MBS Market: Opportunities and Risks

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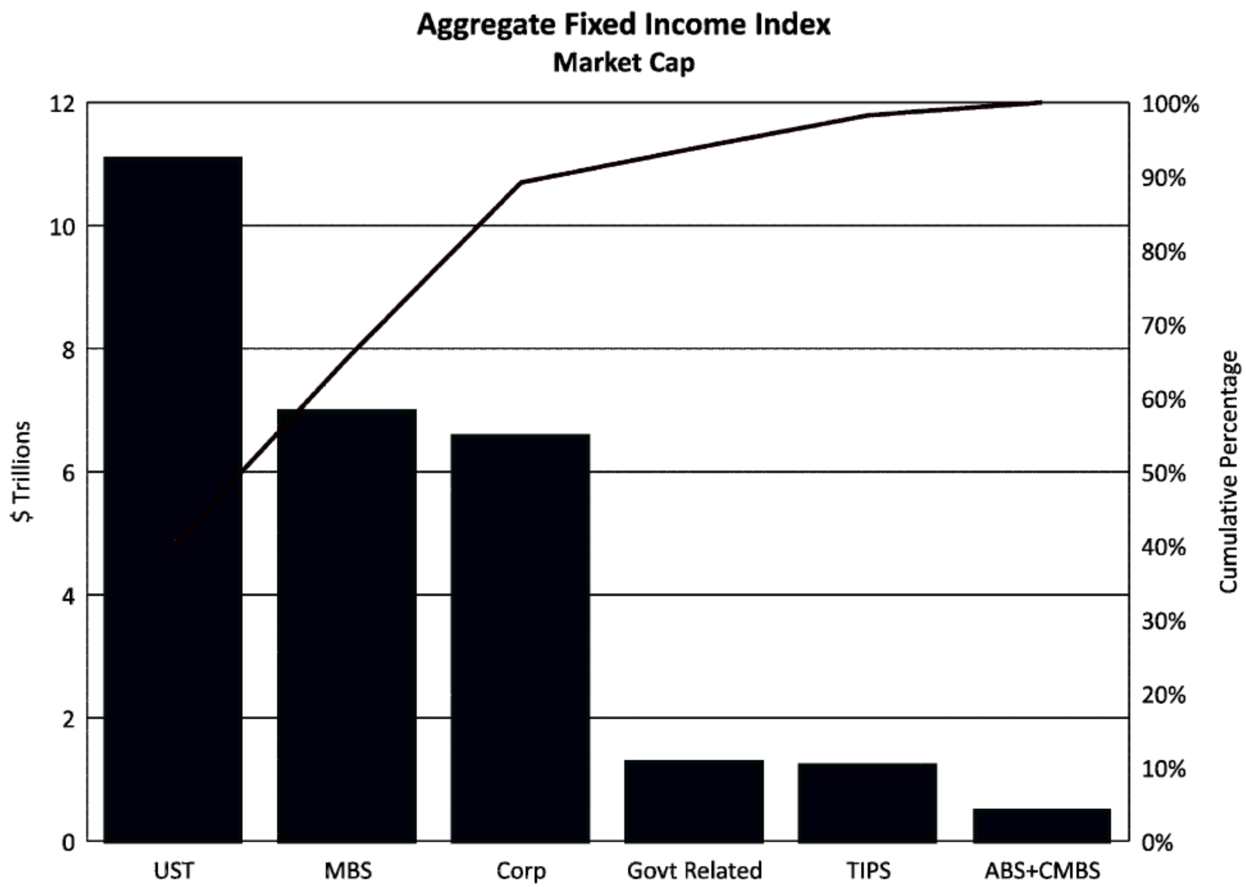
1. **Market Structure**
2. Prepayments
3. Relative Value

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.

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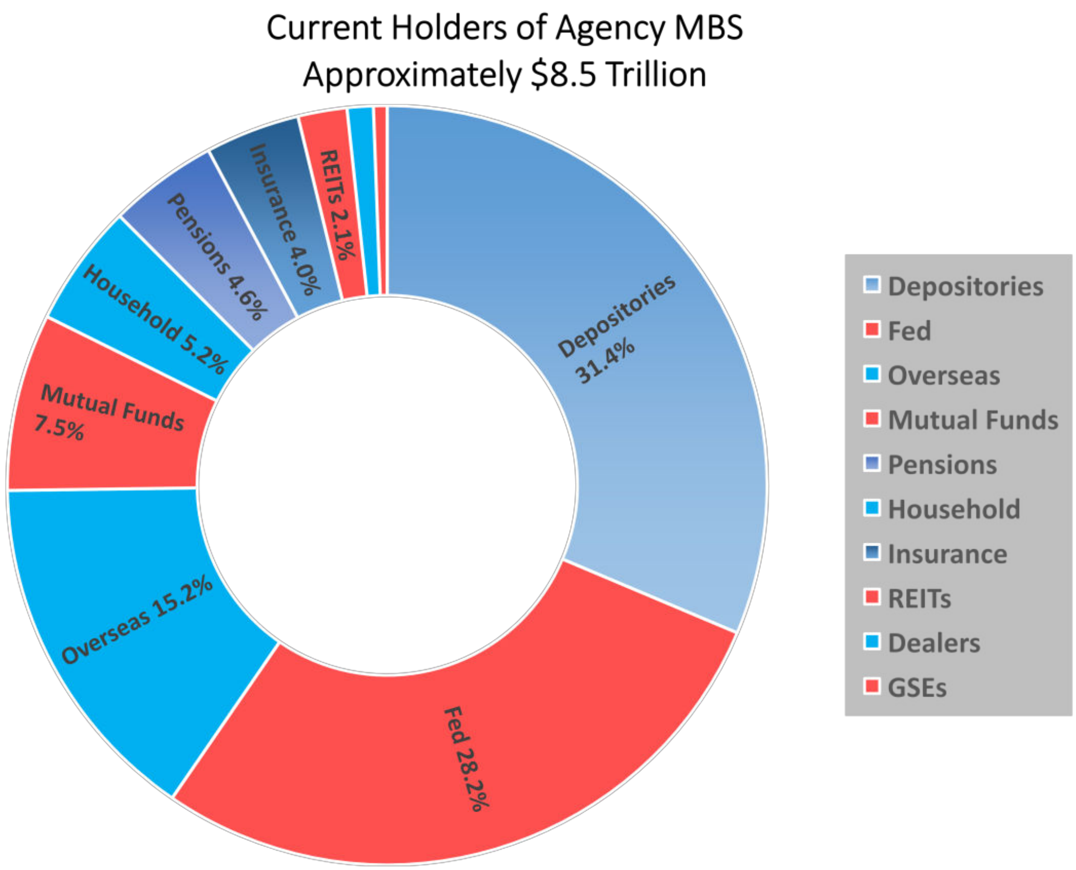
Source: FHN Financial, FRB NY

Current State of Funding for the Agency MBS Market



- 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.

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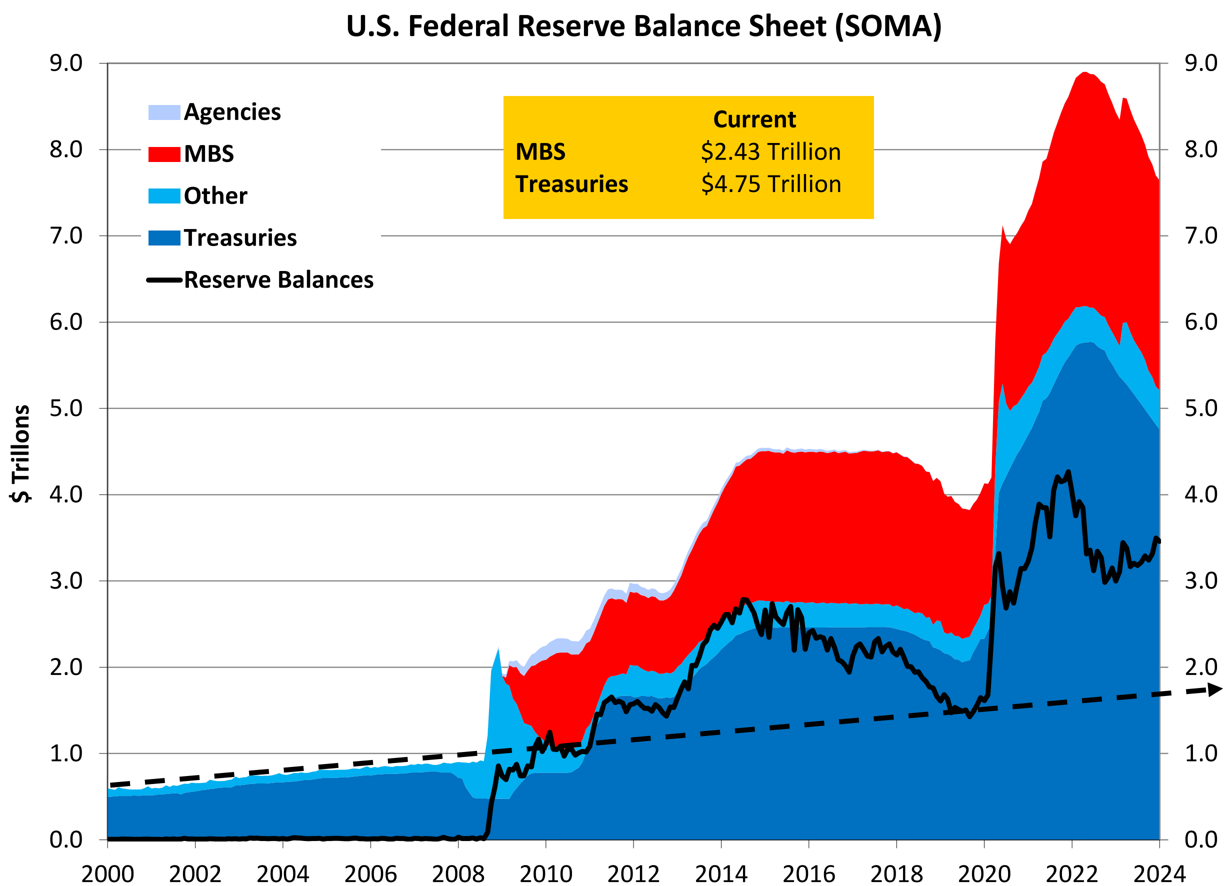
Source: FHN Financial, Federal Reserve, Bloomberg, Various Company Disclosures

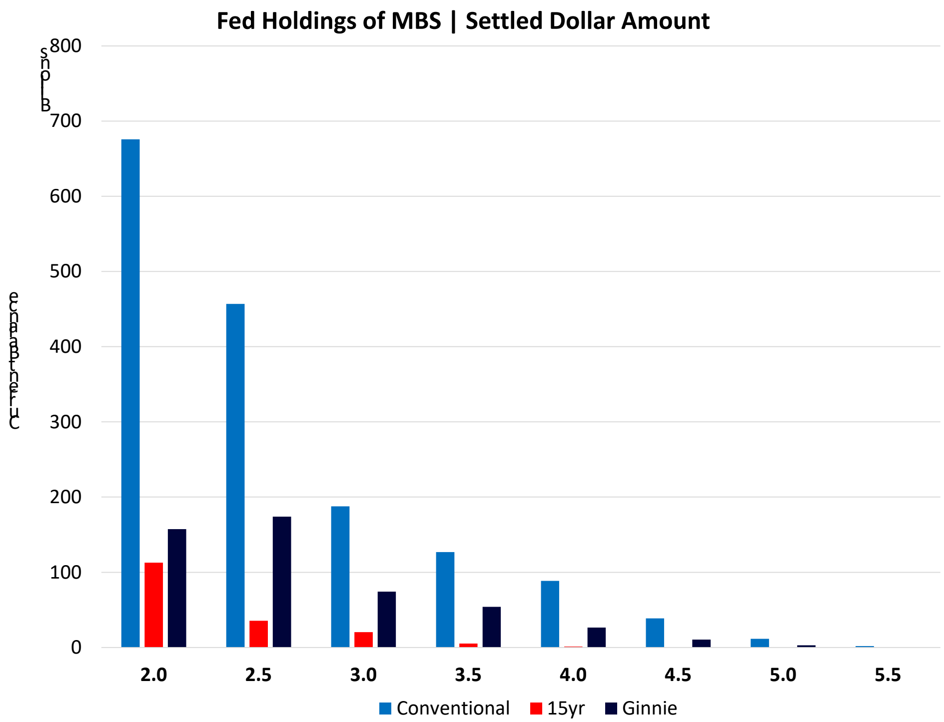
Historically Intrusive QE4 Has Resumed Run-Off Mode



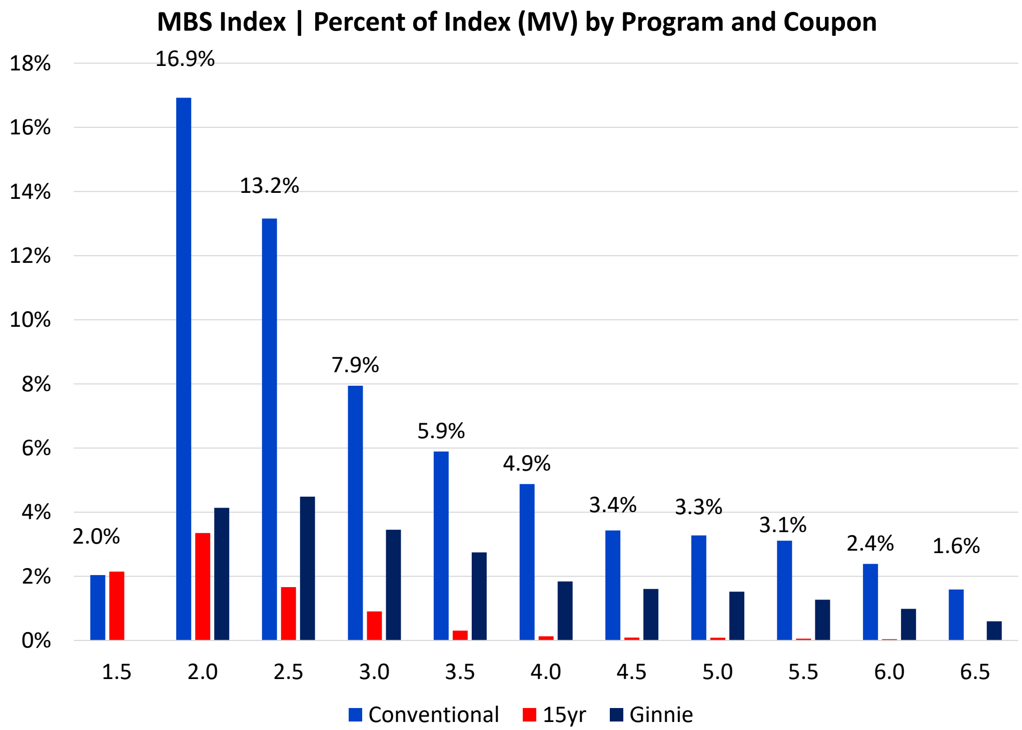
- The era of QE has brought dramatic changes to the Fed's balance sheet.
- The real monetary effect is in reserve balances and how quickly those are leveraged in the economy.
- At pre-QE run-rate, balance sheet should be *only* $2 trillion or less.

Source: FHN Financial, FRB NY

Fed & Market Dominated by Discount Coupons



Source: FHN Financial, NY Fed



Source: FHN Financial, Bloomberg

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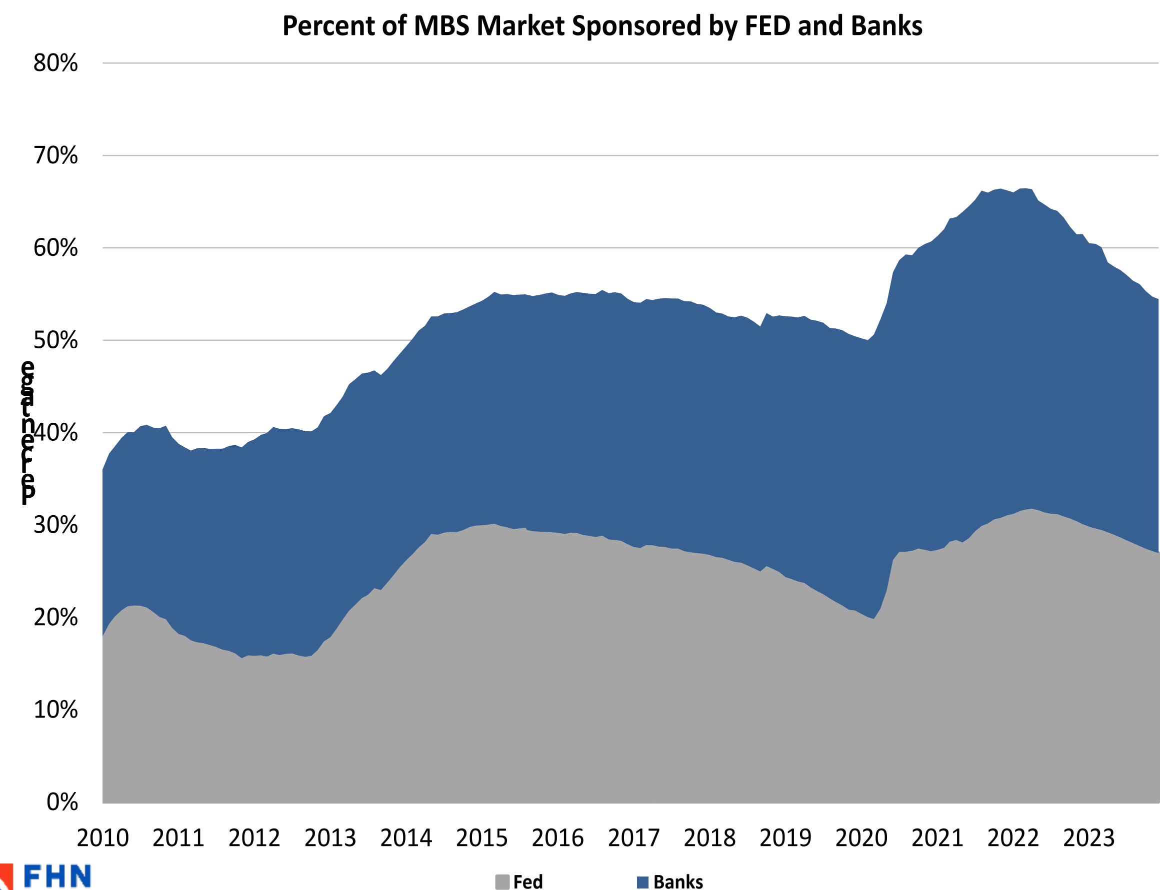
Banks Now Largest Holder of MBS
Run-Off Mode Recently Suspended



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?

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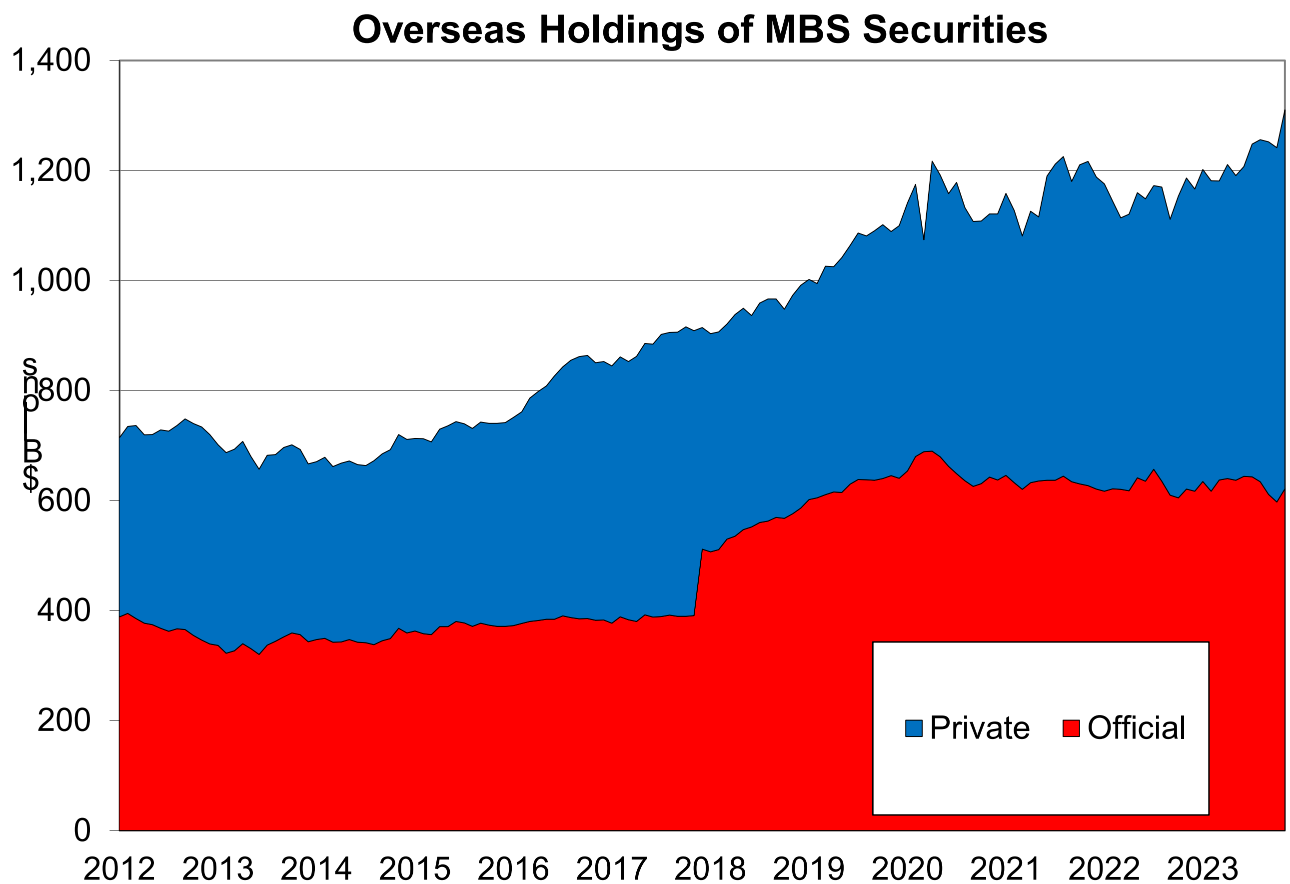
Source: FHN Financial, NYFRB and CPRCDR

Foreign Holdings of MBS Moving Higher Again



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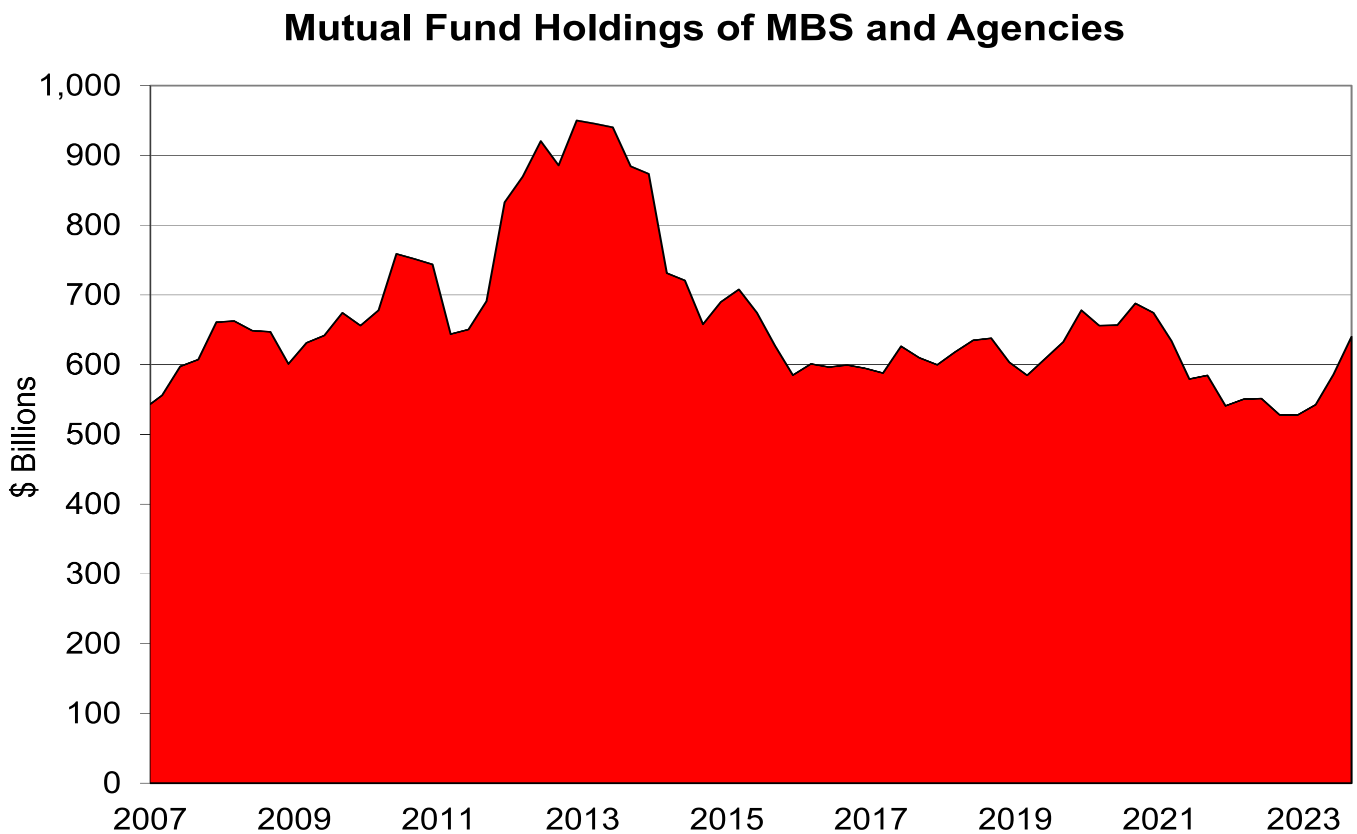
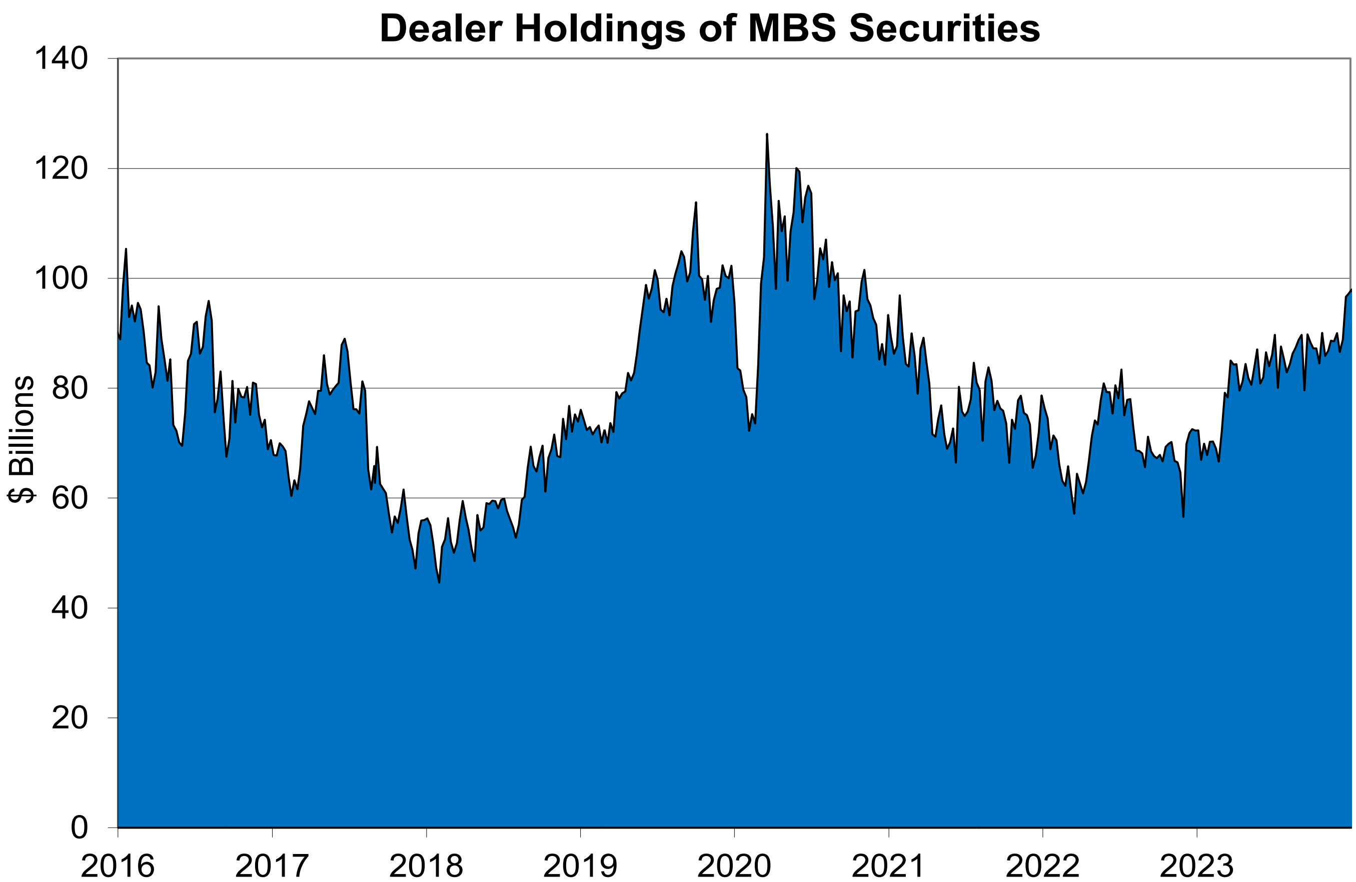
Source: FHN Financial and US Treasury

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



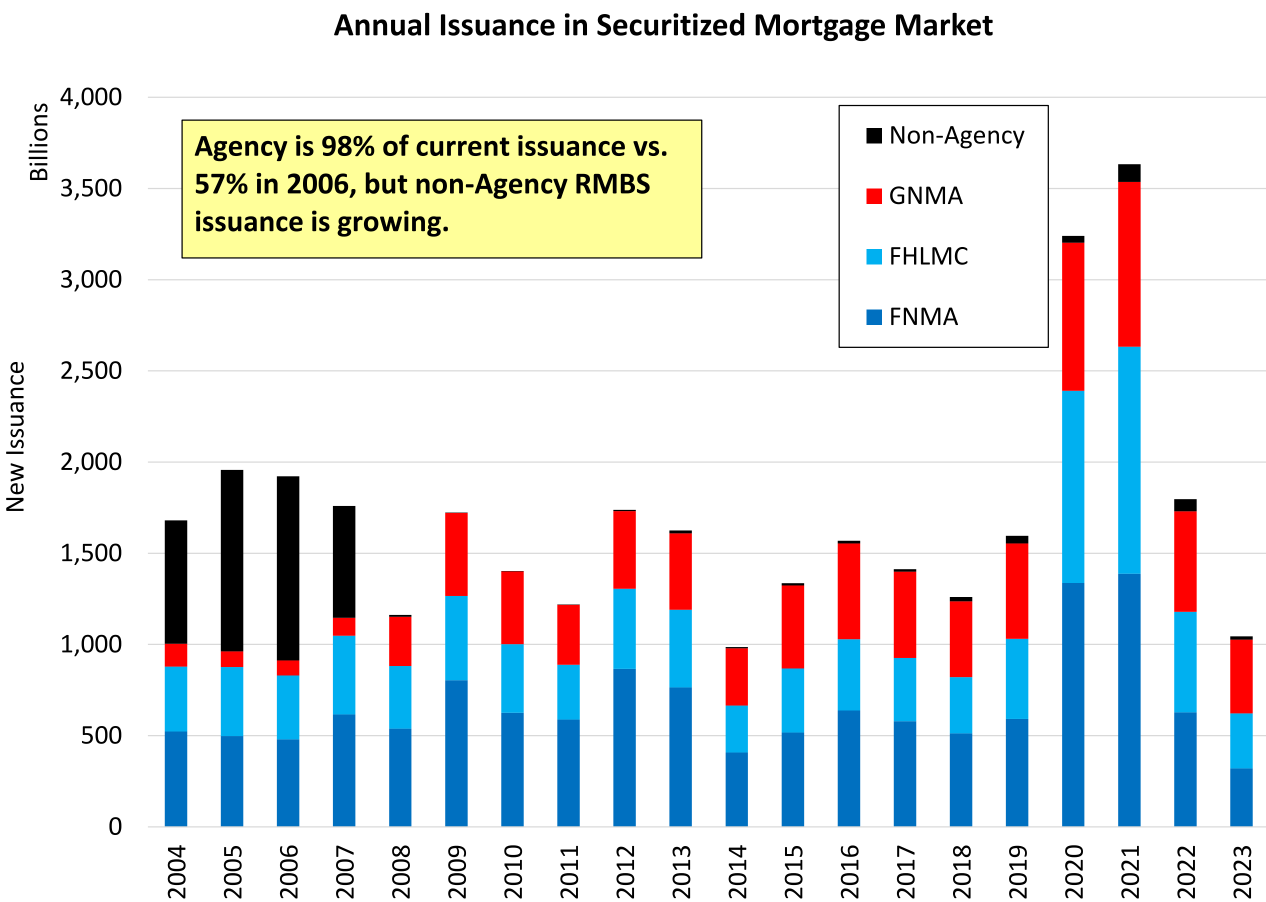
Source: FHN Financial and Federal Reserve

Dealers Have Not Been This Long Since Early 2021



Source: FHN Financial and Federal Reserve

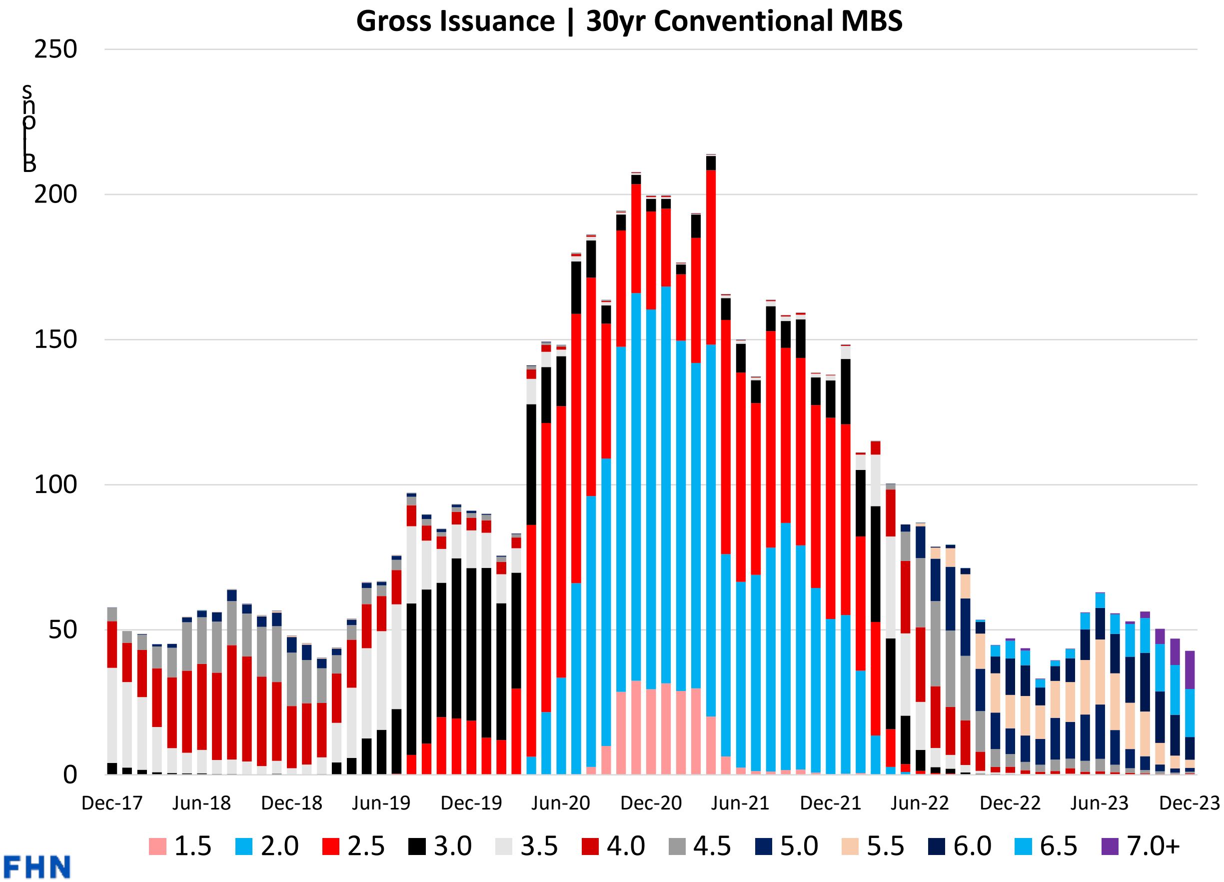
Record Issuance in '20 & '21 Has Been Quickly Reversed



- 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.

Source: FHN Financial, CPRCDR

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.*

Source: FHN Financial, CPRCDR

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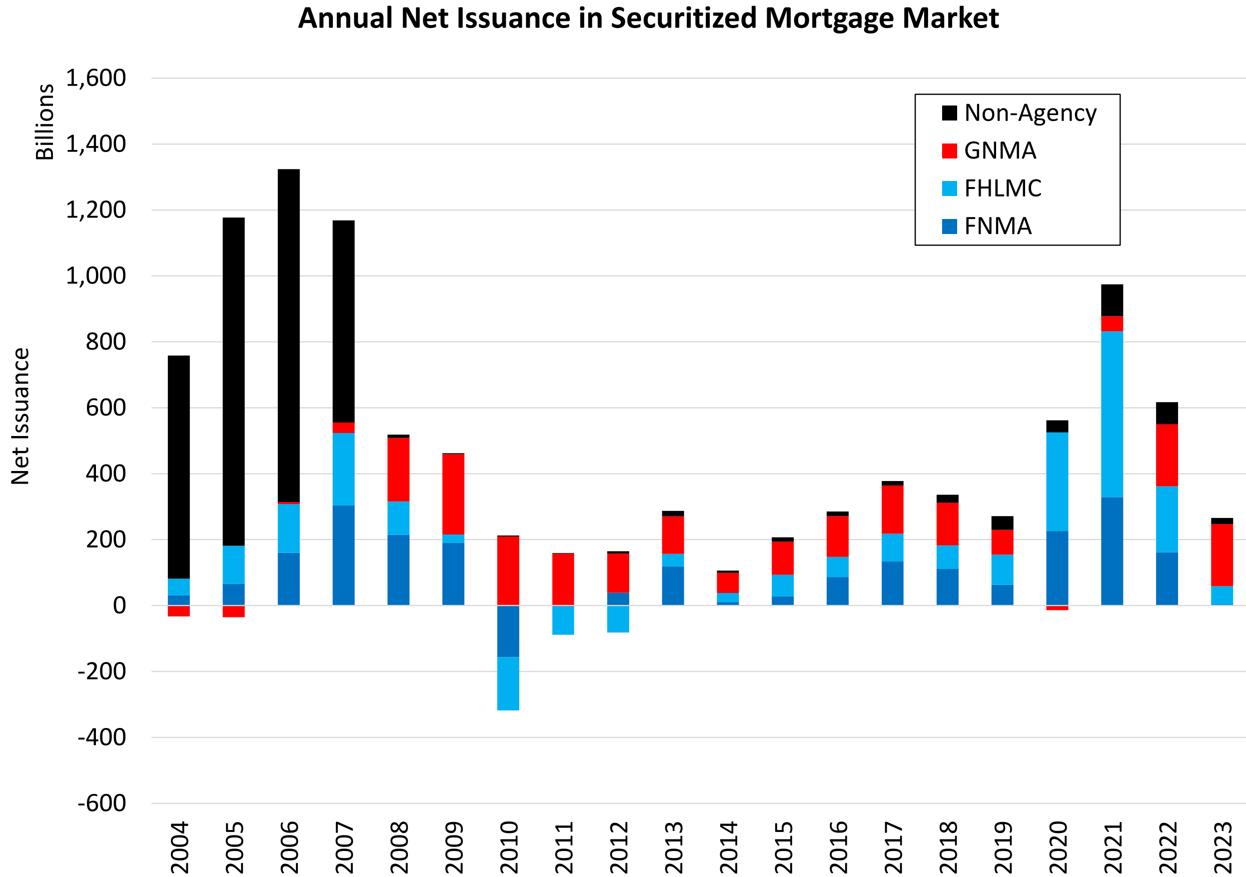
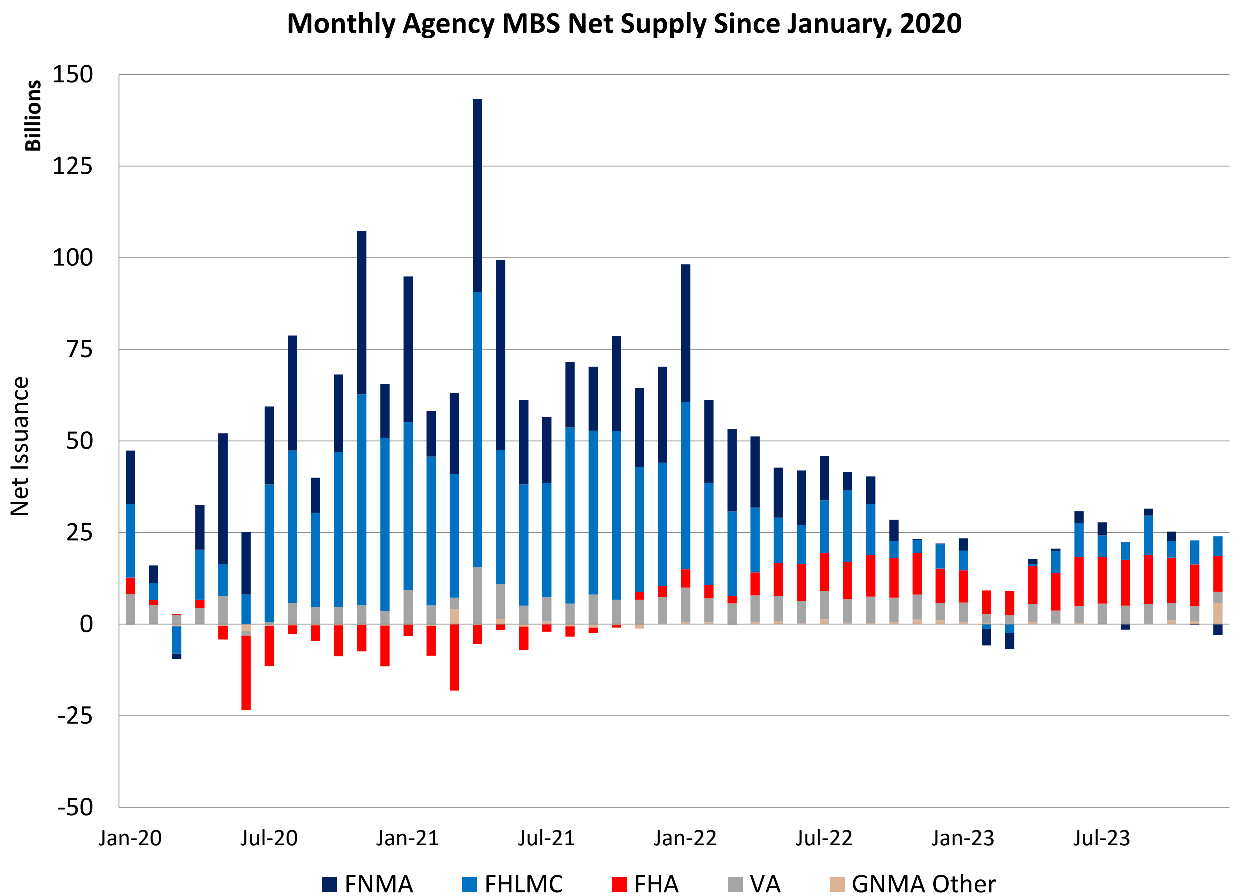
Net Annual Agency MBS Issuance Was Still Above Trend in 2022 – Now Falling



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

Source: FHN Financial, CPRCDR

Detail of Monthly Trend Shows Recent Deceleration



- 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.

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Source: FHN Financial, CPRCDR

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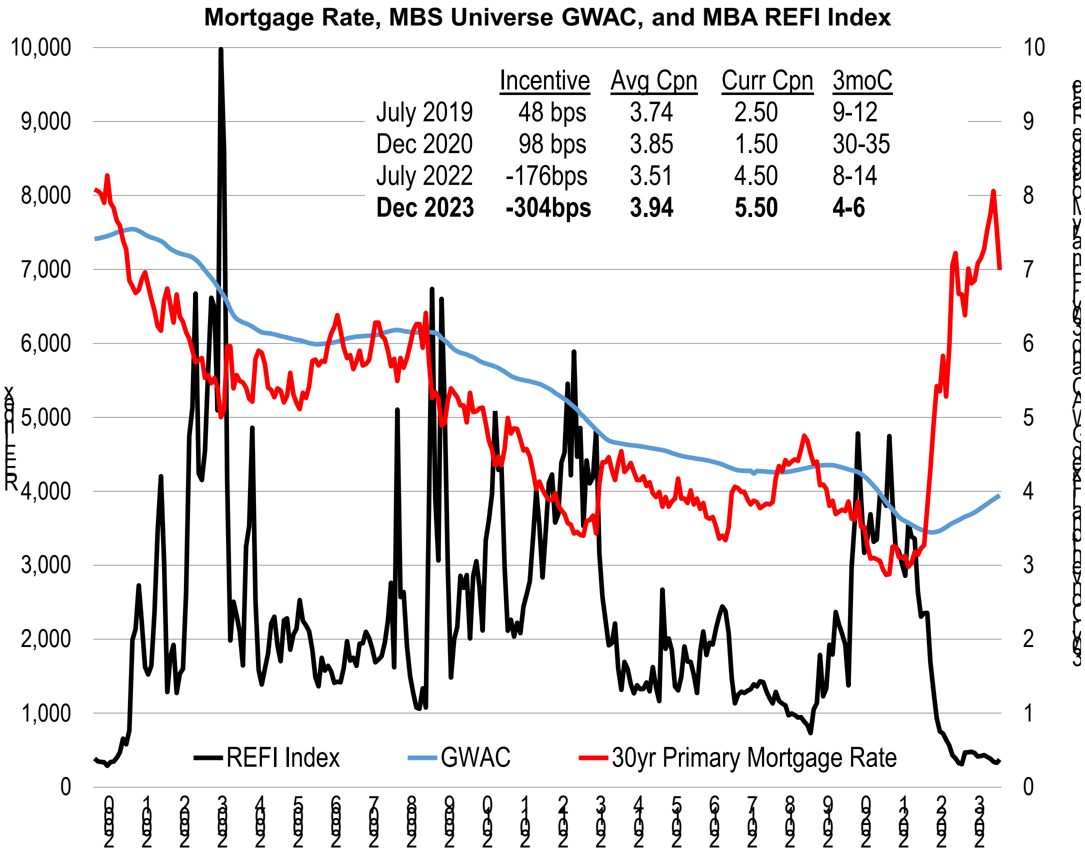
Big Picture: Rates Up, Refi's Down, Incentive VERY Negative



- 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.

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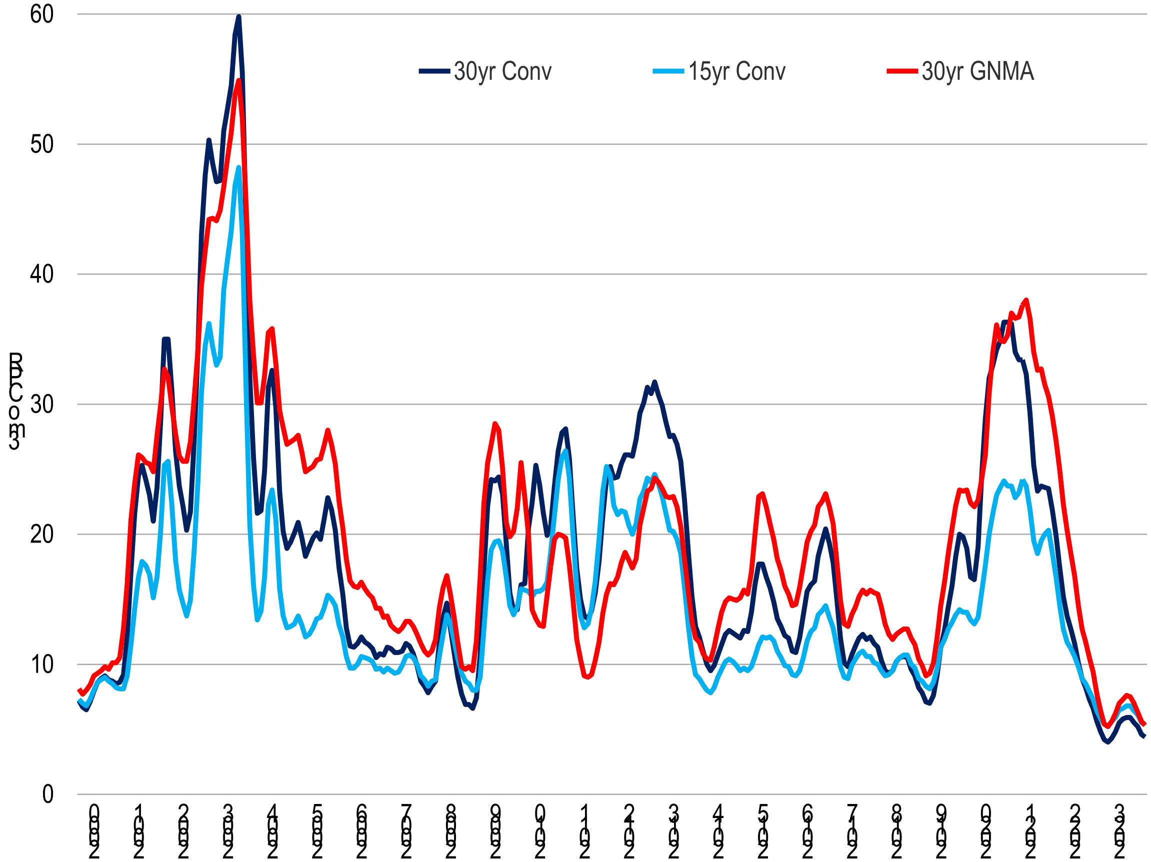
Source: FHN Financial, Bloomberg, and CPRCDR

Aggregate Prepay Speeds Now at “Modern MBS” All-Time Lows

Time Series: 3mo CPR of Main Fixed-Rate Cohorts



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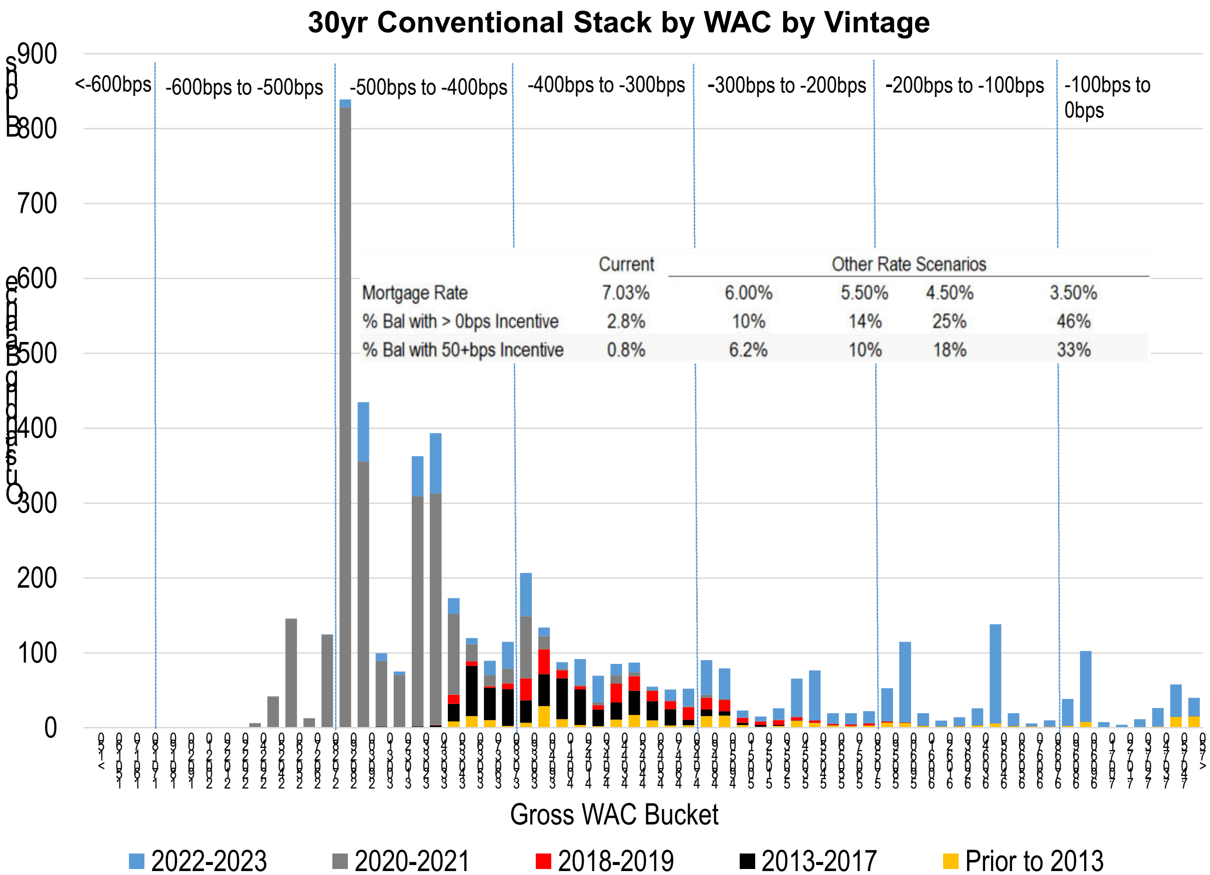
Virtually 0% of the MBS Market In-The-Money



- 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.

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Source: FHN Financial, Bloomberg, and CPRCDR

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

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

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

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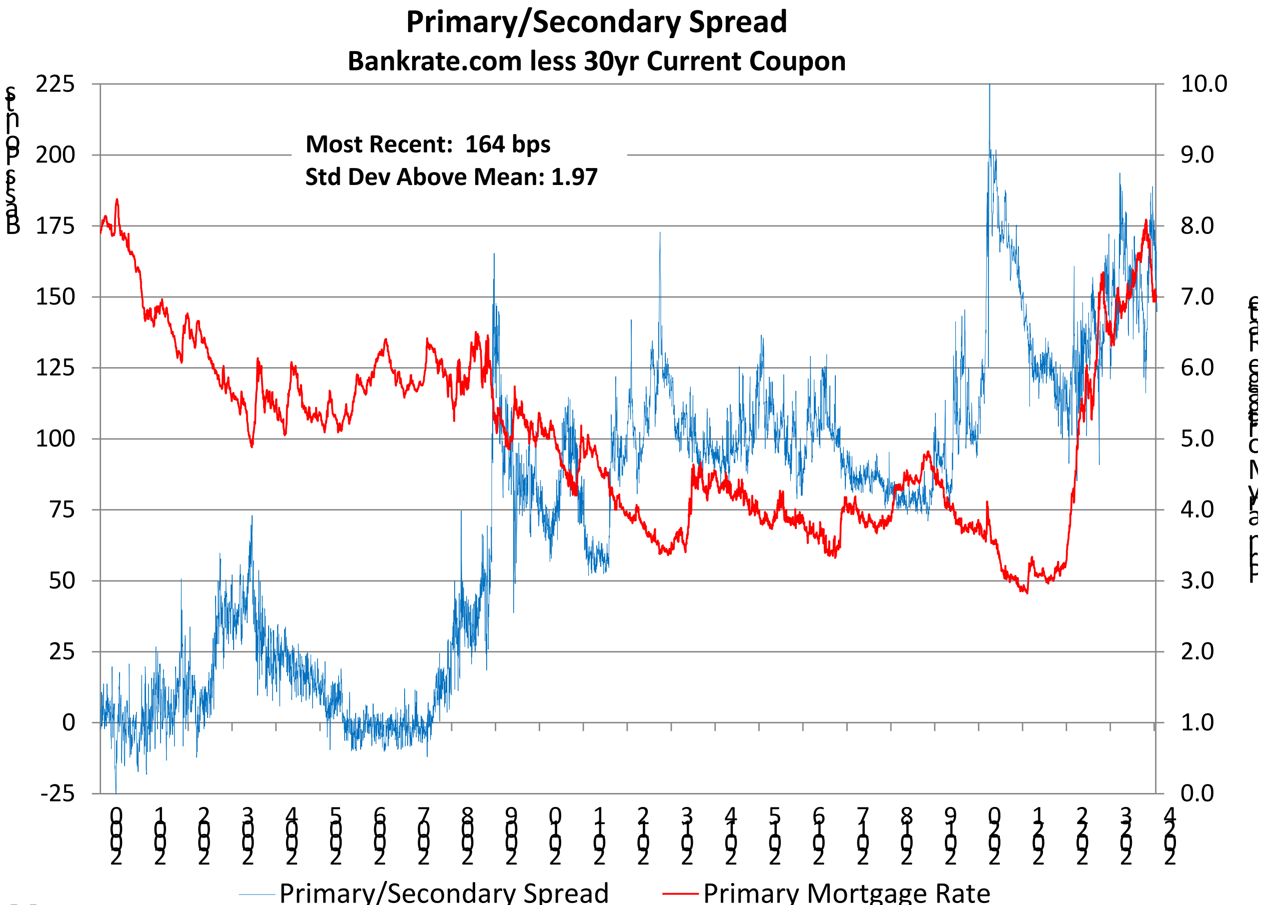
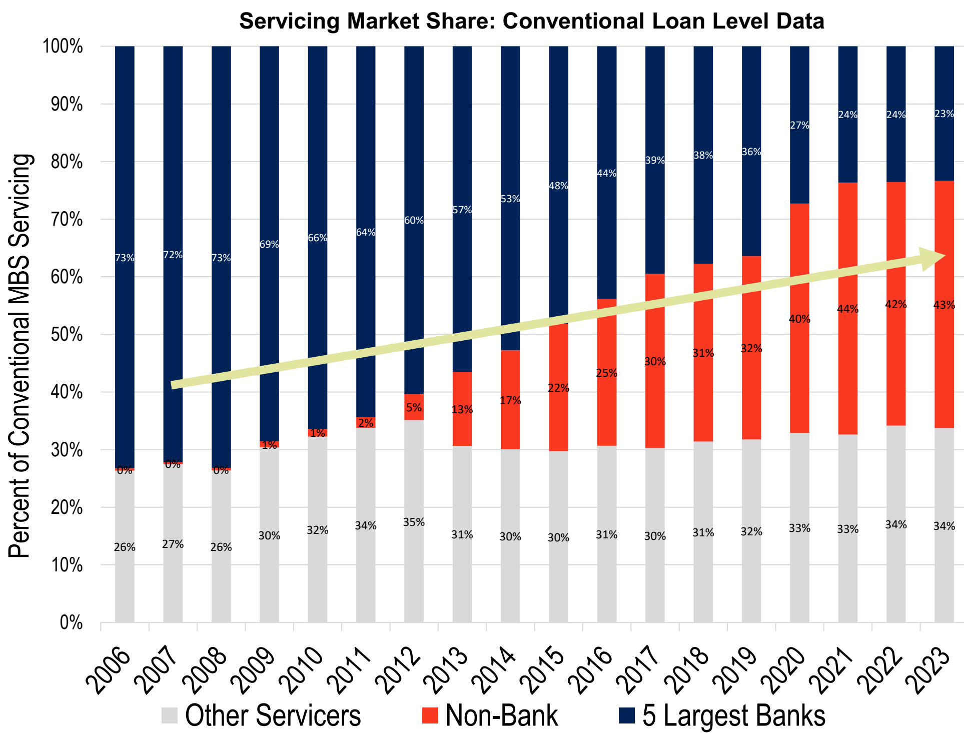
Source: FHN Financial

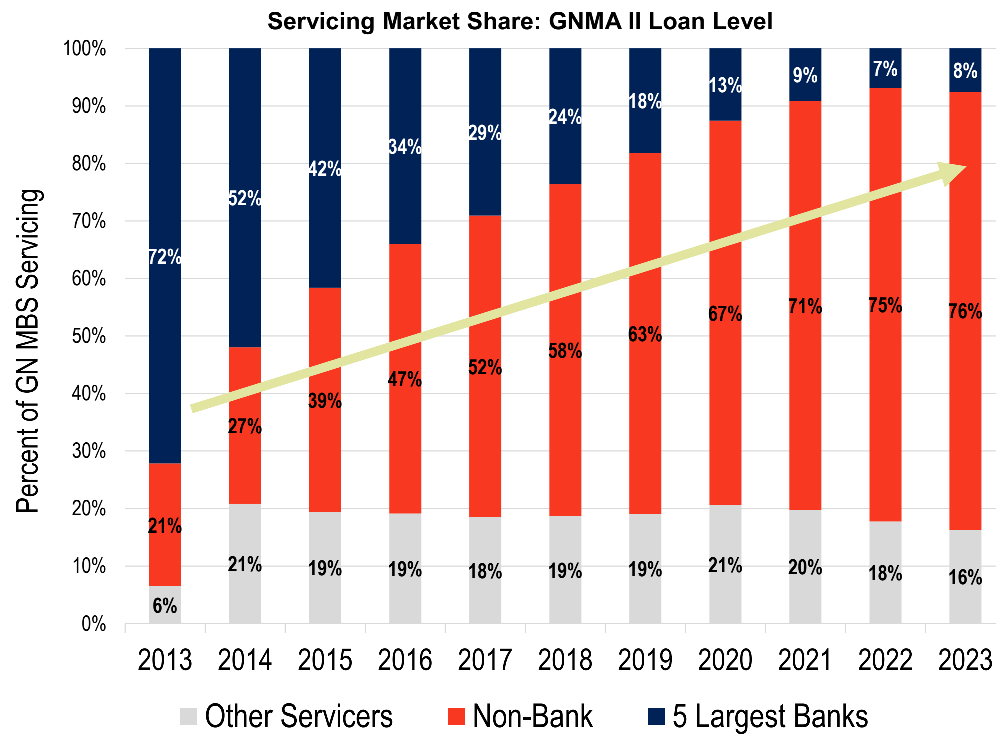
Primary/Secondary Spread Historically Wide as Originators Seek to Maximize Each Transaction



Source: FHN Financial and CPRCDR

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.

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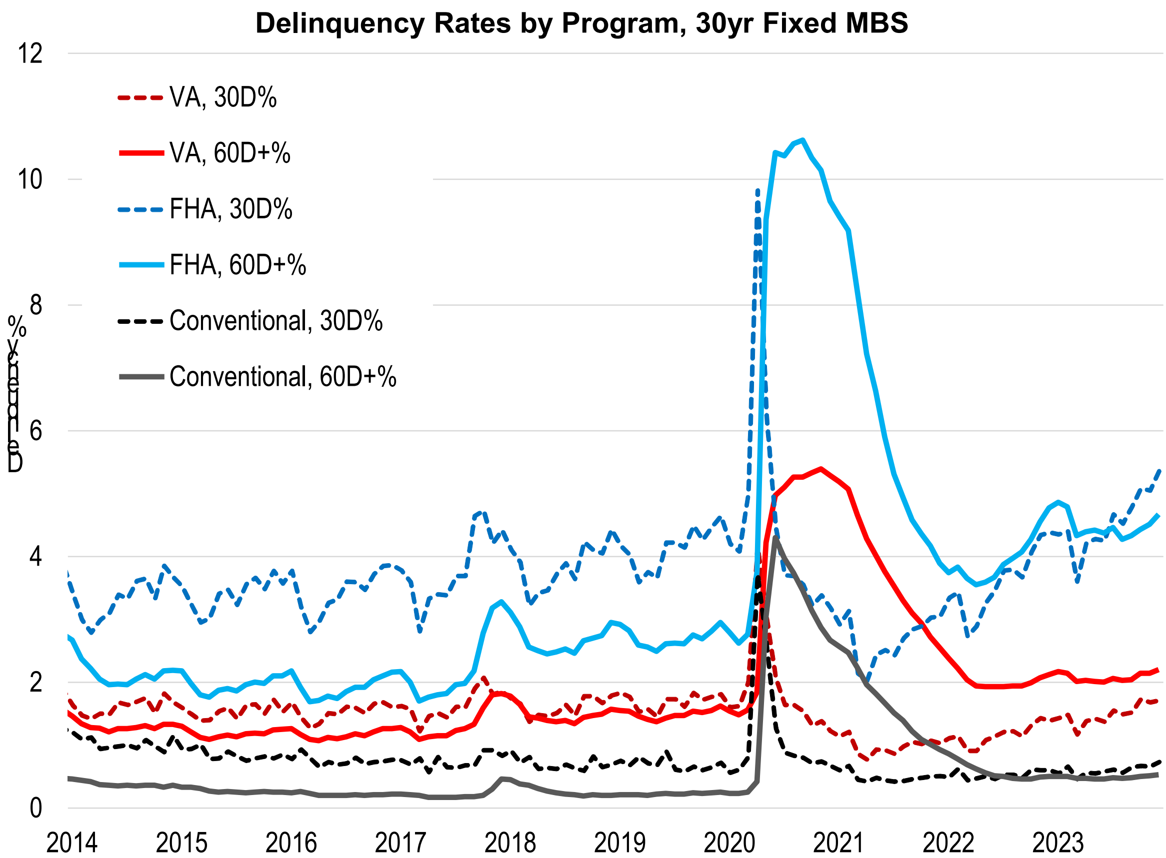
Source: FHN Financial and CPRCDR

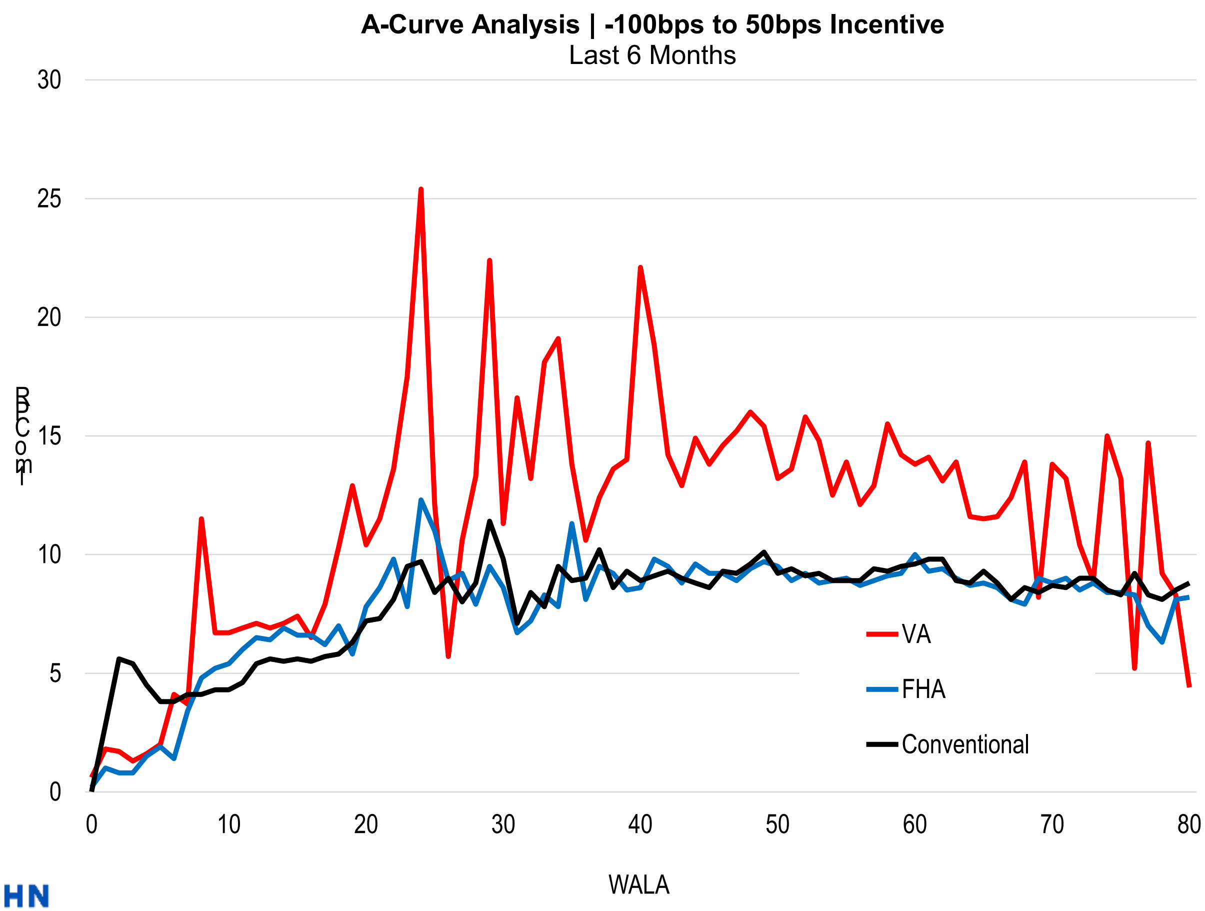
Buyout Risk Low in Conventional, Elevated in Ginnie



- 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.

Source: FHN Financial and CPRCDR

Buyouts to Contribute to Faster Ginnie Speeds



- 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.

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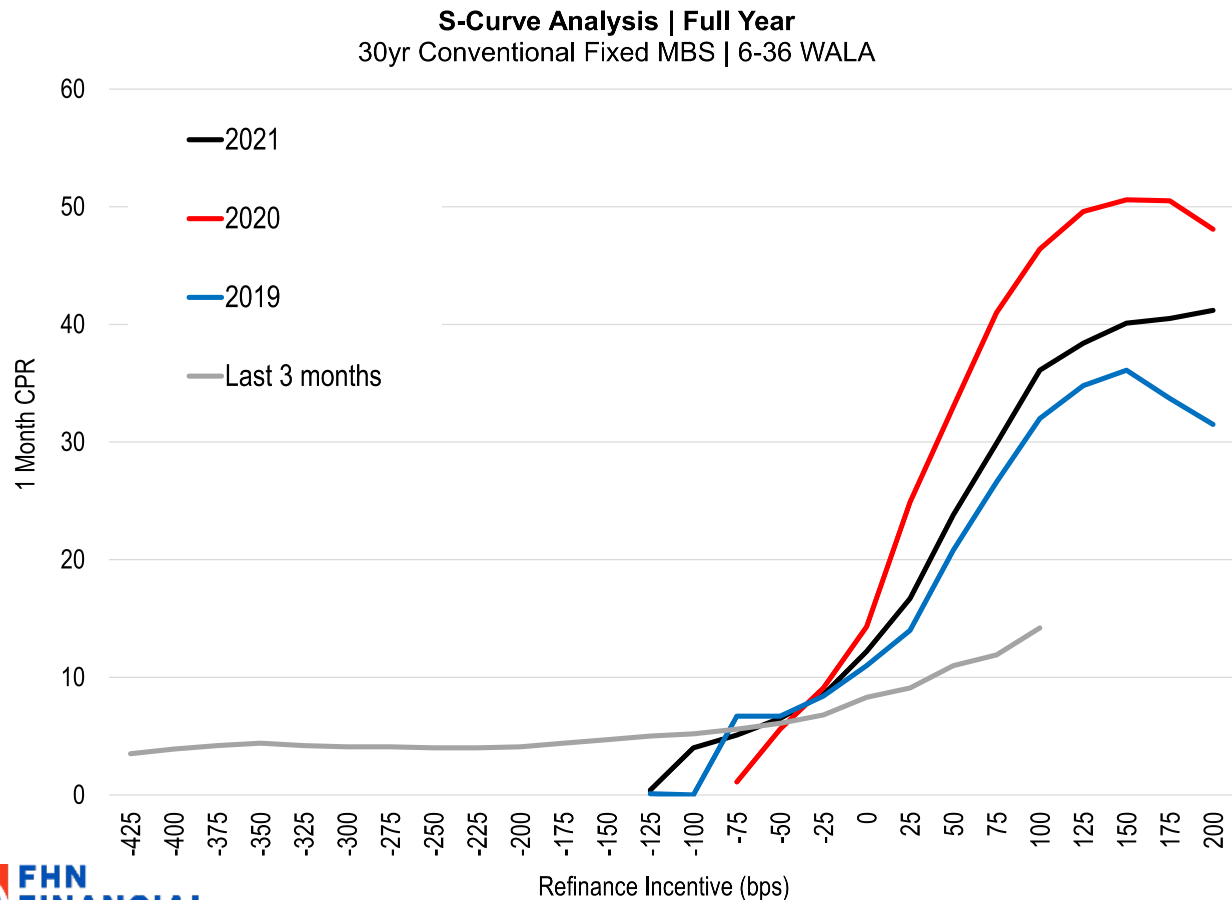
Source: FHN Financial and CPRCDR

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



- 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.

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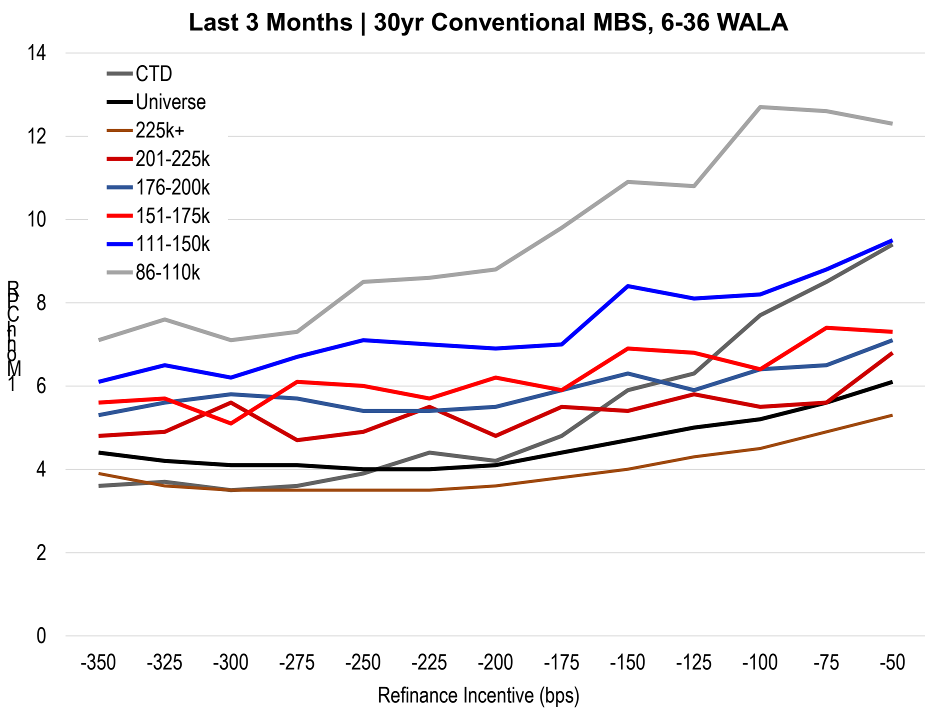
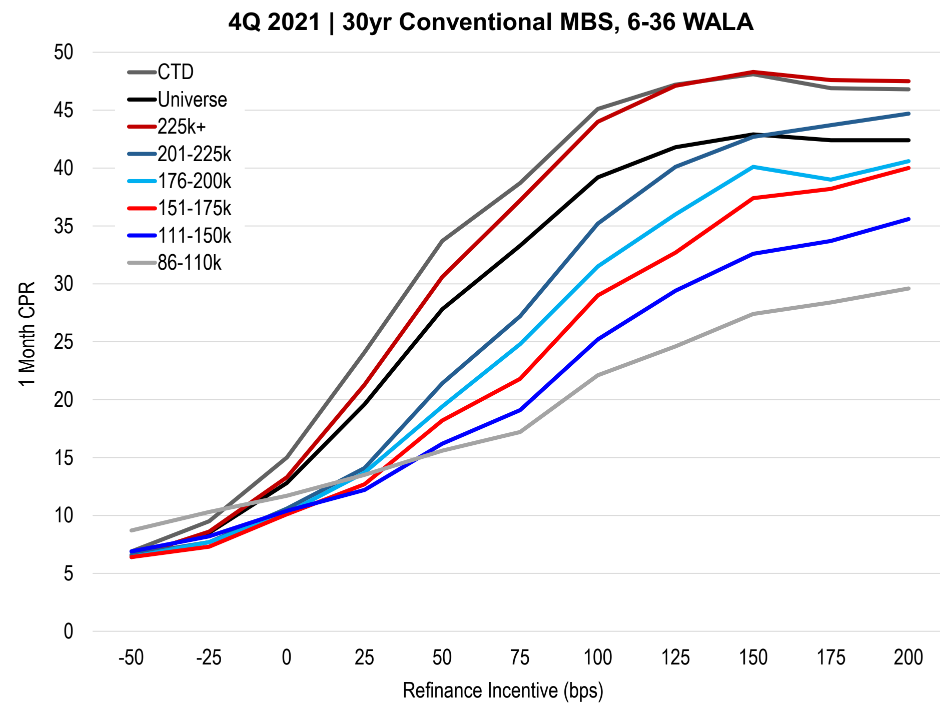
Source: FHN Financial and CPRCDR

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.

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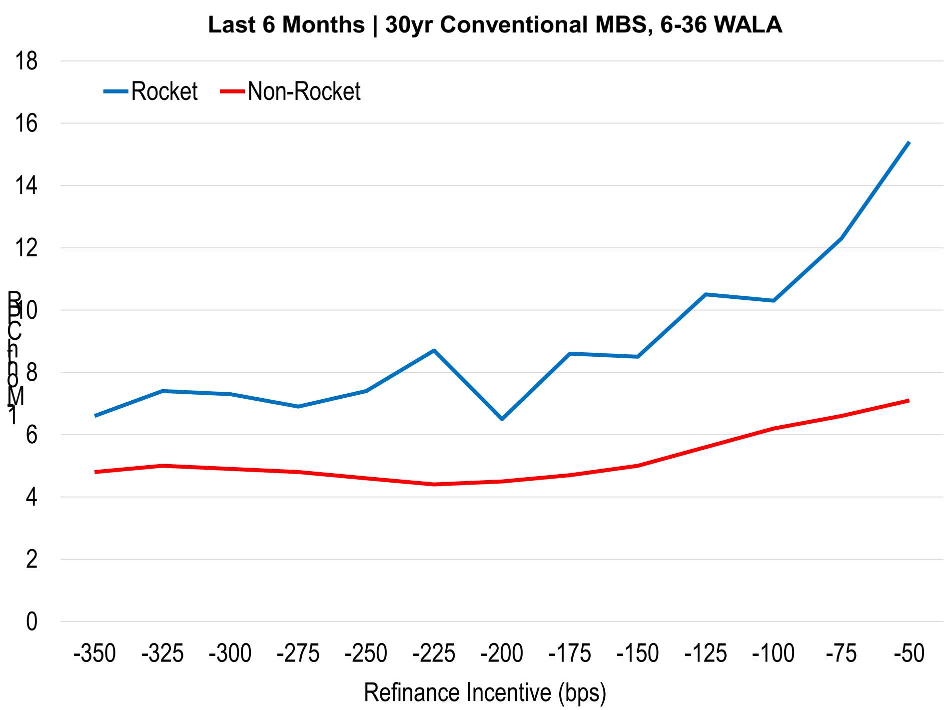
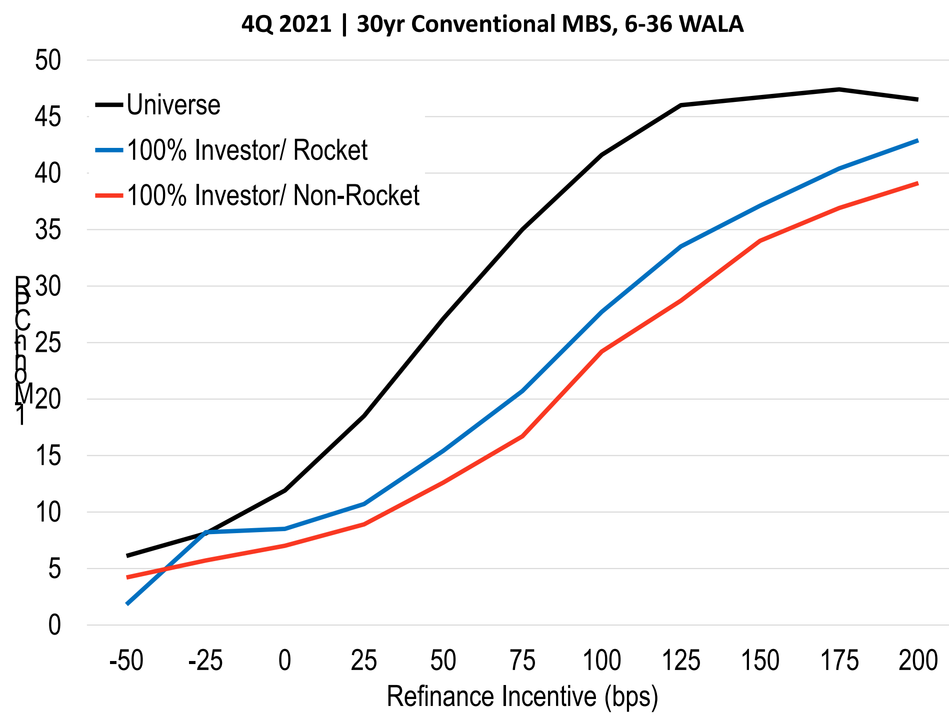
Source: FHN Financial and CPRCDR

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.

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.

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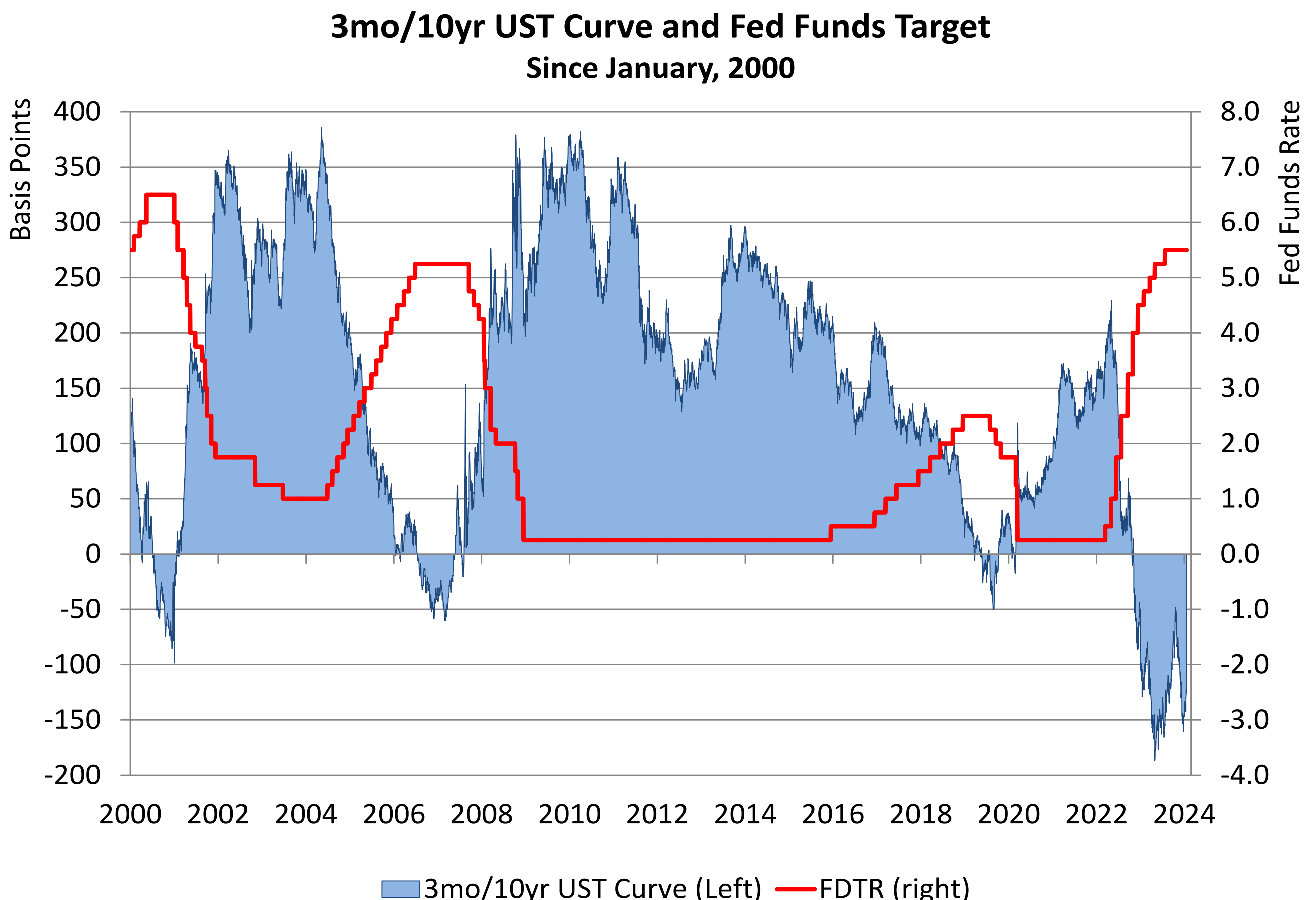
Three Basic Levers to Pull In Fixed Income

- 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



- 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.

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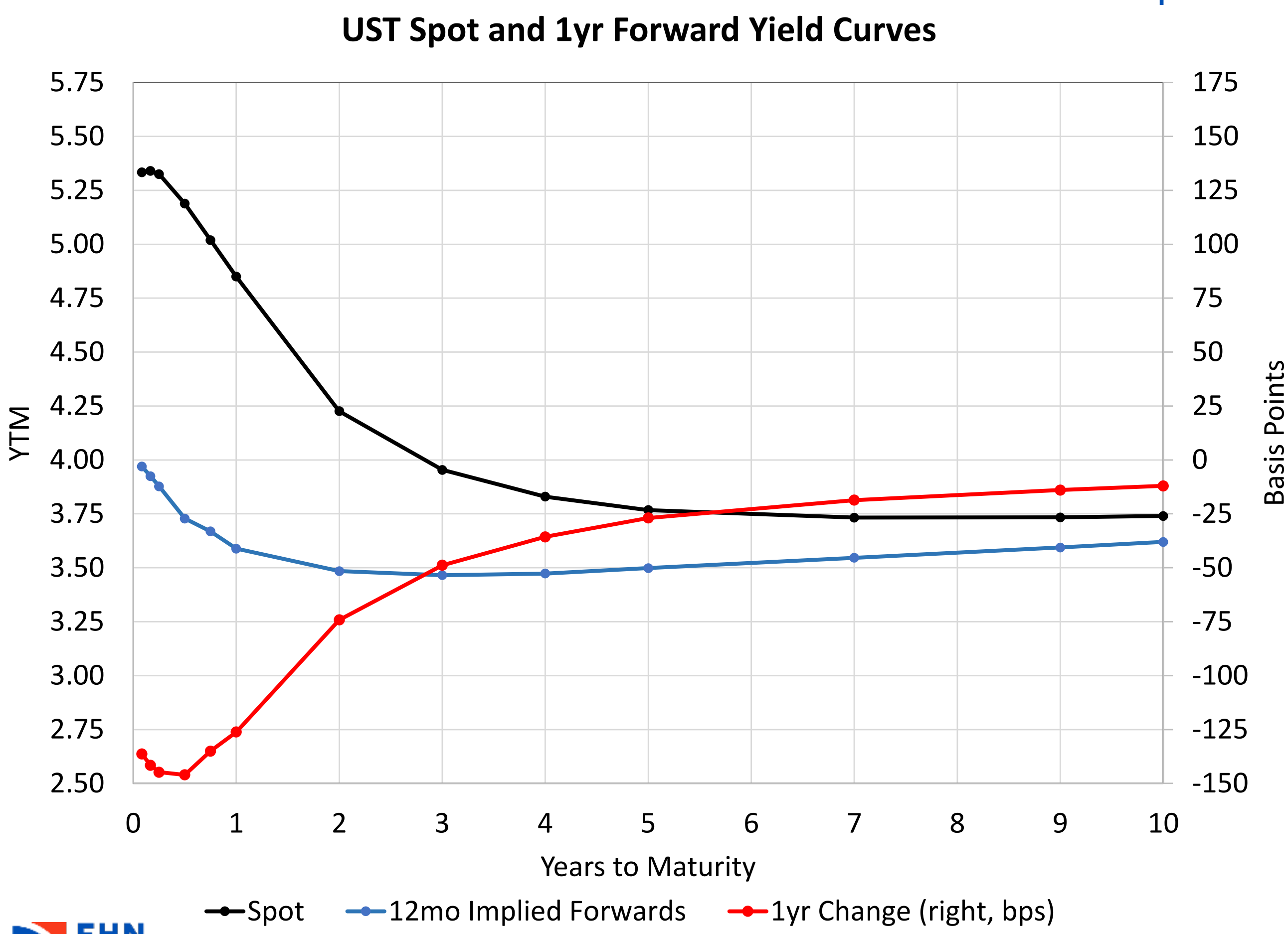
Forward Curve is a Bull Steepener



- 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.

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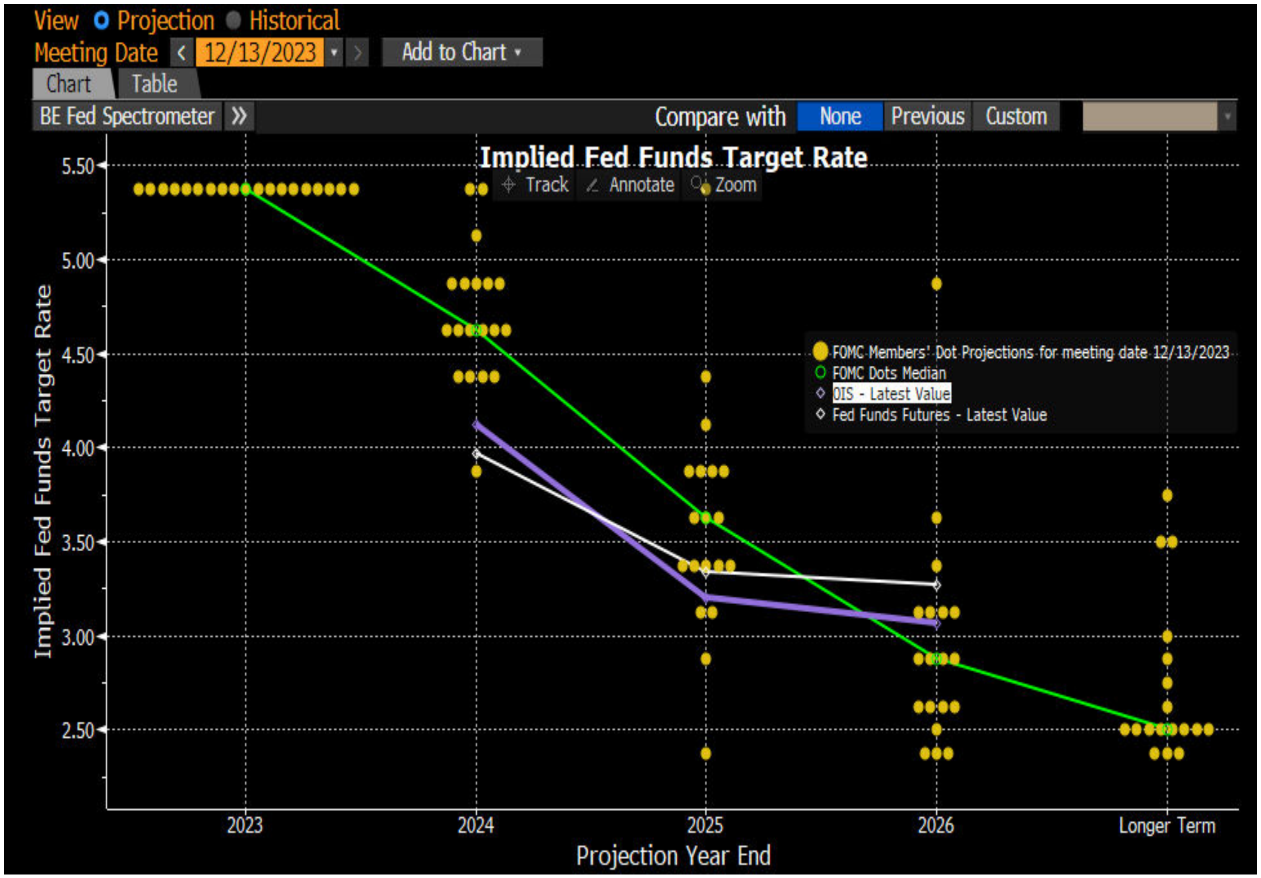
Current DOT Plots Are VERY Wide, Esp for 2025



- 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.

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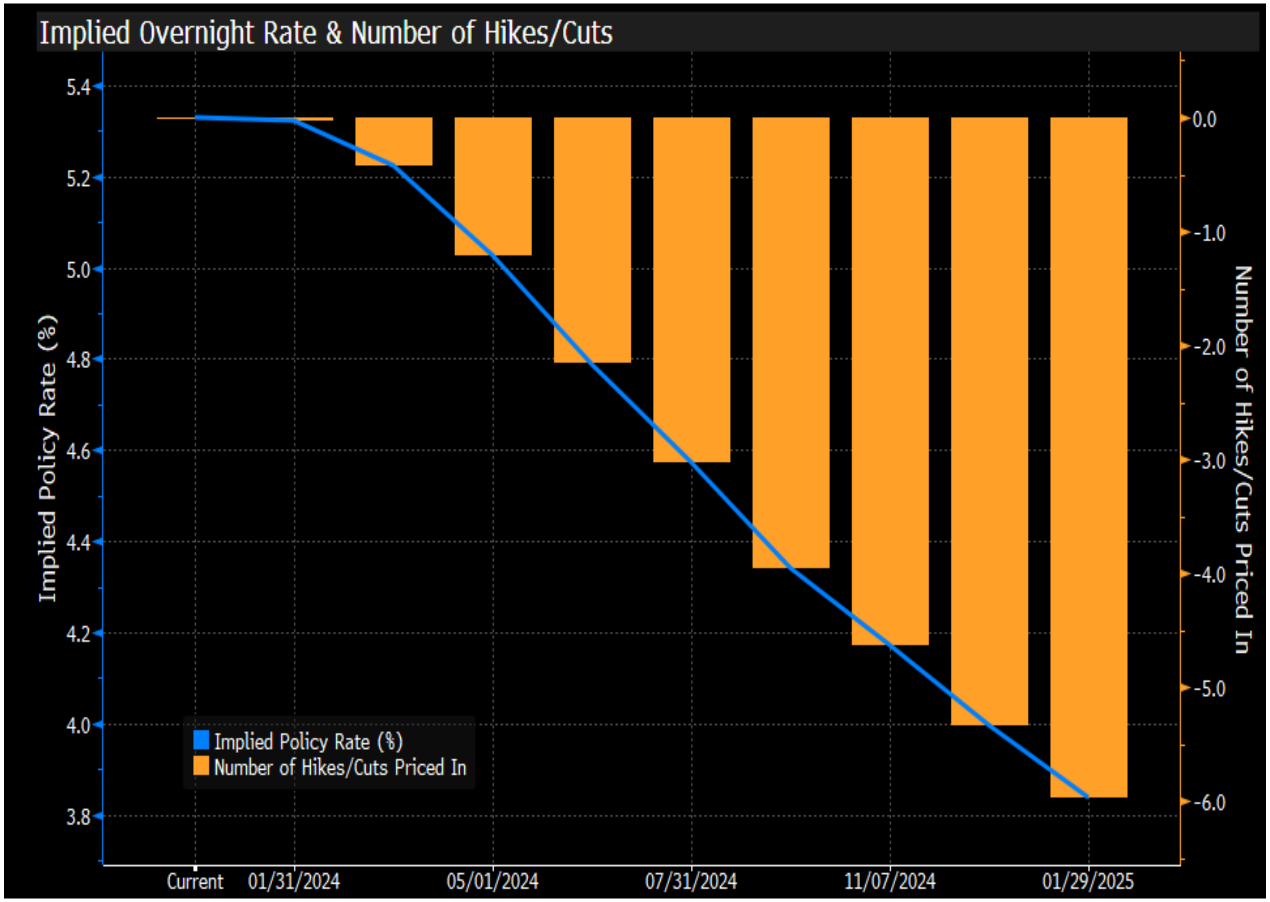
Fed Funds Futures at 4.00% at Yearend



- 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.

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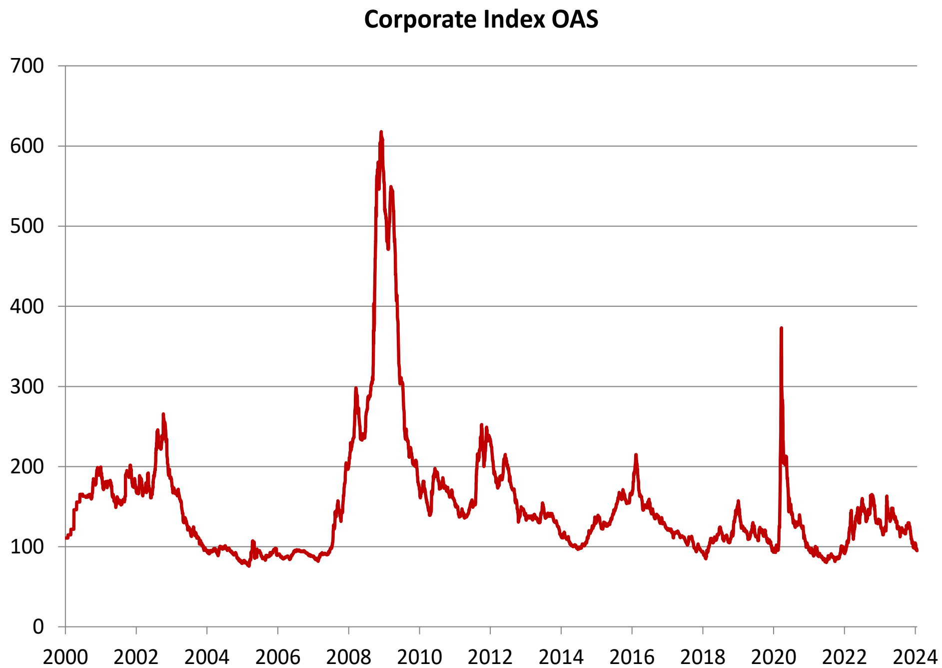
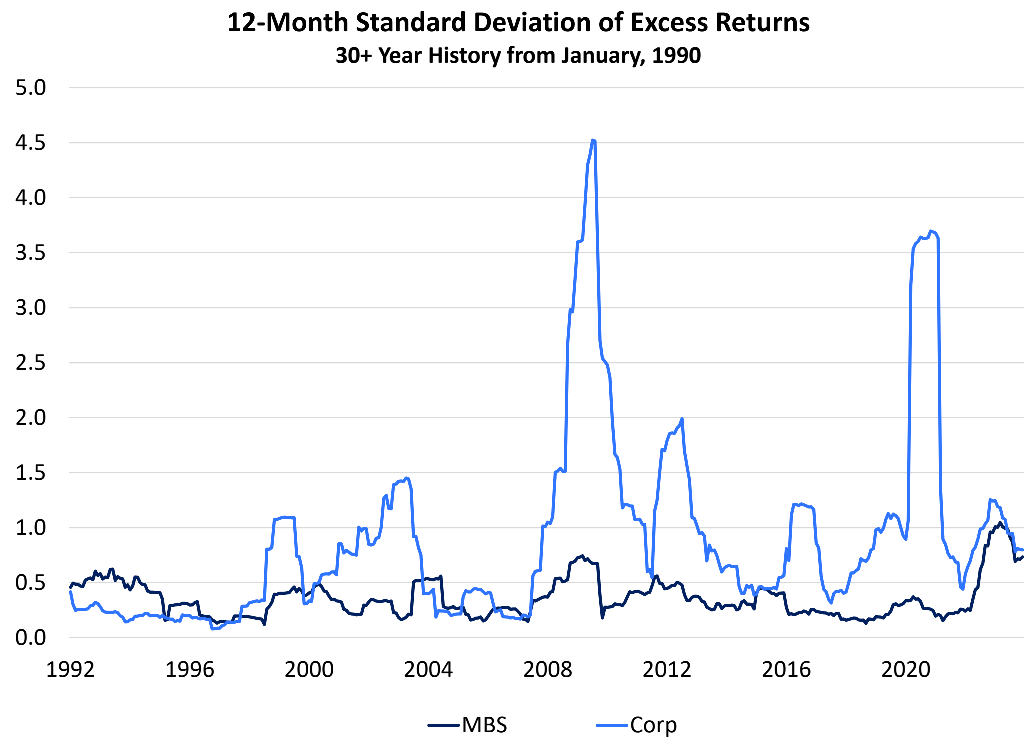
Source: FHN Financial and Bloomberg

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





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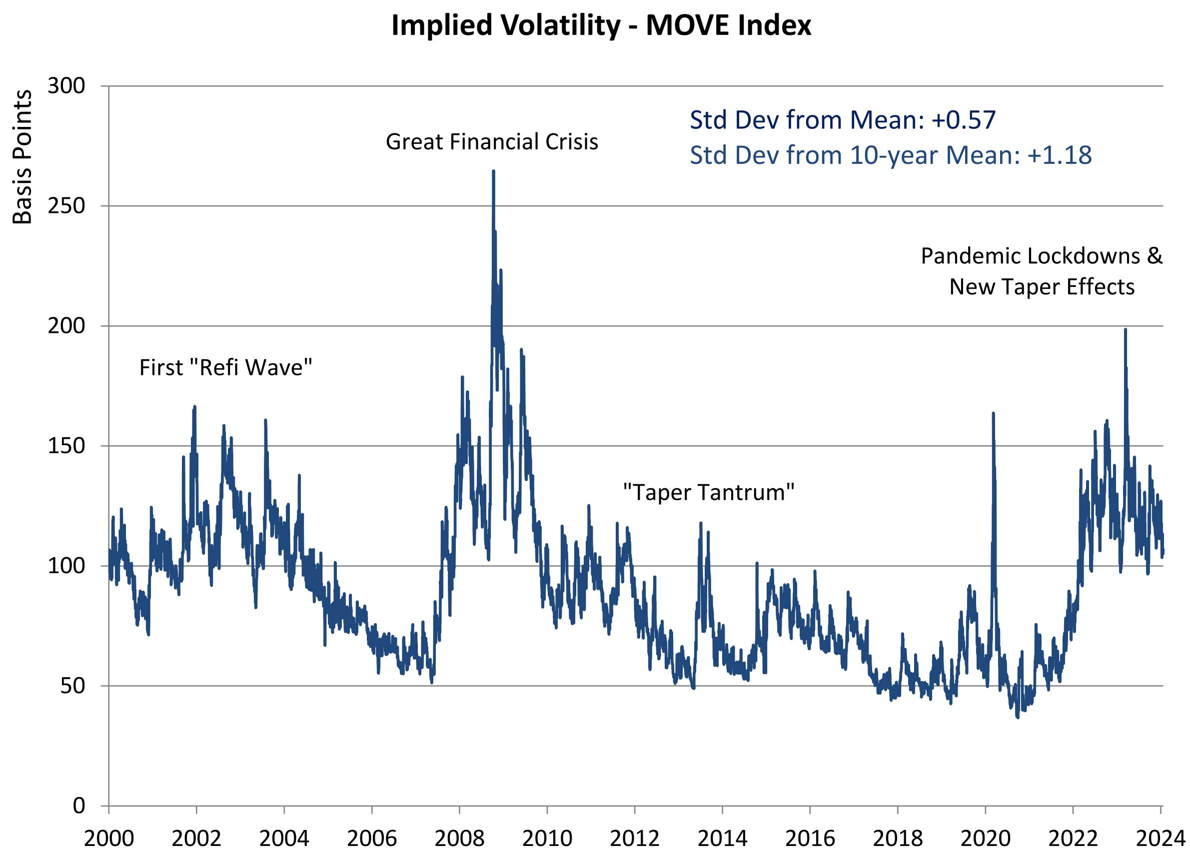
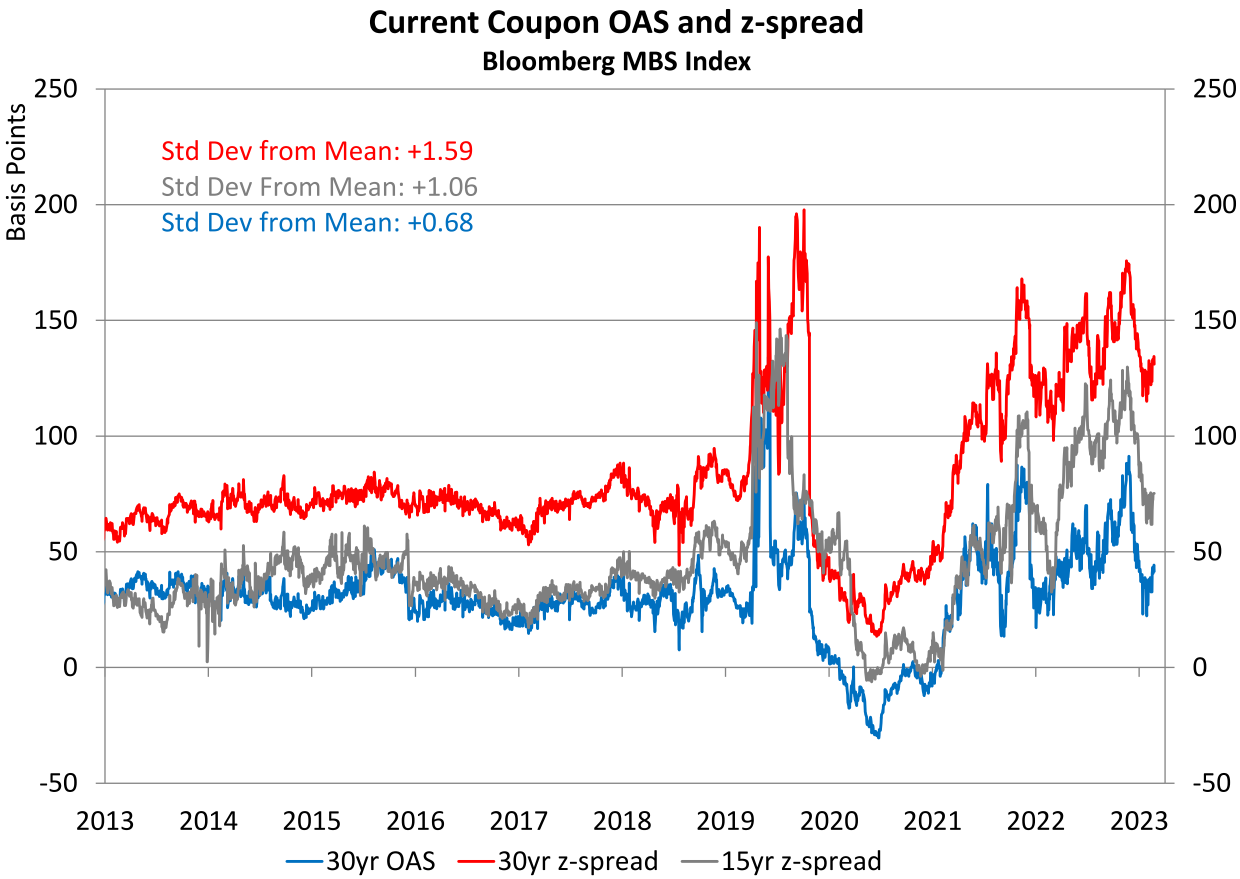
Implied Volatility Has Settled from Recent Peak, Still Somewhat Elevated



- 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.

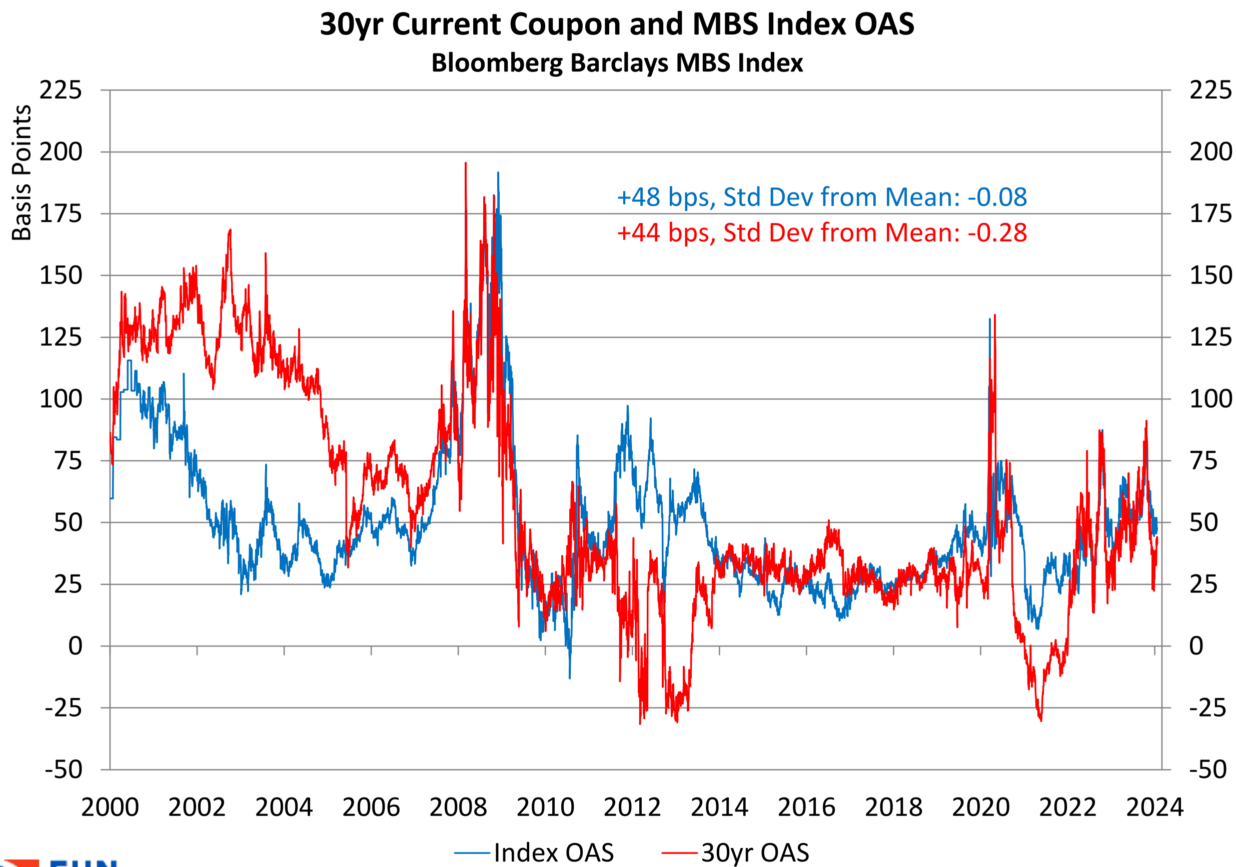
Source: FHN Financial and Bloomberg

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



- 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



- 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.

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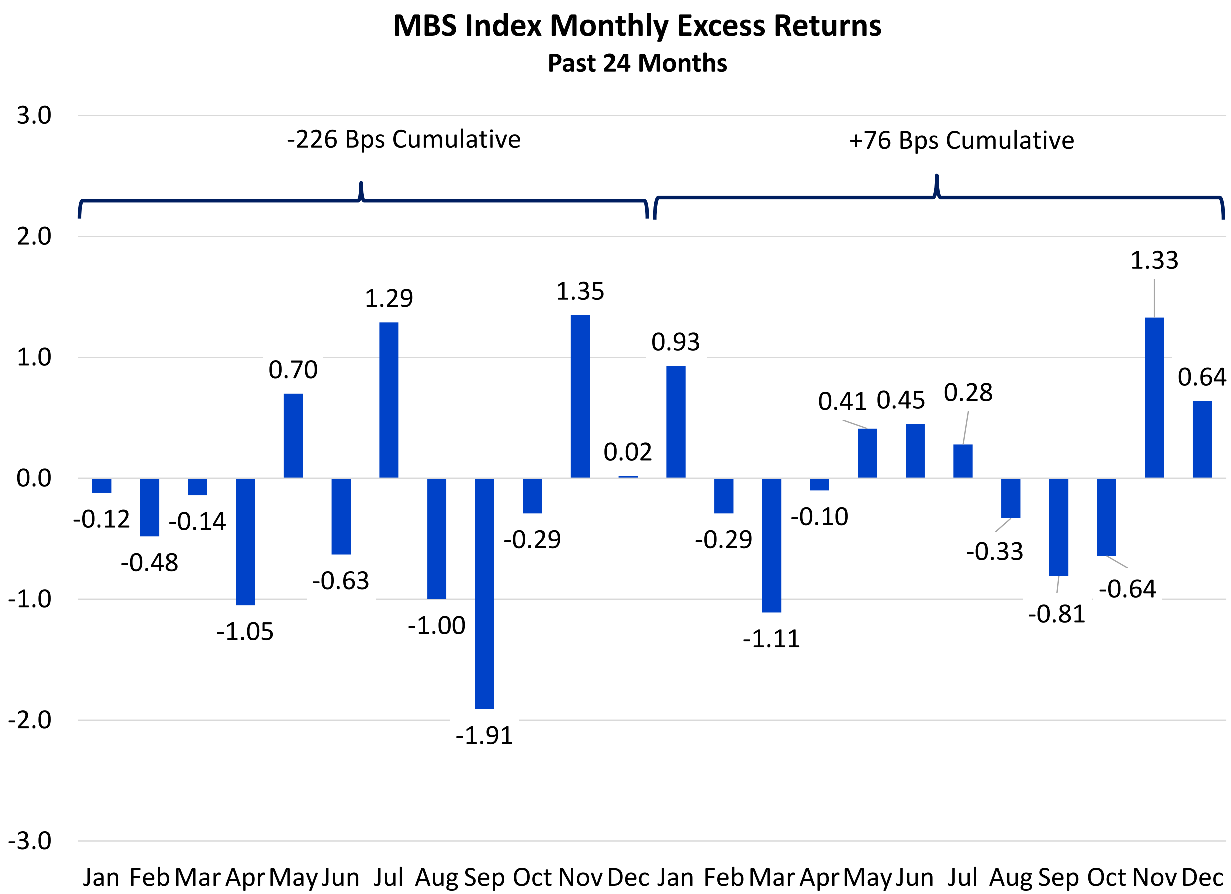
Source: FHN Financial and Bloomberg

It Has Been a Volatile Two Years for the Basis



- 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.

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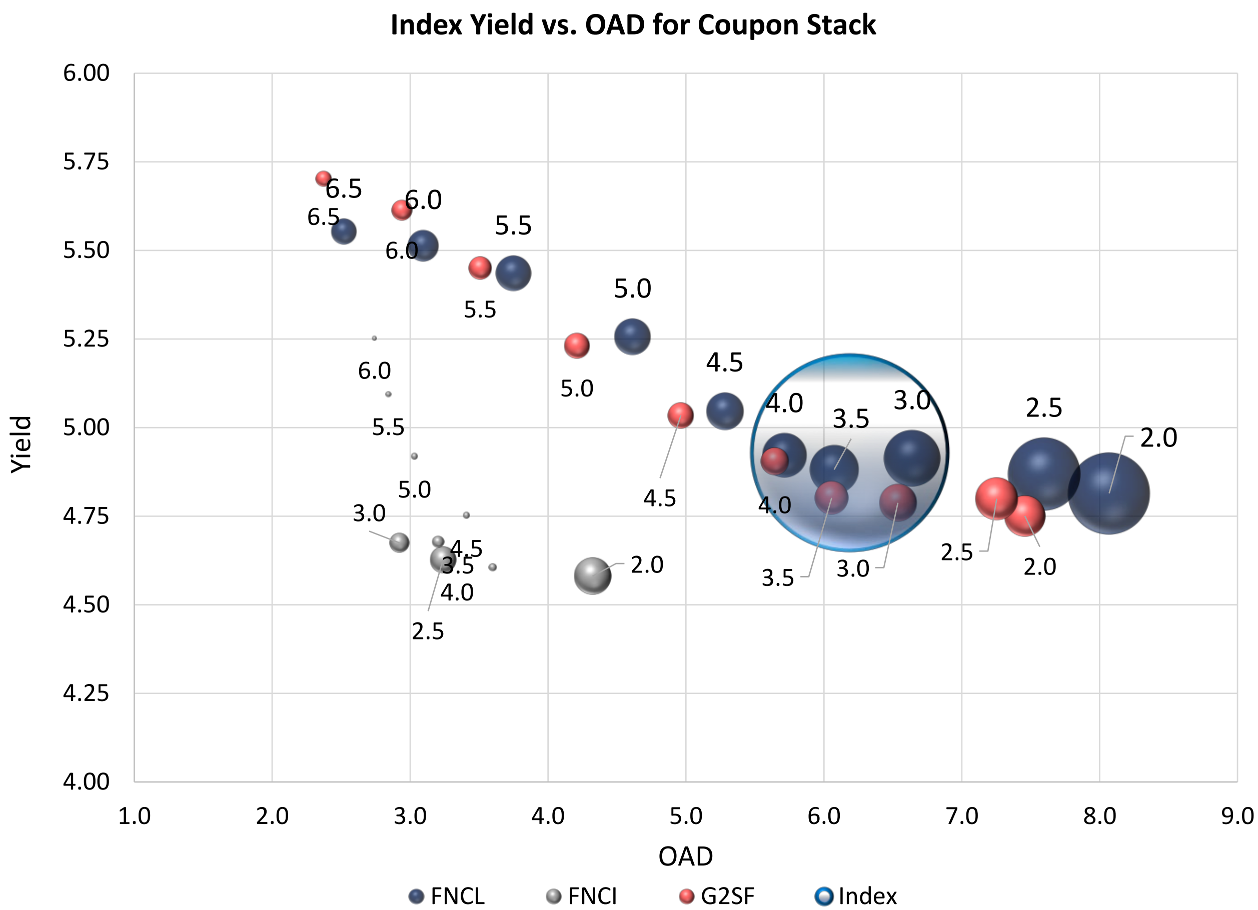
Source: FHN Financial, Bloomberg

Very Dissimilar Yield Value Across 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.

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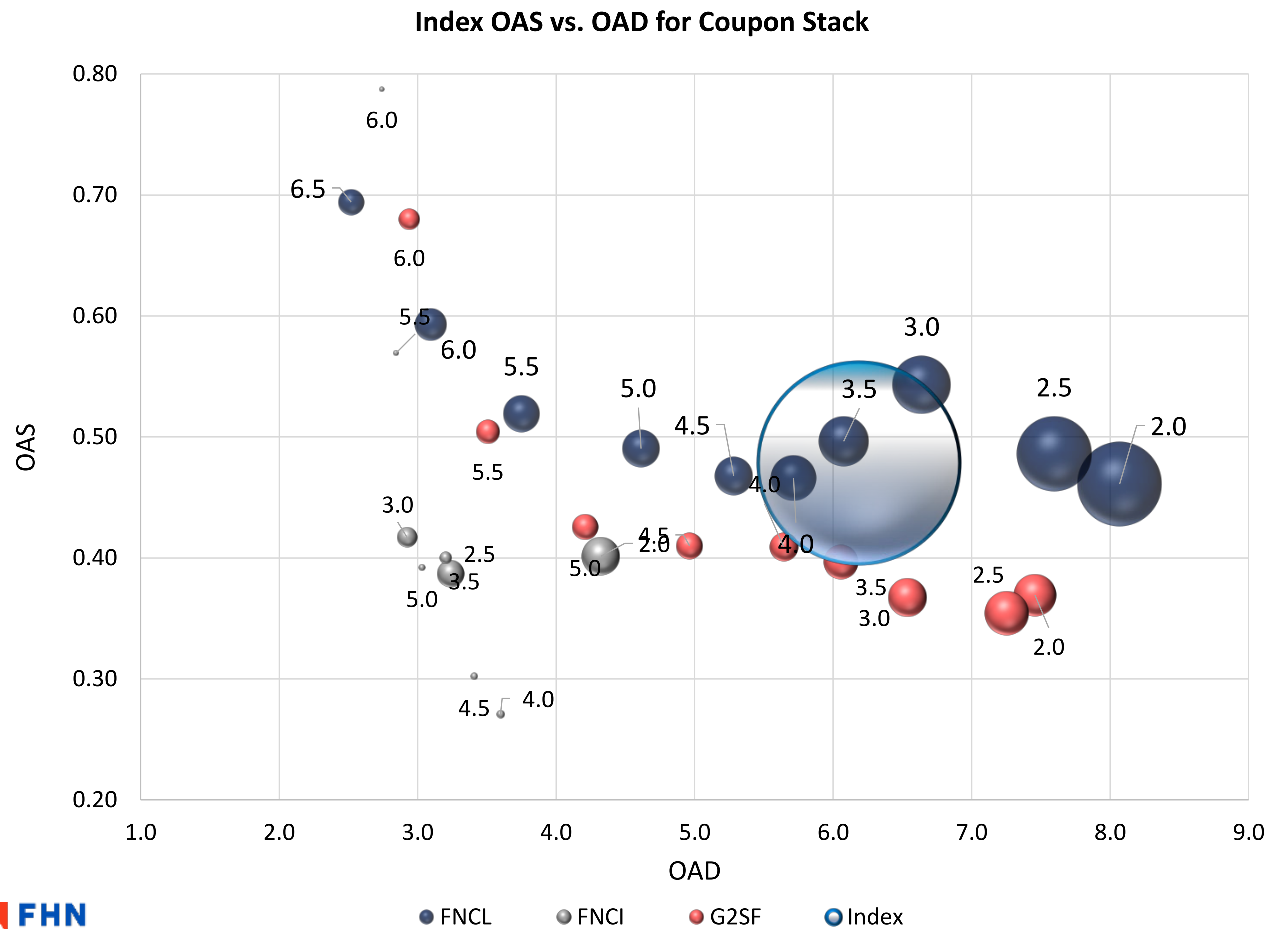
OAS RV Picture Much More Nuanced



- 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.

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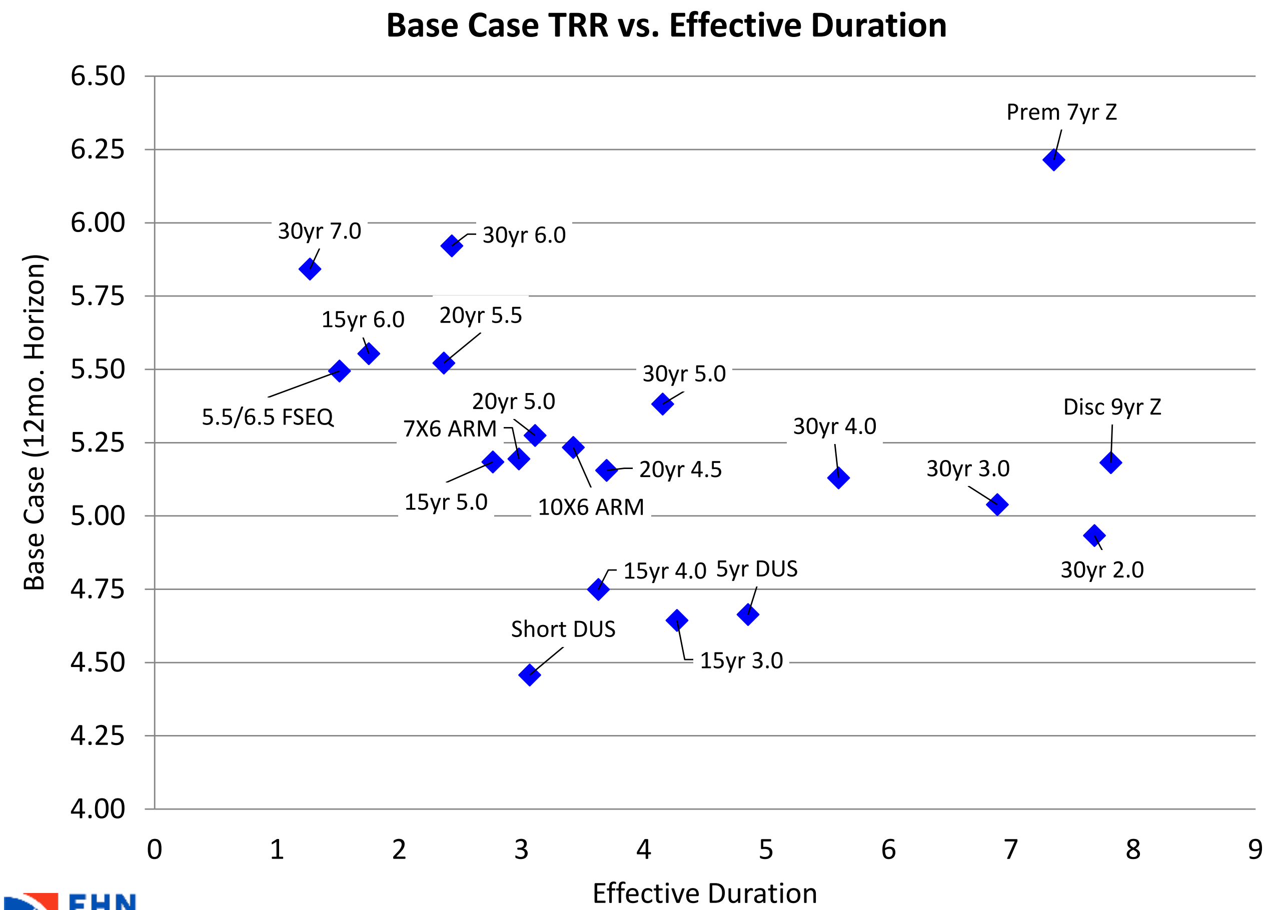
Source: FHN Financial, Bloomberg, YieldBook

Base Case TRR Favors Max "Carry" Plays



- 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.

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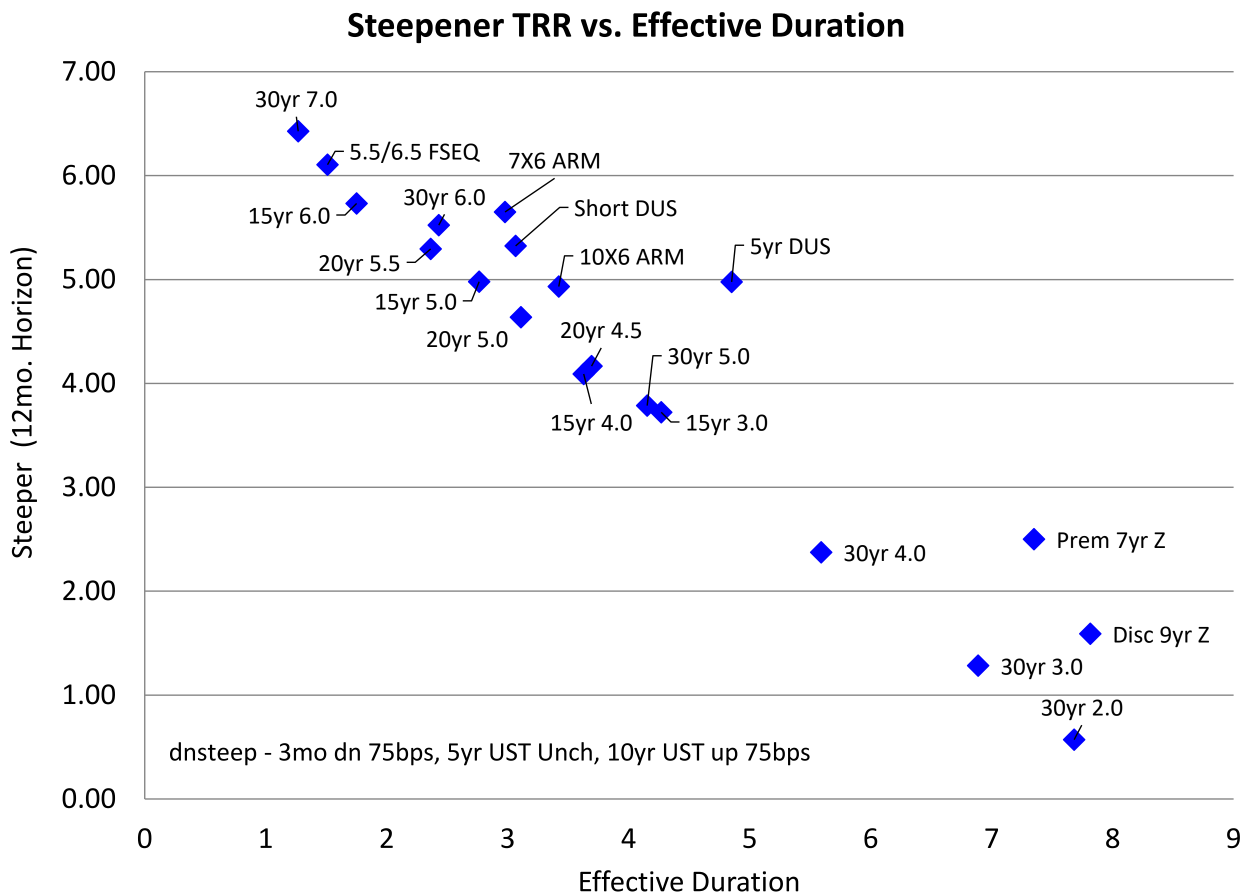
Source: FHN Financial, Bloomberg, YieldBook

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.

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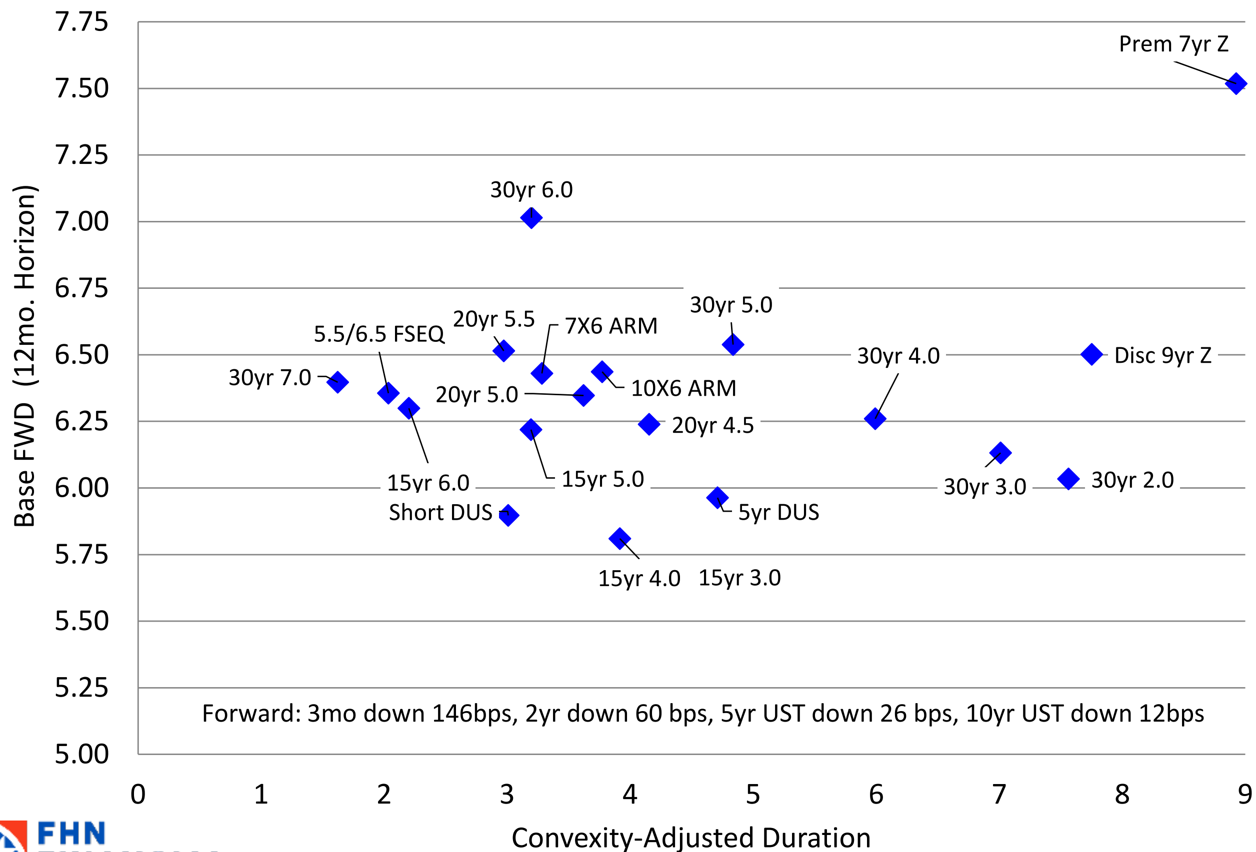
Source: FHN Financial, Bloomberg, YieldBook

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.*

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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 ARMs 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.

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