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South Florida Bond Trader's Association Conference:

MBS Sector Macro Trends and Securitized Products Actionable Opportunities in 2025

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Table of Contents

Part 1 - Macro trends within Agency MBS

Part 2 – Identifying relative value in MBS using OAS methodology.

Part 3 – "Higher for Longer ? " - Floating Rate Opportunities in 2025

Part 4 – Agency CMBS superior risk adjusted returns vs similar profile IG Taxable Munis, IG Senior Corp Debt, Non-Callable Agency Debt, and Certificates of Deposit

FY 2024 - Agency 30yr MBS Benchmark (Nominal) Spread vs Agency MBS Index OAS (LUMSOAS Index <GO>)

| | 2024 Close | 2024 Average | 2024 Change |
|---------------------------|------------|--------------|-------------|
| Agency 30yr MBS Benchmark | 136bp | 143bp | -9bp |
| Agency MBS Index OAS | 43bp | 46bp | -6bp |



Source: Bloomberg Intelligence

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30yr Agency MBS Current Coupon Basis – 5yr history (30yr Agency MBS Current Coupon vs 5yr/10yr Treasury Yield Blend)



138bp : Current 140bp : 200 Day Moving Average 114bp : Historical Avg (5yrs) 155bp : +1 Std deviation (5yrs)

Agency MBS benchmark spread vs IG Corp Index (CDX IG CDSI Gen 5y – IG Corp Debt Proxy Spread)



- 85bp : Current
- 57% above the 5yr historical avg (54 bp)
- 87bp : +1 Std deviation (5yrs)
- 88bp : 200 Day Moving Average

2025 Supply may be highest in three years

| \$Billion USD | 2025 Projected | 2024 Annualized | 2023 |
|---------------------------|----------------|-----------------|------|
| Cashout | 117 | 117 | 107 |
| No Cashout | 178 | 105 | 32 |
| Purchase | 936 | 891 | 881 |
| Total Gross Issuance | 1231 | 1113 | 1020 |
| Paydowns | 990 | 888 | 786 |
| Total Net Issuance | 241 | 225 | 234 |
| Fed Runoff | 195 | 200 | 210 |
| Net Issuance + Fed Runoff | 436 | 425 | 444 |



Source: Bloomberg Intelligence, Federal Reserve

Agency MBS Bank Holdings



- Agency MBS Bank Holdings FY 2023 Fell ~ \$184bn
- Agency MBS Bank Holdings FY 2024 Increased ~ \$ 117bn

**Weekly Data - 01/01/2022 - 12/25/2024

MBS Carry: Agency MBS 30yr Current Coupon vs Short Term Funding Rate (SOFR30A)



01/22/224-01/17/2025

- MBS demand technicals likely to keep improving especially for depository clients (Banks/Credit Unions)
- MBS "Carry" : Agency MBS 30yr Current Coupon vs Short Term Funding Rate (SOFR30A) -1/2024 -1/2025
- 1/02/2024 +4bp
- 1/02/2025 +133bp

Home affordability and higher mortgage rates may negatively impact mortgage loan origination/MBS Supply



Source: Bloomberg, Bloomberg Intelligence

Agency MBS Market Macro Trends

Deteriorating convexity in newly issued current coupon MBS pools

- Increasing GSE conforming limits, thus increasing Average Loan Sizes for new issue MBS (~\$440,853)
- Borrower quality remains elevated
- Higher gross WACs relative to net WAC
- Steeper S curves (Prepayment rates versus interest rate incentive for refinancing)

| Collateral Vintage Year | Current Coupon by Year | Balance | Wavg Credit Score | WAOLS | F Con | HFA Single Family forming Limit | WAOLTV | WAC | WAC Dispersion (Gross WAC - Net WAC) | М | ax Loan Size |
|-------------------------------|------------------------------|-------------------------|-------------------------|---------------|----------|---------------------------------------|--------|------|--------------------------------------------|----|--------------|
| 2015 | 3.5 | \$ 211,730,759,516 | 749 | \$ 266,386 | \$ | 417,000 | 77 | 4.12 | 0.62 | \$ | 1,202,925 |
| 2016 | 3 | \$ 234,029,419,714 | 760 | \$ 284,319 | \$ | 417,000 | 75 | 3.67 | 0.67 | \$ | 1,202,925 |
| 2017 | 3.5 | \$ 174,245,853,217 | 755 | \$ 276,961 | \$ | 424,100 | 77 | 4.06 | 0.56 | \$ | 1,223,475 |
| 2018 | 4 | \$ 190,603,776,108 | 749 | \$ 285,676 | \$ | 453,100 | 79 | 4.64 | 0.64 | \$ | 1,307,175 |
| 2019 | 3 | \$ 306,009,415,153 | 758 | \$ 314,288 | \$ | 484,350 | 78 | 3.90 | 0.90 | \$ | 1,397,000 |
| 2020 | 2 | \$ 702,933,972,082 | 766 | \$ 333,834 | \$ | 510,400 | 73 | 2.93 | 0.93 | \$ | 1,473,000 |
| 2021 | 2 | \$ 1,055,536,492,458 | 761 | \$ 346,471 | \$ | 548,250 | 72 | 2.86 | 0.86 | \$ | 1,582,000 |
| 2022 | 2.5 | \$ 169,112,084,828 | 748 | \$ 407,801 | \$ | 647,200 | 75 | 3.32 | 0.82 | \$ | 1,867,000 |
| 2023 | 5.5 | \$ 158,172,098,516 | 757 | \$ 417,662 | \$ | 726,200 | 79 | 6.45 | 0.95 | \$ | 2,095,000 |
| 2024 | 6 | \$ 196,461,158,276 | 757 | \$ 440,853 | \$ | 806,500 | 79 | 6.97 | 0.97 | \$ | 2,212,000 |

Source: Bloomberg CPR, Fannie Mae, Freddie Mac

Securitized Products – Valuation beyond traditional nominal spread

OAS Analytics

- OAS: Option Adjusted Spread
- OAD: Option Adjusted Duration (Effective Duration)
- OAC: Option Adjusted Convexity (Effective Convexity)

Relative Valuation measures for RMBS

- Nominal Spread Interpolated Curve Spread (e.g. I-Spread)
 - > Static valuation assumes path of cash flows is deterministic (i.e. predictable)
- Zero Volatility (ZV) Single interest rate path
- Option Adjusted Spread OAS (Multi Path Treasury or SOFR Curve Discounting)
 - > Dynamic valuation adjusts for the value of the embedded prepayment option considering cash flows are nondeterministic
- Monte Carlo Simulation analysis is often used to generate multiple interest rate paths used in the OAS calculation
 - > Default: OAS1 <GO> : 256 interest rate path runs | CMP: custom number of paths allowed

The OAS is the spread that makes the average price across all projected interest rate paths equal to the market price

- OAS approach accounts for interest rate volatility impact on realized CF and the value of embedded prepayment/call options
- Market participants typically use Treasury OAS (TOAS) vs SOFR OAS (SOAS) for analysis (Discount Curve (I25))

Nominal Spread Valuation Limitations

- Timing of CF are assumed to be predictable (can be effective for non-callable securities)
- References a specific point on the yield curve
- YTM assume reinvestment of periodic CF at the YTM

OAS valuation limitations include "model dependence" and provides for no "credit" component

Establishing benchmark reference points for OAS – Agency MBS TBA {TBPF <go>}

| Ageno | cy FN | Sett | le G0 🔻 | View OAS | | | | CMT | • | | | | | | |
|-------|-------|--------------------------|---------|--------------------------------|------|-------------------------------|------------------------------|----------|-------|-------|---------|------------------|------|--------|-------|
| 30yr | TBAs | Bid | Ask | Chg | SOF | R Ti | reas | OAS | 5 | Durat | ion | Conve | kity | 0% Vo | l OAS |
| FNCL | 2.5 | 80-27 | 30+ | - 07 | - 03 | | 03 ⁵ 8 | 34.75 | 2.91 | 8.11 | 01 | .62 | .01 | 45.29 | 2.85 |
| FNCL | 3.0 | 84-12+ | 15+ | - 07 ¹ ₄ | - 03 | ⁷ 8 - | 03 ⁷ 8 | 33.56 | 2.24 | 7.80 | 01 | .33 | .01 | 48.61 | 2.19 |
| FNCL | 3.5 | 87-29 | 01 | - 06 ³ 4 | - 03 | | 03+ | 32.01 | 1.56 | 7.35 | .00 | .05 | .01 | 53.19 | 1.53 |
| FNCL | 4.0 | 90-28+ | 00 | - 06 | - 02 | 5 - | 02 ⁵ 8 | 36.47 | 1.11 | 6.81 | .00 | 26 | .00 | 66.80 | 1.11 |
| FNCL | 4.5 | 93-19 | 23 | - 06 ¹ 4 | - 02 | - 8 - | 02 ⁷ 8 | 28.74 | 1.50 | 6.50 | .01 | 70 | .00 | 75.09 | 1.39 |
| FNCL | 5.0 | 96-06+ | 10 | - 01+ | + 01 | ³ ₄ + | 01 ⁷ 8 | 33.89 | 1.07 | 5.72 | .02 | -1.08 | .00 | 93.25 | .94 |
| FNCL | 5.5 | 98-11+ | 14+ | - 03 ³ 4 | - 00 |) ³ 8 - | 00 ¹ 8 | 40.01 | .86 | 4.85 | .04 | -1.58 | .00 | 112.66 | .64 |
| FNCL | 6.0 | 100-08+ | 11+ | - 04+ | - 01 | | 01+ | 44.35 | .61 | 3.86 | .06 | -2.17 | .00 | 131.67 | .05 |
| FNCL | 6.5 | 102-03 | 07+ | - 02 | + 00 |)+ + | 00 ³ ₄ | 48.84 | .04 | 3.06 | .05 | -2.29 | .00 | 132.01 | .33 |
| FNCL | 7.0 | 104-03+ | 09 | - 02 | + 00 |) ³ ₈ + | 00 ⁵ 8 | 38.03 | 34 | 2.27 | .04 | -1.64 | .00 | 99.65 | 31 |
| 15yr | TBAs | | | | | | | | | | | | | | |
| FNCI | 3.5 | 94-16+ | 18 | - 02 ³ 4 | + 00 |)+ + | 00 ³ ₄ | 17.79 | 72 | 4.27 | .00 | 08 | C | 27.97 | 70 |
| FNCI | 4.0 | 95-28+ | 31 | - 00 ³ 4 | + 00 |) ³ 8 + | 00 ⁵ 8 | 24.55 | 1.38 | 4.16 | .01 | 33 | C | 42.34 | 1.28 |
| FNCI | 4.5 | 97-23 | 25+ | - 04 | + 00 |)+ + | 00 ³ ₄ | 11.75 | .52 | 3.98 | .02 | 84 | C | 44.80 | .34 |
| FNCI | 5.0 | 99-17+ | 20 | - 01+ | + 02 | 2+ + | 02 ³ ₄ | 13.17 | 55 | 3.37 | .02 | -1.06 | C | 53.72 | 78 |
| FNCI | 5.5 | 100-18+ | 31 | - 02+ | - 00 | ⁷ 8 - | 00 ⁵ 8 | 29.74 | -1.17 | 2.95 | .02 | -1.09 | C | 70.29 | -1.30 |
| FNCI | 6.0 | 101-19+ | 00 | - 02 | + 01 | ¹ ₄ + | 01 ⁵ 8 | 57.97 | -2.00 | 2.81 | .02 | 88 | C | 86.11 | -1.83 |
| Treas | ury | | | | FI | VMA 🔽 | to Govt/ | Swap Spi | read | S | OFR Rat | es 🔹 | | | |
| Tsy | Pric | ce | Chg | Yld | Chg | /Govt | Chg | /Sw | ар | Chg | Swap |) Ch | g | Sprd | Chg |
| 2у | 99- | 30 | -0-03 | 4.28 | .05 | -3.96 | .00 | 8. | 16 | 1.49 | 4.14 | .0 |)4 - | 14.38 | .00 |
| Зу | 99- | 23+ | -0-05 | 4.35 | .05 | -8.47 | .00 | 12. | 97 | .35 | 4.13 | .0 |)4 | 21.84 | .00 |
| 5у | 99- | 24 | -0-05 | 4.43 | .04 | .00 | .00 | | 00 | 11 | 4.14 | .0 |)4 | 30.00 | .00 |
| 10y | 97- | 01+ | -0-03+ | 4.63 | .01 | .00 | .00 | | 00 | 08 | 4.17 | <mark>، د</mark> |)2 | 45.50 | .00 |
| 30y | 94- | 13 | -0-01 | 4.86 | .00 | .00 | .00 | | 00 | 09 | 4.05 | 5.0 | 00 | 81.13 | .00 |
| | | | | | | | | | | | | | | | |

Source: Bloomberg

Yield Tables Provide 7 Scenarios with Static Nominal I Spread Valuation {YT <GO>}

| • Actions • Export • Settings 100% FNCL 5.5 \$ 5.969(105)243 CUSIP 313942VE5 Colupon 5.061 Level As of 01/2025 1/25 130P 7.8C 0.0B Traits EXCH, SC, AD, Coupon 5.50% Maturity 07/25/35 TX 14% 2005 53 3Mo 240 14.4 2.6 06/30/2005 4,343,750 Coupon 5.50% Maturity 07/25/35 TX 14% 2004 27 6Mo 211 12.6 1.3 06/30/2005 4,343,750 MALLS 113,000 Next Pay 02/25/25 CA 7% 2003 20 12Mo 165 9.9 1.0 Factor 0.87079742 WACLS 46,587 Collar No Band VA 6% Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date * 75 75 | R = 3.83 CVX = 0.12 @1 | 01.188 | (BAM,CMT) | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|----------------|-------------|----------------|----------------------------|-----------------|-------------------------|---------------------------------|
| 100% FNCL 5.5 S 5.969(105)243 CUSIP 31394EVE5 Pool Level As of 01/2025 1/25 130P 7.8C 0.0B Traits EXCH,SC,AD,, 06/30/2005 Coupon 5.50% Maturity 07/25/35 TX 14% 2005 53 3Mo 240 14.4 2.6 06/30/2005 4,343,750 LTV/HLTV 75/36 Accrual 01/01-01/31 FL 9% 2004 27 12Mo 165 9.9 1.0 Factor 0.87079742 WAXLS 113,000 Next Pay 02/25/25 CA 7% 2003 20 12Mo 165 9.9 1.0 Factor 0.87079742 WAXLS 113,000 Next Pay 02/25/25 CA 7% 2003 20 Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Vary 0 144 PSA 5.1858 5.1740 5.1713 5.1639 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3 | 3 Mtge 💽 Actions 🗸 | Export 🔹 | Settings | | | | | | |
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| 3Mo 240 14.4 2.6 06/30/2005 4,343,750 LTV/HLTV 75/36 Accrual 01/01-01/31 FL 9% 2004 27 12Mo 165 9.9 1.0 125/2025 3,782,526 MAXLS 113,000 Next Pay 02/25/25 CA 7% 2003 20 Life 261 15.1 0.9 # Loans 203 WACLS 46,587 Collar No Band VA 6% Vary 0 144 PSA 111 PSA 134 PSA 153 PSA 167 PSA 181 PSA Vary 0 144 PSA 111 PSA 134 PSA 153 PSA 167 PSA 181 PSA Vary 0 144 PSA 111 PSA 134 PSA 153 PSA 167 PSA 181 PSA Vary 0 144 PSA 111 PSA 134 PSA 153 PSA 167 PSA 181 PSA | 1/25 130P | 7.8C 0.0B | Traits | EXCH,SC,AD, | Coupon | 5.50% Matu | urity 07, | 25/35 TX 14 | <mark>% 2005 5</mark> 3% |
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| 12Mo 165 9.9 1.0 Factor 0.87079742 VACLS 46,587 Collar No Band VA 6% Life 261 15.1 0.9 # Loans 239 I) Price-to-Yield - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - | 6Mo 211 | 12.6 1.3 | 01/25/2025 | 3,782,526 | MAXLS | 113,000 Next | t Pay 02, | 25/25 <mark>CA</mark> 7 | % 2003 20% |
| Life 261 15.1 0.9 # Loans 239 Price-to-Yield Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25 | 12Mo 165 | 9.9 1.0 | Factor | 0.87079742 | WACLS | 46,587 <mark>Coll</mark> a | ar No | Band VA 6 | 2 |
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| Settle 01/23/25 0 MED +300 MED +200 MED +100 MED -100 MED -200 MED -300 MED Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 <th></th> <th></th> <th></th> <th></th> <th>1) Price-to-Yi</th> <th>eld</th> <th></th> <th></th> <th></th> | | | | | 1) Price-to-Yi | eld | | | |
| Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date × 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 | Settle | 01/23/25 | 0 MED | +300 MED | +200 MED | +100 MED | -100 MED | -200 MED | -300 MED |
| Vary 0 144 PSA 111 PSA 134 PSA 139 PSA 153 PSA 167 PSA 181 PSA Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 | | | | | | | | | |
| Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 I Spread 75 76 75 75 75 74 74 Jan25 Dec <nov< td=""> Oct Sep Aug Jul Jun May Apr<mar< td=""> Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' 130P 307 278 48 312 168 245 106 115 162 42 27 22:25 4.30 4.35 4.43 4.53 4.63 4.88</mar<></nov<> | Vary | 0 | 144 PSA | 111 PSA | 134 PSA | 139 PSA | 153 PSA | 167 PSA | 181 PSA |
| Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 Jan25 Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' Jan25 Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' Jan25 Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' | | | | | | | | | |
| Price 101-06 5.1687 5.1858 5.1740 5.1713 5.1639 5.1563 5.1487 Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35< | | | | | | | | | |
| Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2 | Price | 101-06 | 5.1687 | 5.1858 | 5.1740 | 5.1713 | 5.1639 | 5.1563 | 5.1487 |
| Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2 | | | | | | | | | |
| Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2 | | | | | | | | | |
| Avg Life 4.65 4.88 4.72 4.68 4.58 4.49 4.40 Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2 | | | | | | | | | |
| Mod Duration 3.92 4.10 3.97 3.95 3.87 3.80 3.73 Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 3/25-5/35 3/25-5/35 | Avg Life | | 4.65 | 4.88 | 4.72 | 4.68 | 4.58 | 4.49 | 4.40 |
| Prin Win Date 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 2/25-5/35 3/25 2/25-5/35 3/25 | Mod Durat | ion | 3.92 | 4.10 | 3.97 | 3.95 | 3.87 | 3.80 | 3.73 |
| I Spread 75 76 75 75 74 74 Jan25 Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' 130P 307 278 48 312 168 245 106 115 162 42 27 22:25 4.30 4.28 4.35 4.43 4.53 4.63 4.80 | Prin Win | Date - | 2/25-5/35 | 2/25-5/35 | 2/25-5/35 | 2/25-5/35 | 2/25-5/35 | 2/25-5/35 | 2/25-5/35 |
| Jan25 Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb GOVT(I) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30' 130P 307 278 48 312 168 245 106 115 162 42 27 22:25 4.30 4.28 4.35 4.43 4.53 4.63 4.89 |] | Spread • | 75 | 76 | 75 | 75 | 75 | 74 | 74 |
| 130P 307 278 48 312 168 245 106 115 162 42 27 22:25 4.30 4.20 4.28 4.35 4.43 4.53 4.63 4.80 | Jan25 Der | c Nov Oct | Sep Aug Jul | Jun May A | pr Mar Feb | GOVT(I) | 6M 1Y 2Y | 3Y 5Y | 7Y 10Y 30Y |
| | 130P 307 | 7 278 48 | 312 168 245 | 106 115 1 | 62 42 27 | 22:25 | 4.30 4.20 4.28 | 4.35 4.43 4. | 53 4.63 4.86 |
| 7.8C 18.4 16.7 2.9 18.7 10.1 14.7 6.4 6.9 9.7 2.5 1.6 Disc $\frac{30}{360}$ $\overrightarrow{31}$ 30 | 7.8C 18.4 | 4 16.7 2.9 | 18.7 10.1 14.7 | 6.4 6.9 9 | 9.7 2.5 1.6 | Disc 30/36 | 50 • 3 Y | 30Y | |

→ {36 <GO>}

OAS – Single Security Analysis

| R 2005-59 CB Mtge | Settings | | | | | Ор |
|-------------------|-------------------------|-----------------------|---------------------|----------------------|-----------------------|-----------|
| | 100% FNCL 5.5 S | 5.969(105)243 CUSIP 3 | 1394EVE5 Pool Lev | el | Factor Date | 1/2025 |
| | с | | | | | |
| | Quote 101-06 Pl | rice 🔹 Prepay 100 | BAM 🔹 *Productio | n 🔹 🖍 Rate Env 🛛 NY | ′ 4PM Close 🔽 01/ | 16/2025 E |
| | | | v1.45 | Settle Date | 01/ | 22/2025 |
| | | | | Discount Curv | e Treasury (125) | |
| | Socurity Info Collatora | l Info | Applytics Market Ep | Market Model | Default | |
| | Security Into Cottatera | | Anatytics Market En | Vironment Piodet Hts | Projections | |
| | Bond Summary | Group Summary | OAS Analytics | ZV Analytics | KR Durations | 9 🔹 |
| | Issuer Fannie Mae | Group 30YR5.5FN | OAS 69. | 1 Spread | 71.8 <mark>6</mark> M | 0.00 |
| | Series 2005-59 | Collat ENCL 5.5 S | 0AD 3.8 | 3 Duration | 3.85 <u>1</u> Y | 0.03 |
| | Class CB | Waterfall | 0AC 0.1 | 2 Convexity | 0.15 <mark>2</mark> Y | 0.25 |
| | Descr EXCH. SC | # Pools 35 | OASD 3.9 | 2 Sprd Dur | 3.93 <mark>3</mark> Y | 0.81 |
| | Mty 07/25/35 | Orig Bal | OASC 0.2 | 0 Yield 5 | .161 <mark>5</mark> Y | 1.16 |
| | Orig Bal 4.3MM | Cur Bal 6.5MM | Opt Cost 2. | 7 WAL | 4.54 7Y | 1.24 |
| | Cur Bal 3.8MM | PAC (%) N.A. | +25bp Px 100.22 | 0 +25bp Px 100 | .215 10Y | 0.35 |
| | Factor 0.870797420 | SUP (%) N.A. | -25bp Px 102.16 | 3 -25bp Px 102 | .170 20Y | -0.01 |
| | | | | | 30Y | 0.00 |
| | Payment Details | Coupon Details | Static Analytics | Prenav Projection | | ations |
| | Next Pay 02/25/25 | Coupon 5.500 | Price 101 18 | 8 1Y CPR | 8.6 Mtge Rate | -0.04 |
| | Rcd Date 01/31/25 | Accrued 0.321 | Vield 5 16 | 1 3Y CPR | 9.2 Cur Con | -0.03 |
| | Pay Date 25th | Cap (%) | WAI 4.5 | 4 IT CPR | 9.5 30Y Cur Con | 0.00 |
| | Pay Freq Monthly | Floor (%) | Mod Dur 3.8 | 4 ZV 1Y CPR | 8.7 15Y Cur Con | -0.03 |
| | Pay Delay 24 Days | Formula | Yield Sprd 77. | 9 ZV 3Y CPR | 9.2 Pure Vega | -0.0023 |
| | | | Cashflow Sprd 73. | 5 ZV LT CPR | 9.5 Prepay | 0.0020 |
| | | | | | | |

Source: Bloomberg

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{OAS1 <GO>}

Using OAS to identify relative value opportunities in MBS

| | Туре | CPN | A/L @ Base | A/L +300 | Yield | I Spread | BAM TOAS | BAM Eff Convexity | Est\$ Price | WAC | WALA (months) | WACLS/WAOL S | Max Loan Size |
|-----------------|-------------------------------|-----|---------------|----------|-------|----------|-------------|----------------------|----------------|------|------------------|-----------------|---------------|
| FNR 05-59 CB | Seasoned Agency CMO | 5.5 | 4.65 | 4.88 | 5.16 | +75 | +69 | +0.12 | 101-06 | 5.96 | 243 | 46k | 113,000 |
| FHR 5427 VD | New Issue Agency CMO | 5.5 | 4.62 | 4.62 | 5.18 | +80 | +35 | -0.93 | 101-00 | 6.97 | 13 | 442k | 1,399,000 |
| FRSB8353 | 15yr pool | 5.5 | 5.10 | 6.34 | 5.20 | +84 | +29 | -0.98 | 100-26 | 6.33 | 1 | 389k | 938,000 |

Source: Bloomberg

Embedding OAS analysis within a multiple security format

| | 23 | | | | | | | Base Case Metrics | | | Up 300bp Metrics | | | | FMED | | | |
|-----------------|-----------|--------------------------------|--------------|--------------|------|----------|---------|-------------------|-------------|-------|------------------|---------------|-----------------|-----------------|-----------|------|----------|----------|
| Security Name | CUSIP | Tranche Type <mark>↓</mark> | OF 🔽 | Current Par | CPN | Collat | Px ▼ | I-Sprd ▼ | BAM TOAS | Yield | WAL | WAL +300h- | I-Sprd +3001 | Yield +300h⊋ | Extension | FMED | MVV +200 | MVV +300 |
| FHR 5245 CB | 3137H8M81 | AD,PAC | \$1,494,824 | \$1,128,555 | 4.00 | FNCL 5.5 | 97.49 | 50 | 26 | 4.87 | 3.03 | 4.27 | 22 | 4.65 | 1.24 | PASS | -7.21% | -11.07% |
| FNR 2024-77 A | 3136BTQD8 | SEQ | \$4,000,000 | \$3,771,899 | 4.50 | FNCL 6.5 | 98.08 | 76 | 20 | 5.13 | 3.10 | 6.33 | 33 | 4.86 | 3.23 | PASS | -10.35% | -15.38% |
| GNR 2022-125 PA | 38383TVY6 | AD,PAC | \$3,885,000 | \$2,900,367 | 4.00 | G2SF 5 | 97.41 | 53 | 20 | 4.90 | 3.11 | 4.15 | 28 | 4.70 | 1.04 | PASS | -7.04% | -10.68% |
| FNR 2024-103 DA | 3136BUNW6 | SEQ | \$54,000,000 | \$52,923,247 | 5.00 | FNCL 6.5 | 98.88 | 96 | 35 | 5.33 | 3.17 | 6.07 | 70 | 5.21 | 2.90 | PASS | -9.44% | -14.23% |
| GNR 2024-175 BA | 38384VTG2 | SEQ | \$34,761,177 | \$34,471,081 | 4.00 | G2SF 5.5 | 96.55 | 81 | 43 | 5.18 | 3.18 | 5.26 | 29 | 4.77 | 2.08 | PASS | -8.71% | -14.07% |
| GNR 2024-203 LC | 38385BVC1 | SEQ | \$7,848,762 | \$7,813,133 | 5.00 | G2SF 6.5 | 99.04 | 93 | 28 | 5.31 | 3.18 | 6.93 | 63 | 5.18 | 3.75 | PASS | -9.36% | -15.27% |
| GNR 2009-10 MZ | 38374TBD5 | Z,SEQ | \$1,654,255 | \$1,344,186 | 5.50 | GNSF 5.5 | 100.90 | 79 | 73 | 5.17 | 3.30 | 3.45 | 80 | 5.19 | 0.15 | PASS | -5.64% | -8.34% |
| FNR 2024-101 CD | 3136BUFU9 | EXCH, SEQ | \$68,000,000 | \$67,475,307 | 5.00 | FNCL 6 | 98.44 | 95 | 38 | 5.39 | 4.37 | 6.98 | 72 | 5.28 | 2.61 | PASS | -10.38% | -15.41% |
| GNR 2003-85 ZB | 38374C3R0 | C(11),SUP,Z | \$48,800,000 | \$2,298,175 | 5.50 | G2SF 6 | 100.91 | 77 | 70 | 5.15 | 3.36 | 3.57 | 78 | 5.17 | 0.21 | PASS | -5.75% | -8.56% |
| GNR 2024-180 J | 38384YX63 | SEQ | \$3,400,000 | \$3,387,416 | 5.50 | G2SF 5.5 | 100.30 | 98 | 28 | 5.36 | 3.31 | 5.40 | 94 | 5.43 | 2.09 | PASS | -7.44% | -12.18% |
| FNR 2024-98 A | 3136BUCW8 | SEQ | \$32,235,000 | \$31,378,884 | 5.50 | FNCL 6.5 | 99.81 | 112 | 28 | 5.50 | 3.39 | 7.17 | 97 | 5.53 | 3.78 | PASS | -9.84% | -14.91% |
| FNR 2024-104 AC | 3136BUET3 | SEQ | \$7,000,000 | \$6,905,545 | 5.00 | FNCL 6 | 98.52 | 94 | 23 | 5.37 | 4.28 | 7.10 | 70 | 5.26 | 2.82 | PASS | -10.39% | -15.41% |
| FHR 3770 PY | 3137A4ML8 | PAC(11) | \$1,318,515 | \$1,318,515 | 5.00 | FGLMC 5 | 100.96 | 28 | 25 | 4.67 | 3.41 | 3.41 | 28 | 4.67 | (0.00) | PASS | -5.68% | -8.33% |
| FNR 2024-96 DA | 3136BTM67 | SEQ | \$20,000,000 | \$19,359,489 | 5.50 | FNCL 6 | 100.28 | 95 | 14 | 5.38 | 4.22 | 7.04 | 88 | 5.44 | 2.82 | PASS | -9.57% | -14.45% |
| FHR 5419 BD | 3137HD2R0 | EXCH, SEQ | \$16,000,000 | \$12,712,407 | 6.00 | FNCL 6 | 100.82 | 128 | 42 | 5.67 | 3.52 | 5.85 | 130 | 5.81 | 2.33 | PASS | -7.98% | -12.29% |
| FHR 5418 DA | 3137HD4T4 | SEQ | \$34,000,000 | \$27,522,466 | 6.00 | FNCL 6 | 100.72 | 130 | 48 | 5.68 | 3.26 | 5.30 | 133 | 5.81 | 2.04 | PASS | -7.44% | -11.50% |
| GNR 2024-203 YA | 38385BUV0 | SEQ | \$34,000,000 | \$33,964,763 | 5.00 | G2SF 6.5 | 98.53 | 106 | 24 | 5.45 | 3.52 | 7.22 | 71 | 5.27 | 3.70 | PASS | -9.97% | -16.02% |
| | | | | | | | | | | | | | | | | | | |

OAS Summary

- OAS Optimizes relative value analysis over static valuation methods
- OAS can be used to identify higher OAS relative to static spreads for MBS
- Option Cost = ZV Spread/Nominal Spread OAS
- Bloomberg allows selection of OAS discount curve {MDF <GO>}: Treasury or SOFR Swap
- Asset managers are especially aggressive users of OAS as a tool for optimizing risk adjusted returns
- Clients, traders, research, and strategists can use OAS methodology to determine if MBS are overvalued/undervalued vs historical levels or vs other similar credit fixed income alternatives
- OAS can provide validation for intuitive valuation of MBS
- It is becoming more common for buyside accounts to apply OAS analysis in their investment decisions

Source: PSC

Securitized Products – Floating Rate Opportunities in 2025

Fed Funds Futures {WIRP <go>} estimates the market implied path for Fed Funds at the scheduled FOMC meeting dates "Higher for Longer ?"

| Region: United Sta | ates » | I | Instrument: Fed Funds Futures » | | | | | | |
|--------------------|-------------|-----------|---------------------------------|--------------|------------|--|--|--|--|
| Target Rate | 4.50 | F | Pricing Date | | 01/10/2025 | | | | |
| Effective Rate | 4.33 | C | 4.329 | | | | | | |
| | | | | | | | | | |
| Meeting | #Hikes/Cuts | %Hike/Cut | Imp. Rate ∆ | Implied Rate | A.R.M. | | | | |
| 06/18/2025 | -0.764 | -34.2% | -0.191 | 4.138 | 0.250 | | | | |
| 07/30/2025 | -0.847 | -8.3% | -0.212 | 4.117 | 0.250 | | | | |
| 09/17/2025 | -1.000 | -15.3% | -0.250 | 4.079 | 0.250 | | | | |
| 10/29/2025 | -1.077 | -7.7% | -0.269 | 4.060 | 0.250 | | | | |
| 12/10/2025 | -1.149 | -7.2% | -0.287 | 4.042 | 0.250 | | | | |
| 01/28/2026 | -1.137 | +1.2% | -0.284 | 4.045 | 0.250 | | | | |
| 02/10/202/ | 4 4 4 0 | | 0.077 | 4.050 | 0.050 | | | | |

Securitized Products Floating Rate Opportunities in 2025

Agency Adjustable-Rate Mortgage Pools (ARM's)

- Issued as "Hybrid" Securities Fixed /Floating | Underlying loans are ARM's | Index: CMT or SOFR
- Syr/1yr, 5yr/1yr, 7yr/1yr, 10/1 | Longer Effective Durations | Typically Annual Reset after Fixed Rate Period
- Lifetime & Periodic Coupon Caps | Example of 3/1 cap structure : 2/2/5 | spread vs Z curve @ 15 CPB

Floating Rate Agency Commercial Mortgage-Backed Securities

 Monthly Coupon Reset | Shorter Stated Finals (e.g 5 to 8yrs) Uncapped or Available Funds Caps(AFC) | backed by FRM

Floating Rate Agency CMO's

- Monthly Coupon Reset | Lifetime or Available Funds Cap | No Periodic Cap | backed by FRM
 Federal Family Education Loan Program (FFELP)
- Seasoned: 2010 or < issuance | 97% to 100% DOE Gty | No Lifetime or Periodic Cap | Quarterly/Monthly Coupon Reset | Credit Enhancement/Senior Subordinated Structure

SBA 7(a) Pools – (Small Business Administration)

 Quarterly/Monthly Coupon Reset | No Lifetime or Periodic Cap | Direct Obligation of U.S | Index: PRIME| Monthly P&I | Max Maturities: 25 yrs RE, 10yrs for Work Cap/Equipment | underlying loans are adjustable rate | Index Diversification vs SOFR | 0% Risk Weighted Asset for Financial Institutions

*As of 09/2023

Source: Bloomberg, Freddie Mac, Fannie Mae, Ginnie Mae

FFELP Adjustable-Rate Securities

- FFELP securities are a subset of the SLABS market (Student Loan Asset-Backed Securities) that were created from federally guaranteed student loans made under the <u>Federal Family Education Loan Program</u>
- FFELP loans include: Subsidized & Unsubsidized Federal Stafford Loans, FFEL Plus Loans, FFEL Consolidation Loans
- The Program was terminated on July 1, 2010, after the U.S congress passed legislation authorizing direct lending of all federal student loans by the DOE
- As of December 31, 2023 approximately \$185 billion in FFELP loans remained outstanding
- Top 5 issuers of FFELP loans : Navient(Previously SLMA) , Nelnet, Truist, Educational Credit Management Corporation(ECMC) , PA Higher Ed Asst Authority (PHEAA)
- FFELP loans are at minimum 97% guaranteed + accrued interest by the U.S Department of Education (DOE)
- Capital Structure: "Waterfall" Senior/Subordination
- Senior Tranche Credit Enhancement Options: Subordination, Excess Spread, Overcollateralization
- Generally are uncapped | Indexed to SOFR | 1month or 3-month coupon reset frequencies
- Post FFELP issuance in Private (Non-DOE guaranty) SLABS is primarily 144a
- Prepayment speeds are critical to evaluating current and future performance of FFELP Securities
- Prepayments and thus WAL (Weighted Avg Life) are impacted by voluntary shift from standard loan term 10yrs vs (IDR – Income Driven Repayment) up to 25yrs, Involuntary (Default and subsequent payout by the DOE) and Forbearance.

FFELP Example: SLMA 2003-10A A4 :Structure Paydown "Waterfall"

| Class | Composite Rating | Current Par | WAL | Orig Credit Support | Current Credit Support |
|---------|------------------|------------------|-------|---------------------|------------------------|
| A4 | AA | 446,178,000 | 4.63 | 4.12% | 17.38 |
| В | BBB | 90,350,000 | 13.58 | 27.35% | 0.53 |
| Reserve | | <u>3,013,000</u> | | | |
| Total | | 539,541,000 | | | |



FEELP Example: SLMA 2003-10A A4 : Quarterly Coupon Reset : SORF90A +26.1bp

| Cpn Reset | Curr Yield | YTF | DM | WAL | 1mo | 3mo | 6mo | 12mo | Repayment % | C/E% | Cum. Coll Loss | DOE Gty | Mdys/S&P/Fitch |
|-----------|------------|------|----|------|-----|-------|--------|--------|-------------|-------|----------------|---------|----------------|
| Qrtrly | 5.63 | 5.11 | 95 | 4.65 | - | 8 CPR | 21 CPR | 22 CPR | 86.38% | 17.38 | 0.38% | 97% | A1/AA+/AA+ |

| MA 2003-10A A4 Mtge | Actions | Export | - Settings | | | | | | |
|---------------------|------------------------------|------------|--------------------------------------|-------------------------------------------|-----------------------------------|---------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|
| | US STUDEN | Т | 5.420(180 |) CUSIP 78 | 442GJH0 R | eplines 🔹 | | A | s of 12/2024 🔻 |
| | 12/24C 3Mo 6Mo 12Mo | DS | Delinq 30D 3. 60D 2. 90D 1. | Cr Supp 17 95 Bkrp 82 FC .09 REO | 7.38 FCH AA+ S&P AA+ MDY A1 | Coupon 5.7 Traits Call 09, # Loans | 73985% Delay FLT CFace 4 /01/15 OFace 8 27.840 Factor | 0 Matur 446.2MM Create 826.6MM 1st Pr 0.5398 Next 1 | ity 12/17/68 ed 01/09/25 roj 03/15/25 Pay 03/17/25 |
| | S Model N | otes | 60+ 7 | .09 CumLoss 0 | .38 | (1.0X(SOFR90 | 0A+26.1BP)) | Flr | 0.00% Otly |
| | | | | | 1) Price-to- | rield | | Current | SOFR90A 4.6416 |
| | Settle | 01/10/25 | C | F CF | CF | CF | CF | CF | CF |
| | Indices/C | alls | C+0 N | C+0 N ▼ | C+0 N - | C+0 N - | C+0 N ▼ | C+0 N - | C+0 N ▼ |
| | Vary | C | 8 CPI | R 0 CPR | 6 CPR | 12 CPR | 18 CPR | 24 CPR | 30 CPR |
| | Price | 99-29+ | 5.638 | 5.6286 | 5.6358 | 5.6448 | 5.6551 | 5.6664 | 5.6787 |
| | Avg Life | | 4.6 | 5 7.93 | 5.28 | 3.68 | 2.72 | 2.11 | 1.70 |
| | Spread Du | uration | 3.8 | 5 6.07 | 4.29 | 3.14 | 2.40 | 1.91 | 1.56 |
| | Prin Win | | 3/25-12/3 | 5 3/25-6/38 | 3/25-9/36 | 3/25-3/34 | 3/25-3/32 | 3/25-9/30 | 3/25-6/29 |
| | | I Spread | 12 | 1 102 | 117 | 127 | 134 | 139 | 145 |
| | Dec24 Se V | p Jun Ma | ir Dec Sep | Jun Mar Dec | Sep Jun Ma | ar GOVT(I) 22:36 | 6M 1Y 2Y 4.26 4.14 4.26 | (<u>3Y</u> 5Y 5 4.33 4.45 4. | 7Y 10Y 30Y 57 4.68 4.93 |
| | C - | | | | | Disc Act/3 | 360 • 3 Y 9 | 99-24+ <mark>5Y</mark> 99 | -21+ |

Securitized Products Strategies for 2025 – Agency CMBS

Swap out of high-grade taxable municipals/corporate debt into non amortizing (balloon principal payment) Agency CMBS . Pick up spread, credit quality, monthly cashflows

Agency CMBS: FNMA DUS | FHMS K | FNMA "ACEs"

Agency (GSE) Guarantee

- Underlying collateral: Multi Family, Senior Housing, Manufactured Housing, Student Housing
- Shorter stated finals @ issuance: e.g. 10yr, 7yr, 5yr
- Zero Extension risk
- Strong call protection provisions:
 - Underlying repayment penalties disincentivize voluntary prepayments
 - Positive convexity
- Prepayment penalty types: (YM) Yield Maintenance, Defeasance, (DPP) Declining Prepayment Penalty, (L/O) Lockout
- Cashflows: Monthly Amortizing P&I, Hybrid Balloon (IO period followed by interest and principal period), interest only followed by one-time ("Bullet") principal payment

Annual Cash Flows of Two Million Invested in Three Different FNMA DUS (Examples Include WAL of 4.8 to 5.3 Years)

Interest-Only Period with Scheduled P&I After 1 Year,



Interest-Only with Balloon Principal Payment at Maturity

Scheduled P&I with Balloon Principal Payment at Maturity



FNMA DUS ACMBS – FNBZ2733

| СРҮ | Average Life | Yield | Spread | CF |
|-----|--------------|-------|--------|------------------------------------------------------|
| 0 | 5.01 | 4.71 | +37bp | Monthly IO with single principal payment: 01/01/2030 |
| 100 | 4.51 | 4.72 | +40bp | Monthly IO with single principal payment: 07/01/2029 |

Maturity: 1/012030 | Duration : 4.40 | +0.23 Convexity

| Mtge | Actions | Export 🔹 | Settings | | | | | | |
|------|-----------------------------|-----------|-------------|-------------------|-------------|---------------|-----------------|---------------------------|----------------|
| | US POOL | | 5.590(60)0 | CUSIP 314 | 40NXBB8 | ool Level 🔽 | | As | of 01/2025 - |
| | 1/25P | CB | Traits H | X, Balloon, ACT | / Coupon | 4.45% Matur | rity 01/0 | 01/30 <mark>CA</mark> 100 | % 2025 100% |
| | 3Mo | | 01/01/202 | 8,660,0 | 00 LTV | 63 Accru | al 01/01-0 | 01/31 | |
| | 6Mo | | 01/27/202 | 8,660,0 | 00 MAXLS | Next | Pay 02/2 | 25/25 | |
| | 12Mo | | Factor | 1 | 0 DSCR | 1.52 | | | |
| | Life | | # Loans | | 1 | | | | |
| | | | | 1) Price-to-Yield | | | | | |
| | Settle | 01/23/25 | CF | CF | CF | CF | CF | CF | CF |
| | Vary | 0 | 0 CPY | 100 CPY | 0 CPY | 0 CPY | 0 CPY | 0 CPY | 0 CPY |
| | Price | 99-00 | 4.7175 | 4.7298 | 4.7175 | 4.7175 | 4.7175 | 4.7175 | 4.7175 |
| | Avg Life | | 5.01 | 4.51 | 5.01 | 5.01 | 5.01 | 5.01 | 5.01 |
| | Mod Dura | tion | 4.39 | 3.99 | 4.39 | 4.39 | 4.39 | 4.39 | 4.39 |
| | Prin Win | Date 🔻 | 1/30-1/30 | 7/29-7/29 | 1/30-1/30 | 1/30-1/30 | 1/30-1/30 | 1/30-1/30 | 1/30-1/30 |
| | | I Spread | 37 | 40 | 37 | 37 | 37 | 37 | 37 |
| | Jan25 De | ec Nov Oc | t Sep Aug J | lul Jun May | Apr Mar Fel | GOVT(I) | 6M 1Y 2Y | 3Y 5Y | 7Y 10Y 30Y |
| | P | | | | | - 19:15 4. | 28 4.15 4.22 | 4.27 4.34 4. | 44 4.55 4.80 |
| | C | | | | | - Disc 30/360 | • 5 ¥ 10 | 00-04 [:] 7Y 100 | -10- |
| | | | | | | | | | |

100 CPY represents the expiration of the prepayment penalty period – 07/01/2029

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ACMBS Relative Value Analysis: ~ e.g. 5yr Maturity

| | Moodys | S&P | Maturity | Spread | Positive Convexity | Risk Weight |
|--------------------------------------------------------------|--------|------|----------|--------|-----------------------|----------------|
| FNMA DUS ACMBS - FN BZ2733 | Aaa* | AA+* | 1/01/30 | +37bp | Yes | 20% |
| Waterloo, IA G.O Taxable Municipal | Aa2 | - | 6/01/30 | +12bp | Yes | 20% |
| Walmart Senior Corporate Debt | Aa2 | AA | 4/15/30 | +7bp | Yes | 100% |
| Agency (GSE) - Non-Callable | Aaa* | AA+* | 1/21/30 | +2bp | Yes | 20% |
| Certificate of Deposit (FDIC Gty up to \$250m per issuer) | NR | NR | 1/28/30 | -28bp | Yes | 0% |

*AAA/AA+ are the long term Moodys/S&P ratings for U.S. Government debt

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