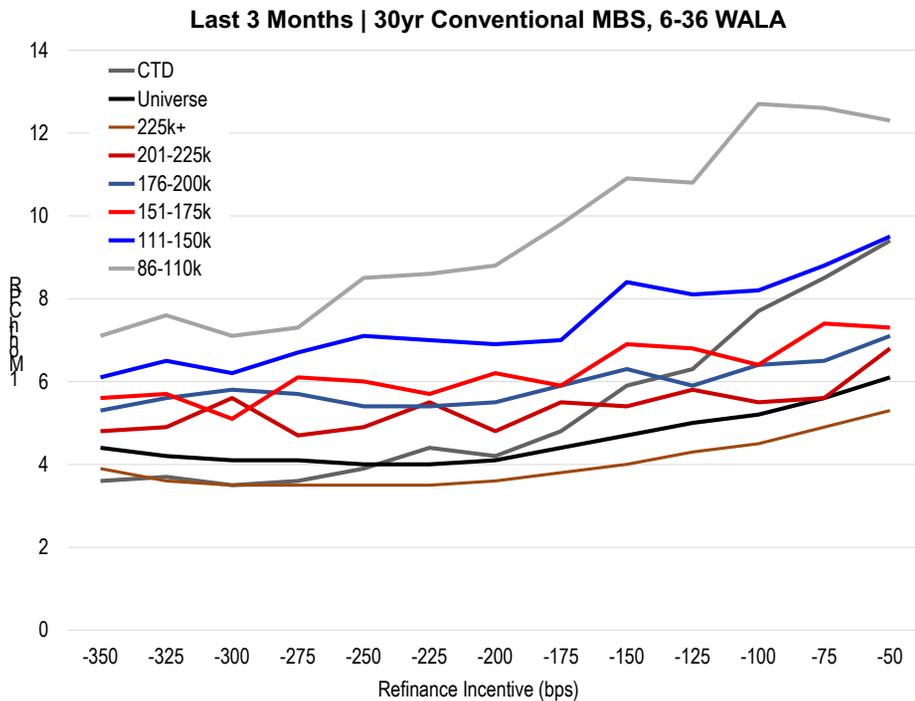
Current S-Curve Very Flat; Return to 2019 Prepays in a Rally Is Likely

S-Curve Analysis | Full Year
30yr Conventional Fixed MBS | 6-36 WALA



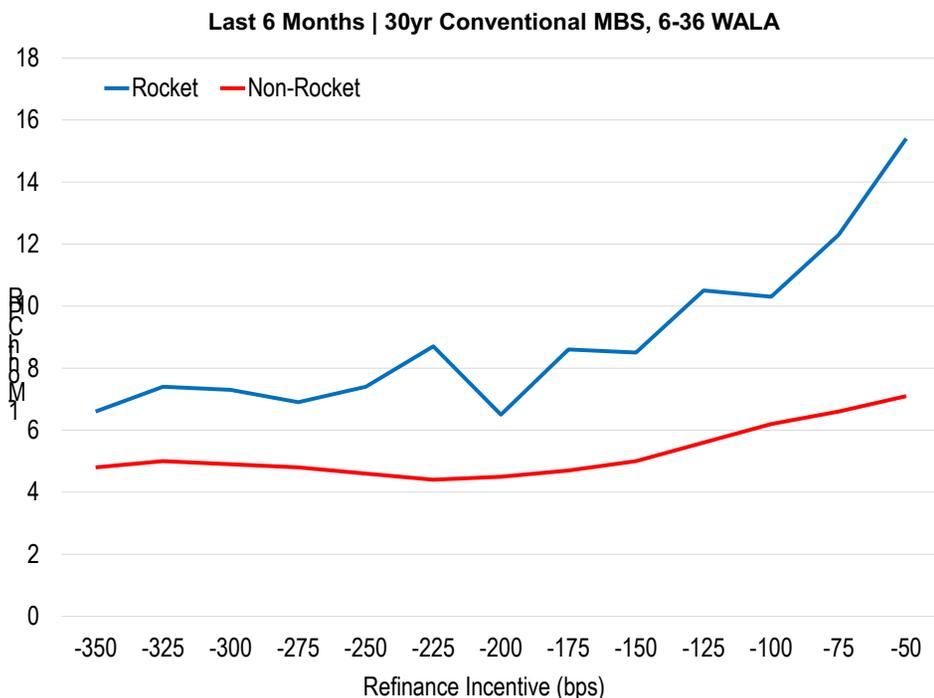
- S-curves have shifted lower and are MUCH flatter.
- There is only a 5.8 CPR difference between loans with the lowest incentive and loans with the highest incentive.
- We think the “next” rally will look more like 2019 than 2020 or 2021 due to lower appraisal waivers now.

Loan Balance Offers Extension AND Call Protection

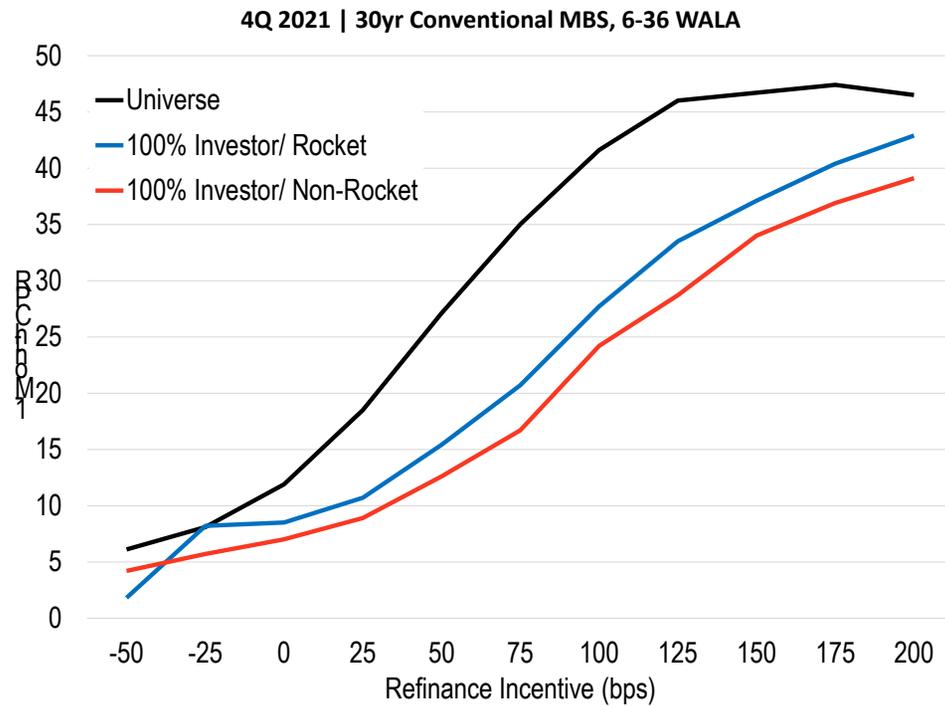


- Offers extension protection in a high interest rate environment AND call protection if rates fall.
- Conforming loan limits increased 40% since 2020, from 510k in 2020 to 726k in 2023.
- As loan sizes drift higher in TBA, low loan balance spec pools become more valuable.

Rocket Speeds Consistently Faster



Turnover advantage is clear. Rocket speeds are paying 25-45% faster than non-Rocket collateral due to higher levels of cash-out refinancing.



Take advantage of higher coupon, spec loans serviced by Rocket when the discount is larger than the prepay difference implies.

I Key Prepayment Takeaways

- 95% of borrowers have mortgage rates below 6%. The average borrower is more than 300 bps out-of-the-money. Rates would have to drop more than 250 bps before any significant balance is refinanceable.
- Aggregate speeds are near all-time lows due to very low levels of refinancing.
- Recent premium production speeds could see a material increase if mortgage rates decline to 5.5% or lower due to excess capacity and convexity profile.
- Value is in collateral stories including Ginnie MBS, loan size, and Rocket-serviced collateral.

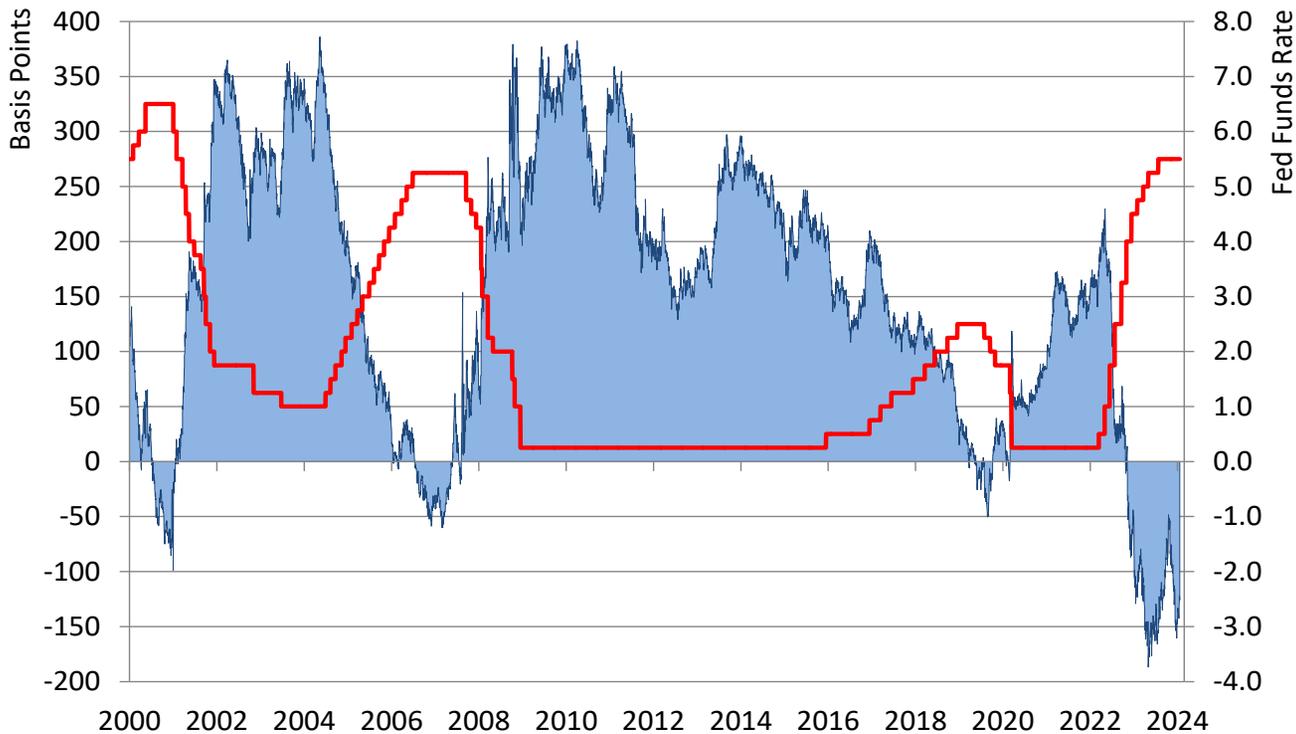
1. Market Structure
2. Prepayments
3. Relative Value

I Three Basic Levers to Pull In Fixed Income

- **Duration:** Rates are higher in current QT era, but YC is inverted.
- **Credit:** Bloomberg/Barclays High Grade Index OAS/Spread is very close to all-time lows.
- **Optionality:** The BofA MOVE index is lower than QT peak, but still higher than long-term averages.

Curve Shape Has Been Volatile, but Still Inverted

3mo/10yr UST Curve and Fed Funds Target
Since January, 2000

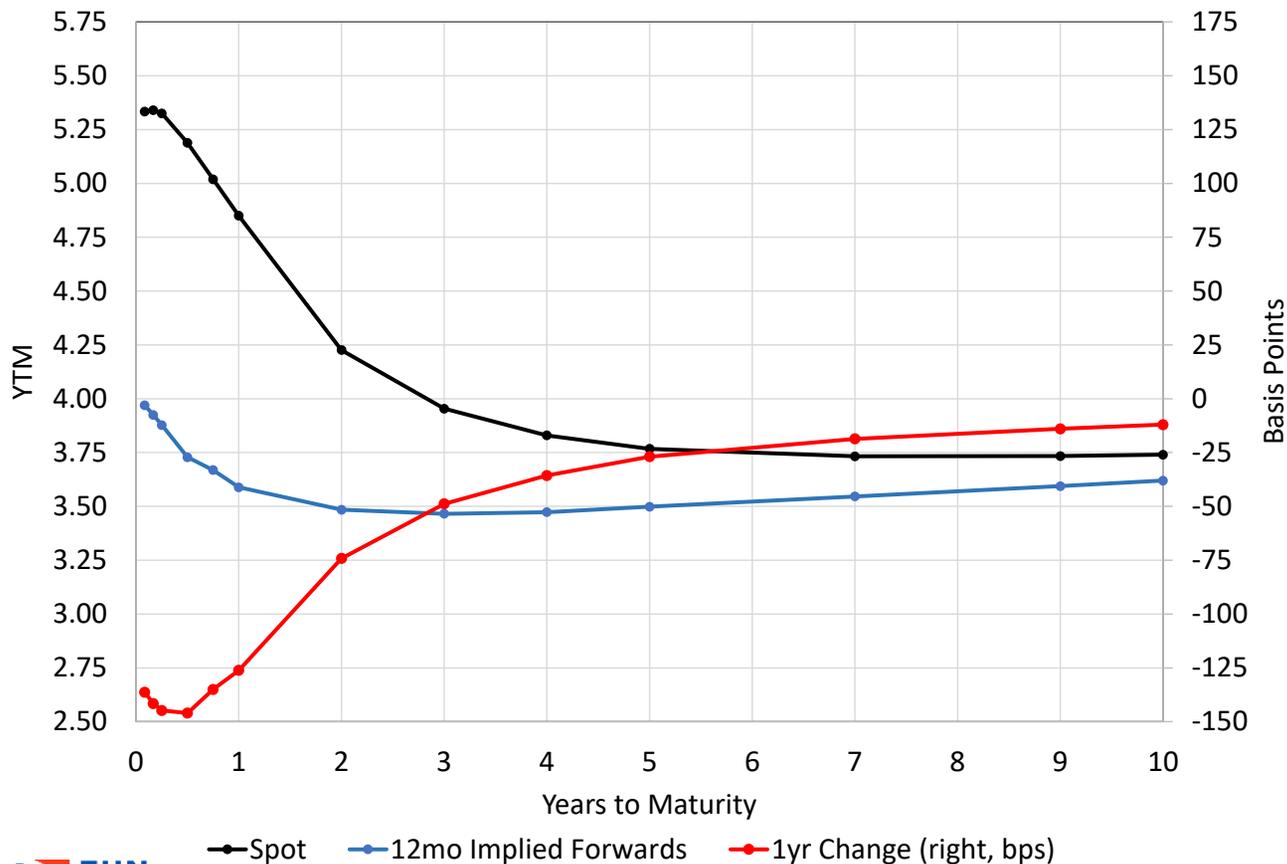


■ 3mo/10yr UST Curve (Left) ■ FDTR (right)

- Fed Funds target rate highest since late 2000.
- Quick FOMC policy response to inflation caused inverted Yield Curve.
- Curve shape going forward is an indicator of the market's expectation for Fed rate policy.

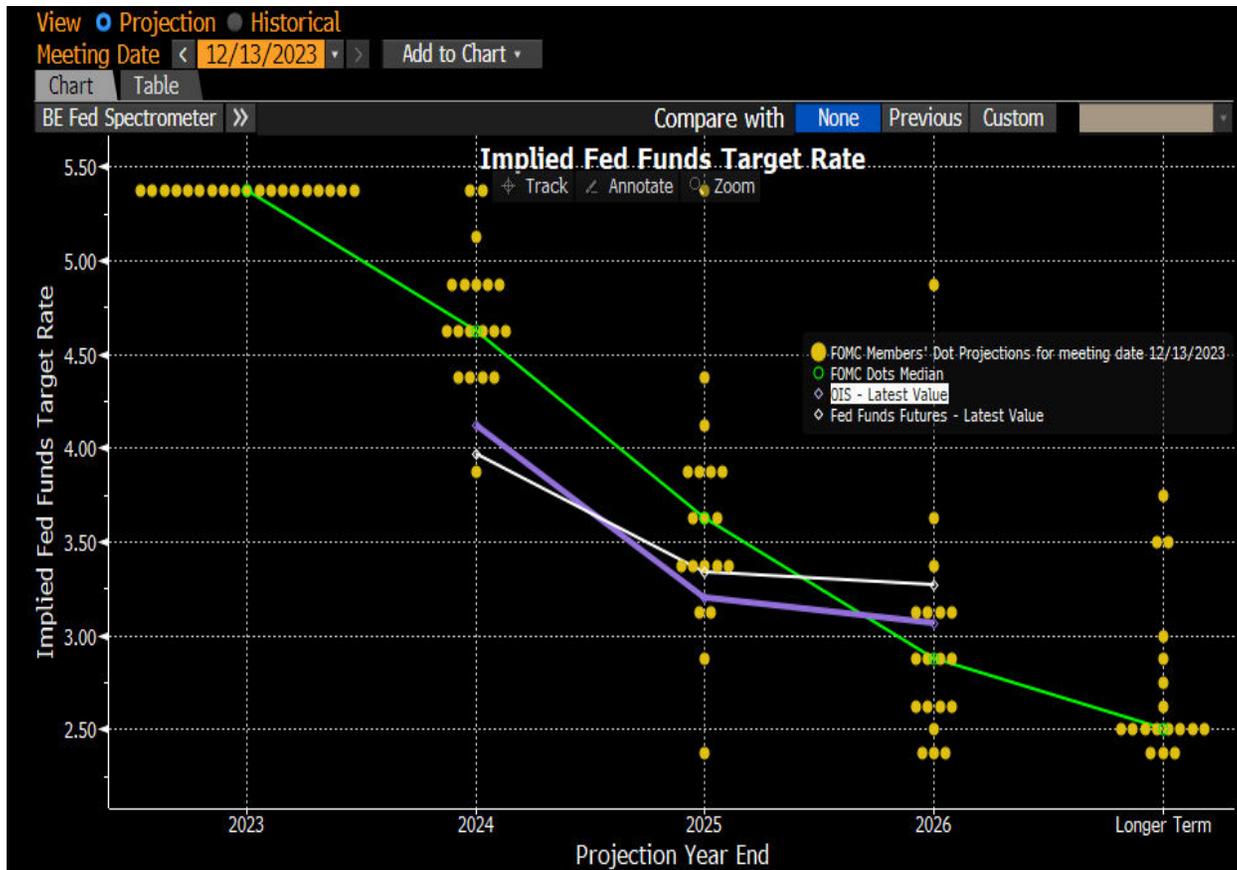
Forward Curve is a Bull Steepener

UST Spot and 1yr Forward Yield Curves



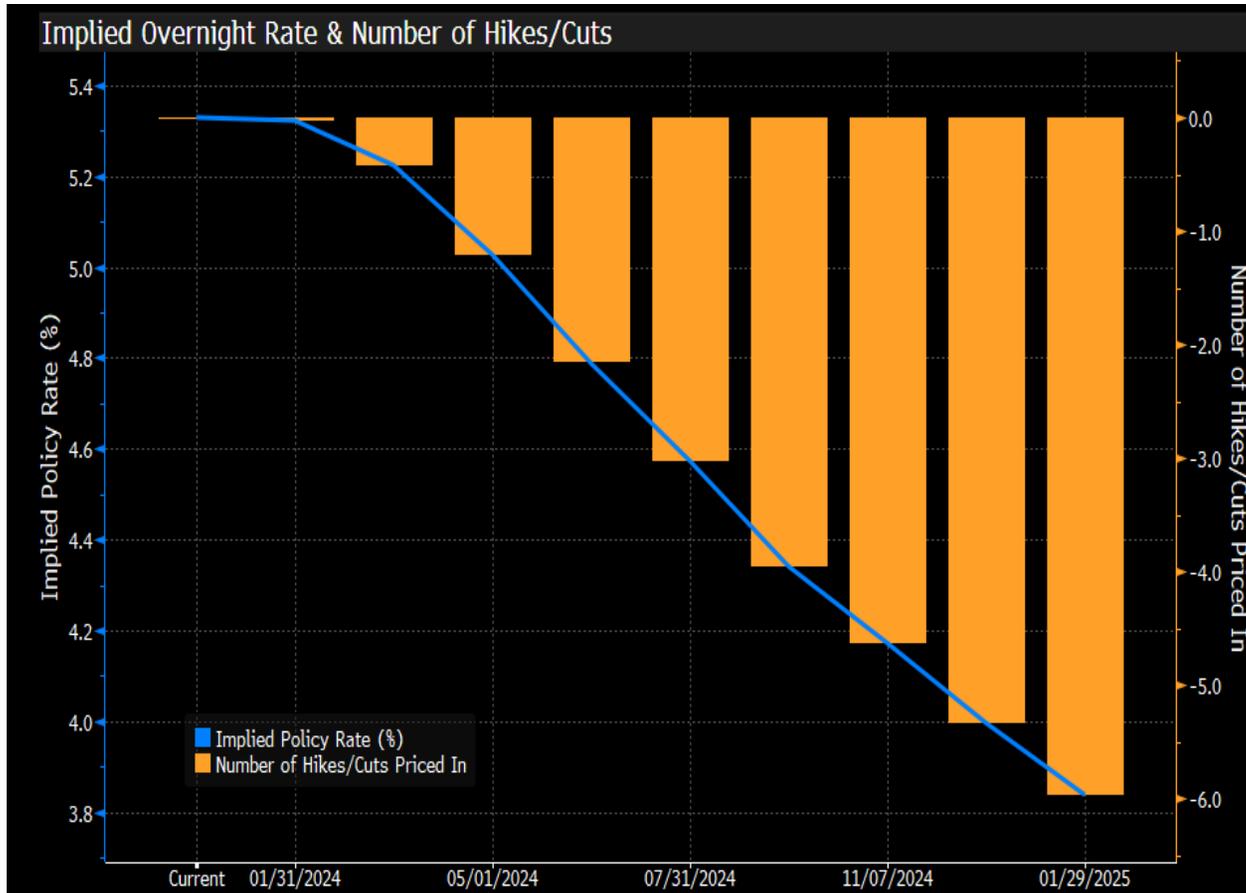
- Forward Curve is an *arbitrage-free* math formula.
- It is *neither* a fundamental economic projection *nor* a technical market analysis.
- Inverted yield curves *always* produce bull steepener forward curves.

Current DOT Plots Are VERY Wide, Esp for 2025



- Market and FOMC *not* in sync for 2024.
- FOMC is all over the place in 2025 and beyond: 300 bps span in 2025.
- Median dots predicting a modest rally to 4.60% on Fed Funds from here.

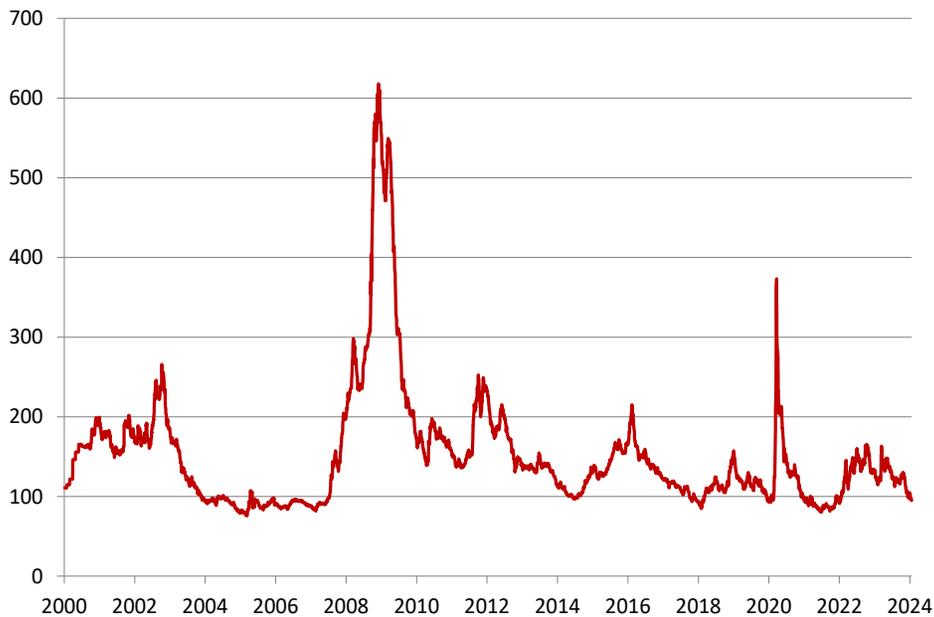
Fed Funds Futures at 4.00% at Yearend



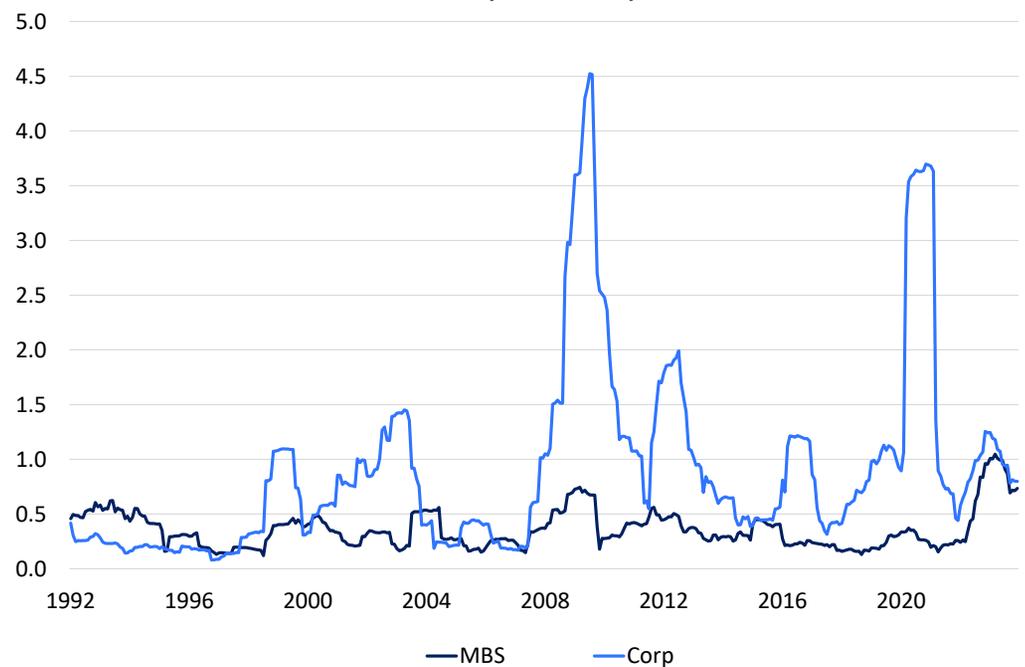
- Fed Funds Futures market much more aggressive with Funds rate at 4.00% by yearend.
- The 4.00% rate in December implies between five and six ¼ point cuts in 2024.
- Implies first cut by May meeting at the latest.

Corporate Market OAS Not Especially Attractive; Corporate Spreads/Returns Much More Volatile

Corporate Index OAS

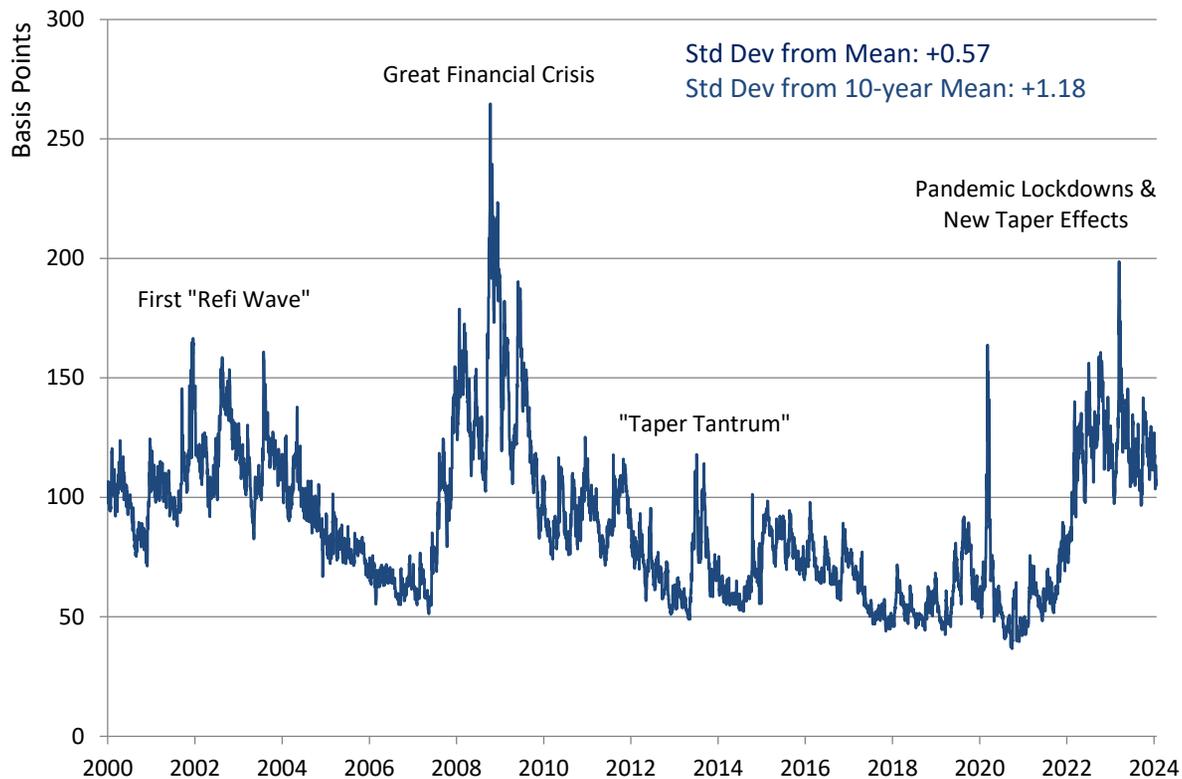


12-Month Standard Deviation of Excess Returns
30+ Year History from January, 1990



Implied Volatility Has Settled from Recent Peak, Still Somewhat Elevated

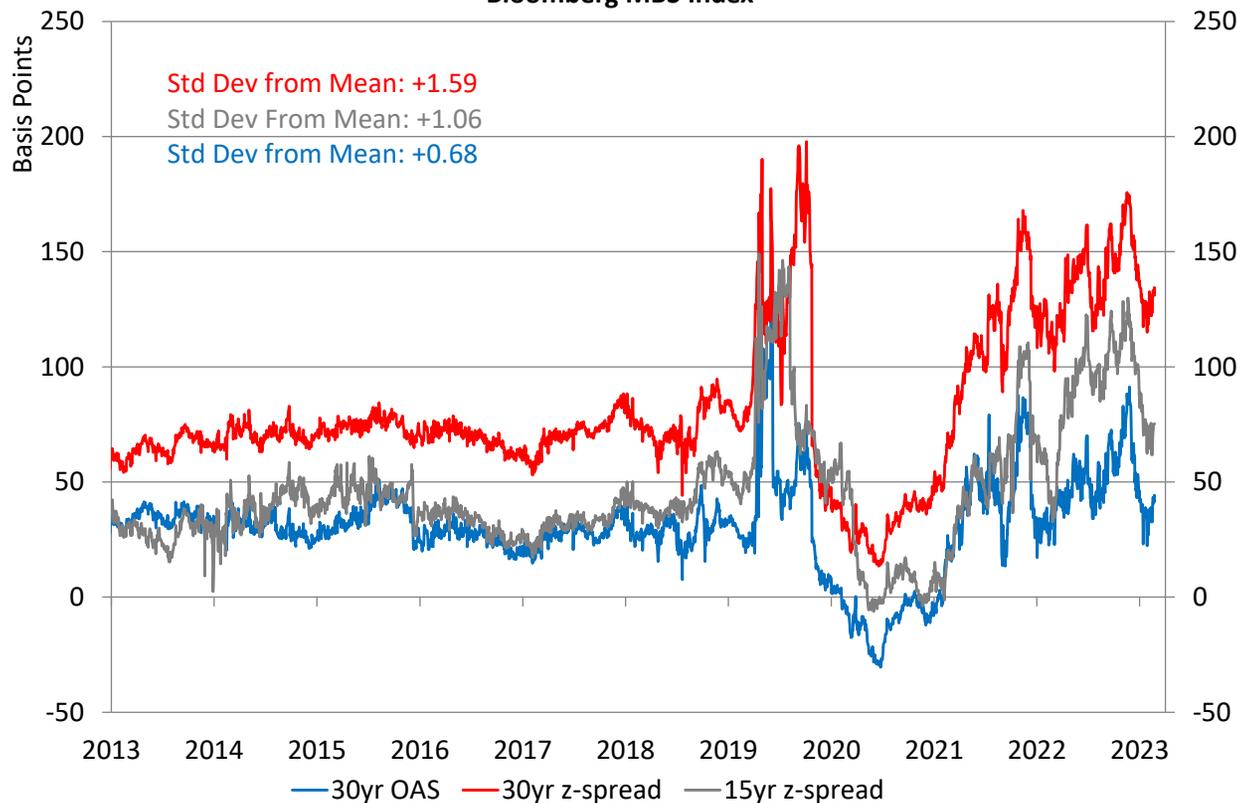
Implied Volatility - MOVE Index



- Main driver of MBS spreads is *implied volatility*.
- MBS is *long* a FN/FH bullet, and *short* options to the mortgage borrower.
- *Implied volatility* drives the price of those options.
- Better to be a *seller of options* when implied volatility is high.

MBS Static and Option-Adjusted Spreads Still Wide Based on a 10-Year History

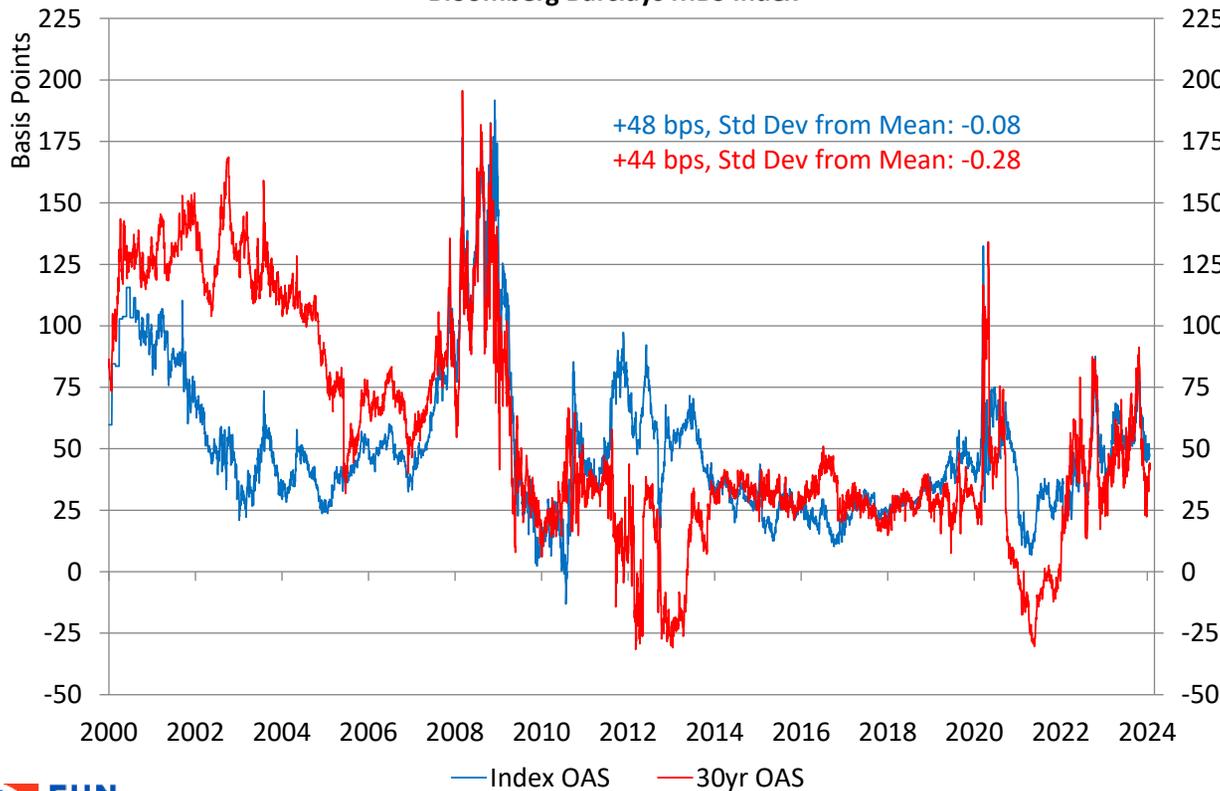
Current Coupon OAS and z-spread
Bloomberg MBS Index



- Current spreads still wide based on 10yr lookback.
- Both 30yr and 15yr cc spreads wide.
- OAS also wide, but higher implied volatility reduces OAS effect somewhat.

Index and 30yr CC OAS Look Fair Based on Longer 25-year History

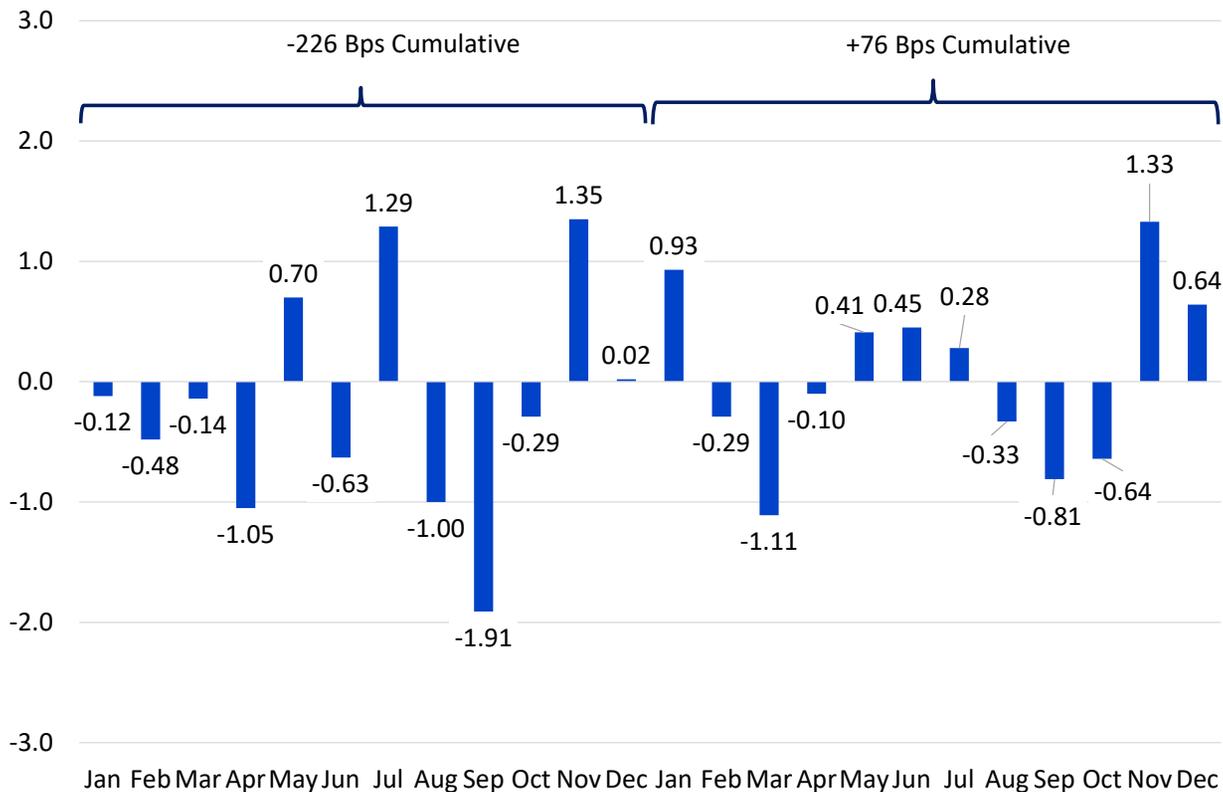
30yr Current Coupon and MBS Index OAS
Bloomberg Barclays MBS Index



- Longer history includes massive 2003 refi wave and 2008/2009 GFC.
- Pandemic lockdowns almost as disruptive as GFC.
- Spreads wider now vs. run-rate throughout 2010's.

It Has Been a Volatile Two Years for the Basis

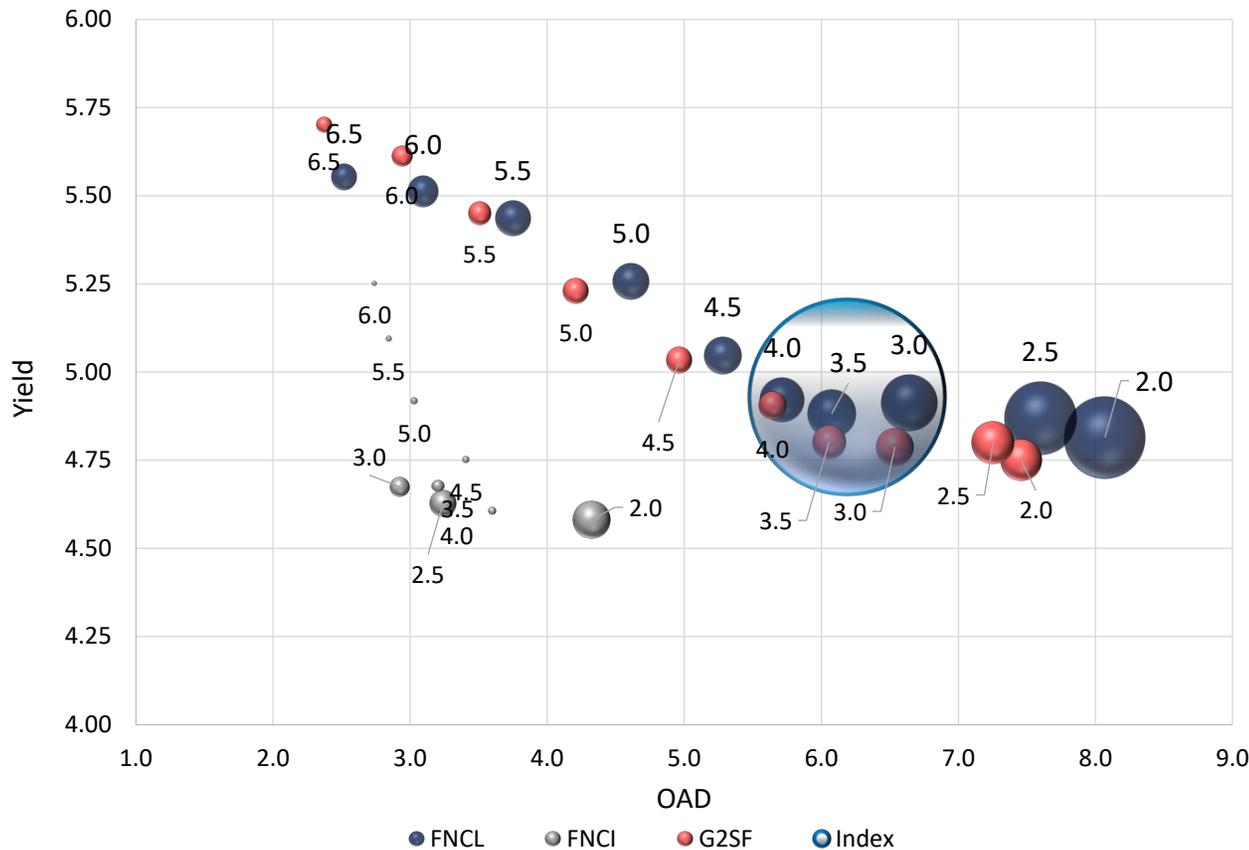
**MBS Index Monthly Excess Returns
Past 24 Months**



- 2023 turned positive only during the last two months of the year.
- December, 2023 outperformed previous December.
- Fed will have great deal of control over 2024 spread performance.

Very Dissimilar Yield Value Across Coupon Stack

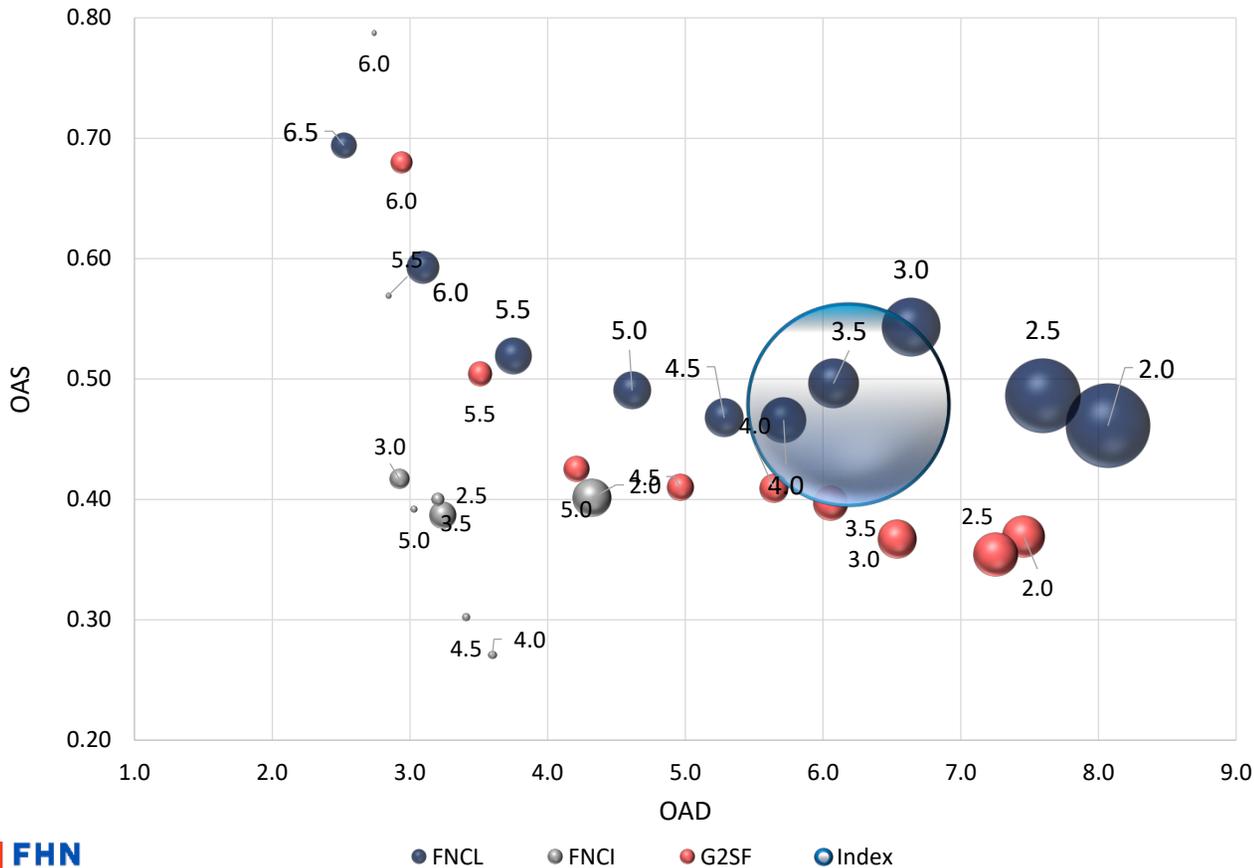
Index Yield vs. OAD for Coupon Stack



- Carry value remains in the highest coupons, 15yrs lag significantly.
- Overall index similar to 30yr 3.5 if one wants to replicate with few line items.
- Index still dominated by lowest coupons, but higher coupons in 30yr markets are steadily growing.

OAS RV Picture Much More Nuanced

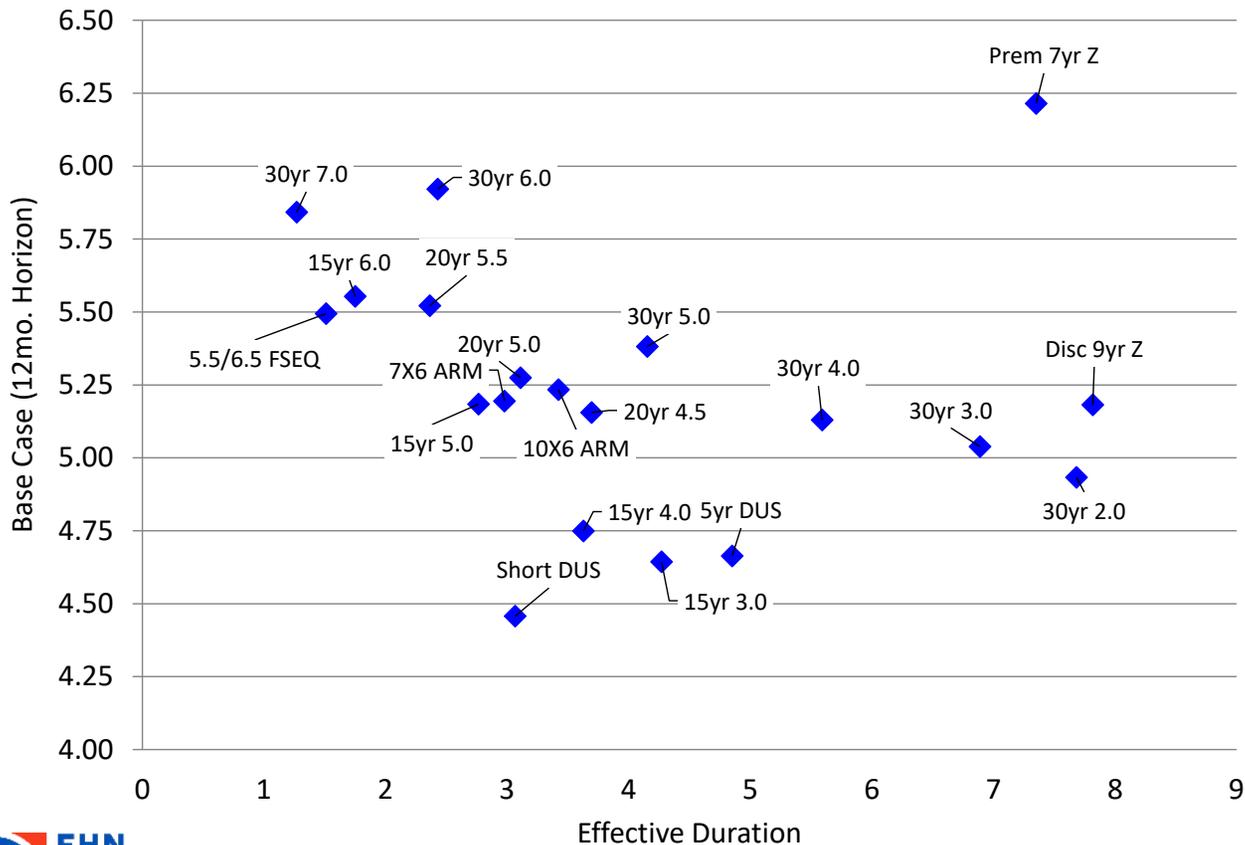
Index OAS vs. OAD for Coupon Stack



- Conventional 30yr 3.0s have high OAS value for a low coupon.
- The 3.0/6.5 barbell has value, but it is NOT duration-neutral vs. index.
- Conventional generally cheap vs. Ginnie.
- 15yr 6.0 very cheap, but pricing is sloppy.

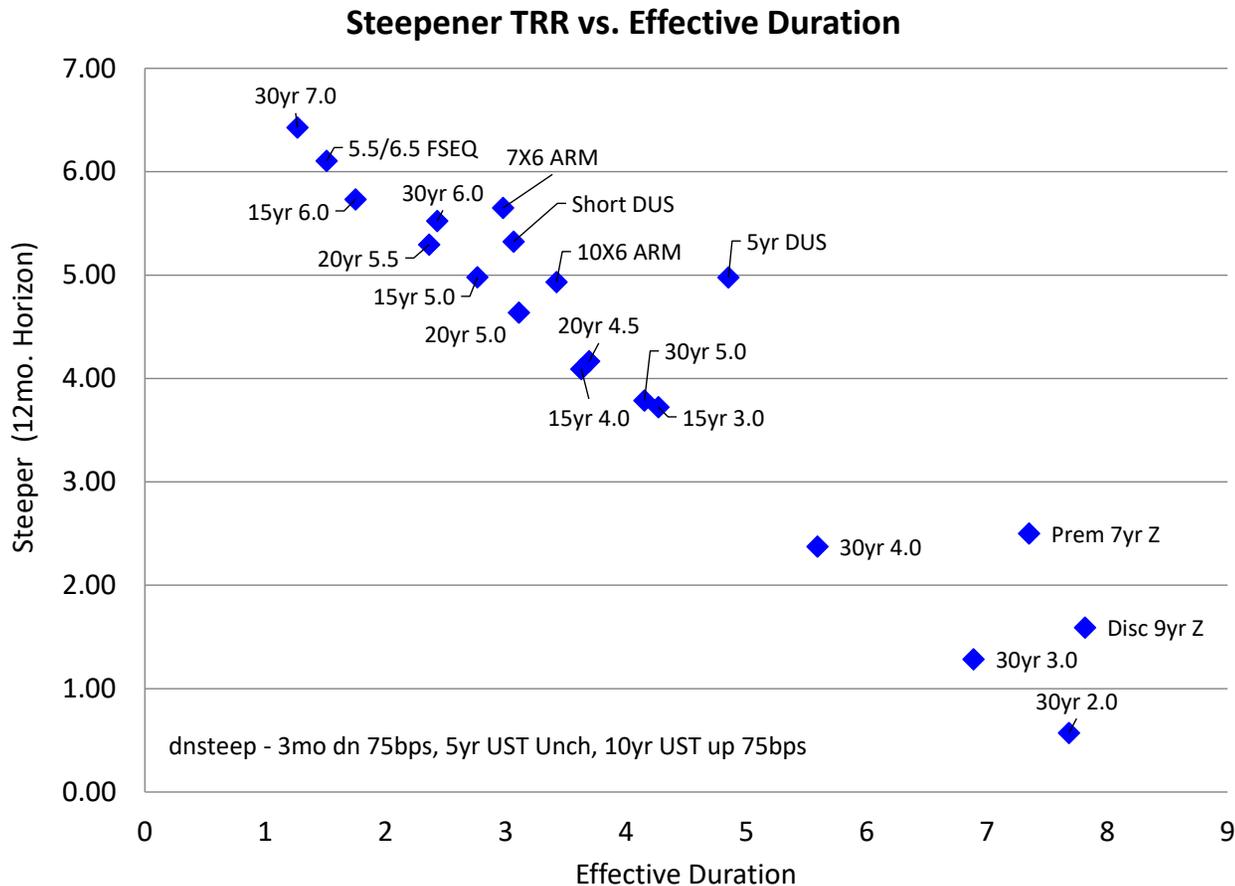
Base Case TRR Favors Max "Carry" Plays

Base Case TRR vs. Effective Duration



- Base case TRR almost exclusively a function of coupon across curve and structures.
- Base TRR/OAD function generally downward sloping based on inverted YC.
- A lot of carry in longer, negatively convex structure.

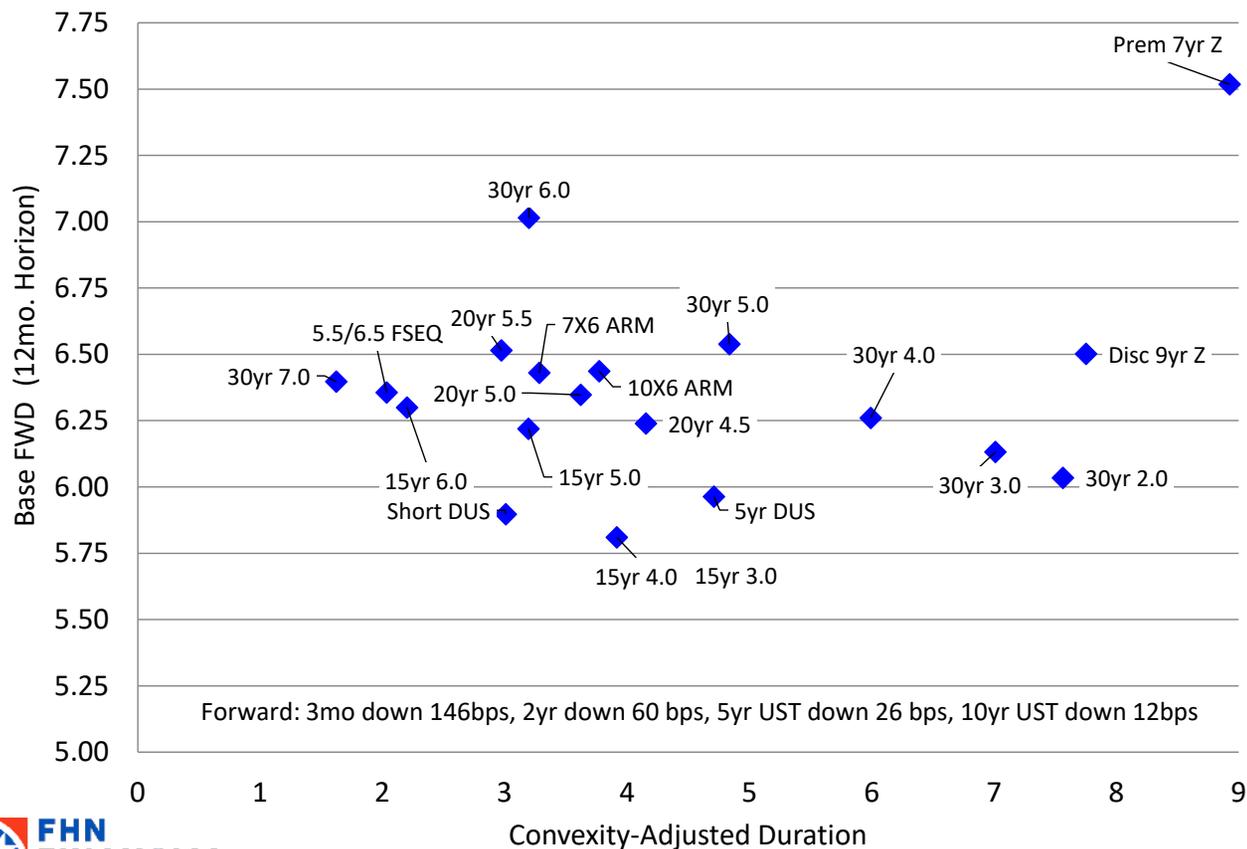
Pure Steepener TRRs Favor Tighter Windows



- TRR in pure steepener mostly a function of structure (i.e. DUS, ARMs, CMO lockout vs. collateral).
- Coupon is marginally helpful for pure steepener.

Forward Curve/Bull Steepener Combines Both

Forward TRR vs. Convexity-Adjusted Duration



- Combination of tight windows and higher coupons for the *bull steepener*.
- Hybrid ARMs a good play vs. 15yrs across the board.
- *Structure vs. deep discount 30yrs looks cheap across the board.*

I MBS Market Has Performed, Spreads Still Attractive

- **CURRENT COUPON MBS spreads have performed, but still room to tighten:** Spreads are fair to one standard deviation wide, depending on lookback.
- **This is now a “turnover market” in terms of prepays:** Alpha can be derived from superior turnover in a discount environment.
- **Relative Value has changed:** Front Sequentials, UIC on 20yr and 30yr stacks and Hybrid ARM's for the STEEPENER. Long DUS, CMOs and discount secondary callables vs. 30yr 2.0s and 2.5s, which are too tight.
- **Diversification (i.e. barbell trade) and Dollar-Cost Averaging.**



800.456.5460 | www.fhnfinancial.com | my.fhnfinancial.com

This material was produced by an FHN Financial Strategist and is not considered research and is not a product of any research department. Strategists may provide information to investors as well as to FHN Financial's trading desk. The trading desk may trade as principal in the products discussed in this material. Strategists may have consulted with the trading desk while preparing this material, and the trading desk may have accumulated positions in the securities or related derivatives products that are the subject of this material. Strategists receive compensation which may be based in part on the quality of their analysis, FHN Financial revenues, trading revenues, and competitive factors.

Some data in this report may be derived from information provided by CPR & CDR Technologies, Inc. Neither CPR & CDR Technologies, Inc. nor any of its directors, employees, or agents accept any liability for any loss or damage arising out of the use of all or any part of this report.

Although this information has been obtained from sources which we believe to be reliable, we do not guarantee its accuracy, and it may be incomplete or condensed. This is for informational purposes only and is not intended as an offer or solicitation with respect to the purchase or sale of any security. All herein listed securities are subject to availability and change in price. Past performance is not indicative of future results, and changes in any assumptions may have a material effect on projected results. Ratings on all securities are subject to change.

FHN Financial Capital Markets, FHN Financial Portfolio Advisors, and FHN Financial Municipal Advisors are divisions of First Horizon Bank. FHN Financial Securities Corp. and FHN Financial Capital Assets Corp. are wholly owned subsidiaries of First Horizon Bank. FHN Financial Securities Corp. is a member of FINRA and SIPC — <http://www.sipc.org>.

FHN Financial Municipal Advisors is a registered municipal advisor. FHN Financial Portfolio Advisors is a portfolio manager operating under the trust powers of First Horizon Bank. None of the other FHN entities, including FHN Financial Capital Markets, FHN Financial Securities Corp., or FHN Financial Capital Assets Corp. are acting as your advisor, and none owe a fiduciary duty under the securities laws to you, any municipal entity, or any obligated person with respect to, among other things, the information and material contained in this communication. Instead, these FHN entities are acting for their own interests. You should discuss any information or material contained in this communication with any and all internal or external advisors and experts that you deem appropriate before acting on this information or material.

FHN Financial, through First Horizon Bank or its affiliates, offers investment products and services. Investment products are not FDIC insured, have no bank guarantee, and may lose value.