



Mortgage Pricing Insights

AUGUST 2020

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INTRODUCTION

MORTGAGE PRICING INSIGHTS REPORT SUMMARY

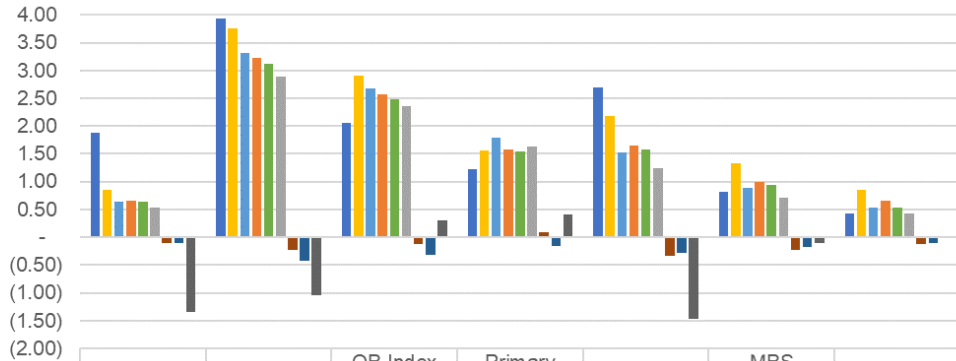
Optimal Blue and Andrew Davidson & Co., Inc. (AD&Co), a leading provider of risk analytics and consulting for residential lending and MBS, have partnered to deliver the Mortgage Pricing Insights report. Released monthly, this robust report leverages proprietary data and analytics produced by both firms to provide a comprehensive view into mortgage finance across the primary and secondary markets. For access to the data and analytics displayed herein, please contact Optimal Blue and/or AD&Co through the contact information provided on page 14.

JULY MARKET OBSERVATIONS

- The 10-year Treasury rate closed at 55 bps during July—down 11 bps from June, indicating continued economic weakness.
- Primary mortgage rates fell by about 23 bps to 2.89% during July. Consequently, the primary mortgage rate spread to the 10-Year Treasury fell by 13 bps to 235 bps. AD&Co mortgage rate forecasting models show this spread to be about 35 bps wider than a projected long run equilibrium. During July, mortgage rates fell less than the drop in secondary market yields, widening the primary to secondary yield spread (PSS) 10 bps to 164 bps. AD&Co models forecast a long run PSS of near 125 bps. The downward lag in mortgage rates reflects the ongoing strain in the primary markets.
- Secondary market rates and spreads moved significantly lower during July. MBS current coupon yields fell by 34 bps and the OAS of MBS fell by 12 bps, driving the MBS yield spread to the 10-year Treasury 23 bps tighter. MBS secondary spreads now appear within a normal range relative to their longer run averages. Implied G-Fees indicate improving credit expectations for GSE conforming loans.
- The AD&Co mortgage forecast herein predicts only a modest drop—in the area of 2.68%—within the spreads and primary mortgage rates over the next three months to a year.
- Historically high purchase volume, with low rates facing a mortgage portfolio of well-underwritten loans with equity, allows for high refinancing numbers. Due to the COVID-19 pandemic, the number of people working from home has significantly increased and related consumer demand for larger houses in less expensive areas may have driven up purchase demand.
- The credit box has remained tight since financial markets seized up in the spring. Markets have now recovered, and housing prices remain strong, but credit has not relaxed. Policy and pandemic uncertainties persist, so it is unclear whether the right balance was struck in January or July. Regardless, credit is less available for those with lower income, lower credit scores, and less wealth.

MORTGAGE RATES

MORTGAGE RATE SUMMARY

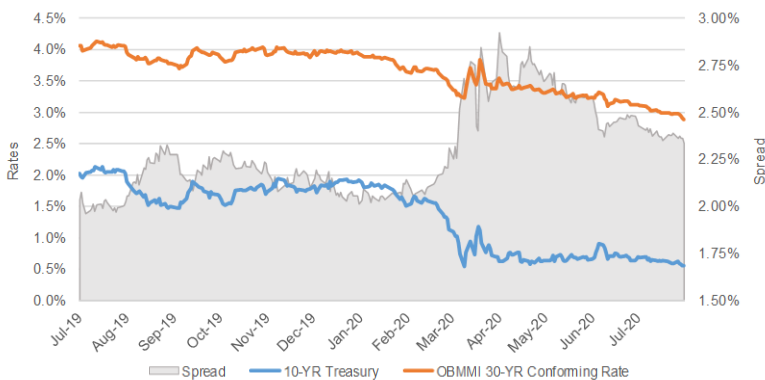


| | 10 Year | OB Index | OB Index Spread to 10 Year | Primary Secondary Spread | MBS Yield | MBS Spread to Tsy | MBS OAS |
|--------------|---------|----------|----------------------------|--------------------------|-----------|-------------------|---------|
| ■ Begin 2020 | 1.88 | 3.93 | 2.05 | 1.23 | 2.70 | 0.82 | 0.43 |
| ■ 20-Mar | 0.85 | 3.76 | 2.91 | 1.57 | 2.19 | 1.34 | 0.86 |
| ■ 30-Apr | 0.64 | 3.31 | 2.67 | 1.79 | 1.52 | 0.88 | 0.53 |
| ■ 31-May | 0.65 | 3.23 | 2.58 | 1.58 | 1.65 | 1.00 | 0.65 |
| ■ 26-Jun | 0.64 | 3.12 | 2.48 | 1.54 | 1.58 | 0.94 | 0.54 |
| ■ 31-Jul | 0.53 | 2.89 | 2.36 | 1.64 | 1.24 | 0.71 | 0.42 |
| ■ 1-Mon Chg | (0.11) | (0.23) | (0.12) | 0.10 | (0.34) | (0.23) | (0.12) |
| ■ 3-Mon Chg | (0.11) | (0.42) | (0.31) | (0.15) | (0.28) | (0.17) | (0.11) |
| ■ 2020 Chg | (1.35) | (1.04) | 0.31 | 0.41 | (1.46) | (0.11) | (0.01) |

Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi
AD&Co Analytics — ad-co.com

MORTGAGE RATE SPREAD TO TREASURIES

The 10-year Treasury yield fell approximately 10 bps to 0.55% in July, as the Fed continued its aggressive bond-buying program and investors sought safe allocation of their capital. The OBMMI benchmark 30-year conforming rate fell 23 bps as mortgage rates narrowed the elevated spread from the 10-year Treasury to 234 bps.



SPREAD TO TREASURY

Open: 246 bps
Close: 234 bps
Average: 238 bps
Min: 234 bps
Max: 243 bps

Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi
U.S. Department of the Treasury — treasury.gov

MORTGAGE RATES – Cont'd.

PRIMARY TO SECONDARY YIELD SPREAD

The mortgage rate spread to MBS rose 10 bps to 164 bps. This is well below the 191-bps peak in mid-March but remains historically wide. Originators report high profits per loan, but risk is elevated in several areas. Financing costs, hedging costs, and delivery uncertainties due to forbearance are all up; servicing values are down, and loan-processing capacity is constrained by the pandemic.



PRIMARY SECONDARY SPREAD

Open: 154 bps
 Close: 164 bps
 7-year Average: 129 bps
 7-year Min: 108 bps
 7-year Max: 191 bps

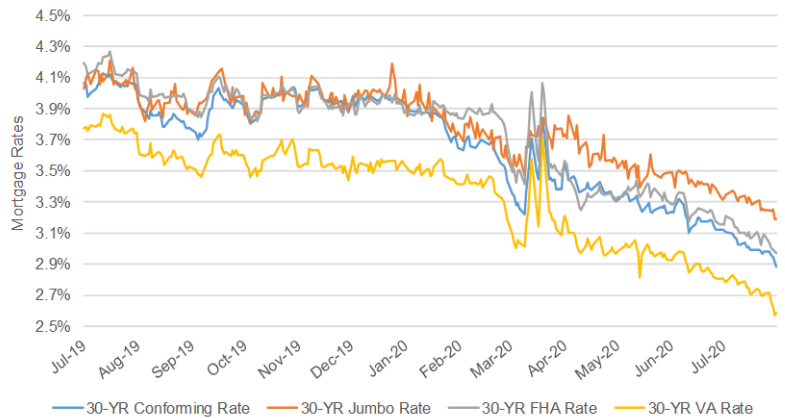
Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi
 Bloomberg L.P. — bloomberg.com

PRIMARY MORTGAGE RATES VIA OBMMI™

Borrowers saw rates continue their downward trajectory in July with no floor in sight, marking yet another month of all-time lows. Due to a lack of secondary market liquidity for non-agency products, jumbo rates remain high relative to those of federally connected loans; nonetheless, they are still historically low.

MONTHLY RATE AVERAGES (MoM)

30-YR. Conf.: 3.01% (-18 bps)
 30-YR. Jumbo: 3.29% (-13 bps)
 30-YR. FHA: 3.08% (-17 bps)
 30-YR. VA: 2.73% (-16 bps)

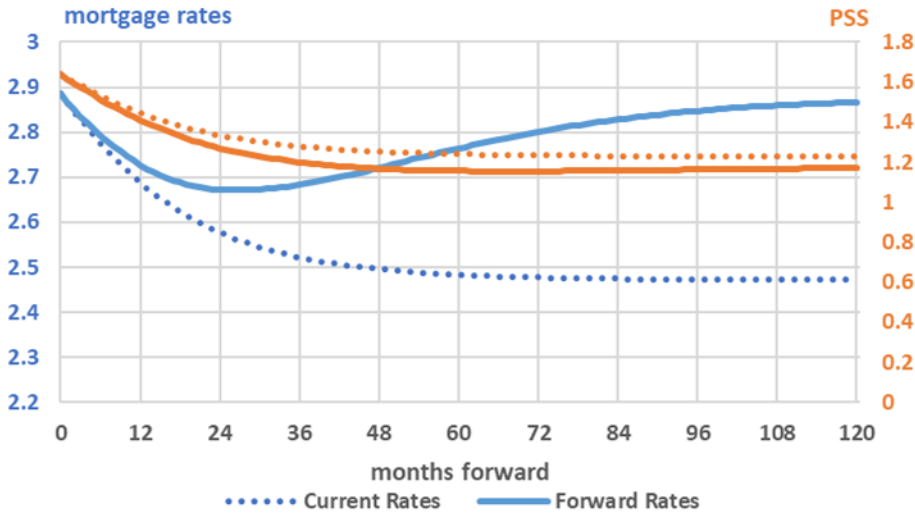


Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi

MORTGAGE RATES – Cont'd.

MORTGAGE RATE FORECAST

AD&Co forecasts for PSS and primary mortgage rates indicate rates will fall gradually over the next 12 months to 2.68%, with expected rates over the next 36 months between 2.50% and 2.70% based on current rates and forward rates.



RATE FORECAST

(PSS)

3 months: 2.82%

(150 bps)

6 months: 2.75%

(145 bps)

12 months: 2.68%

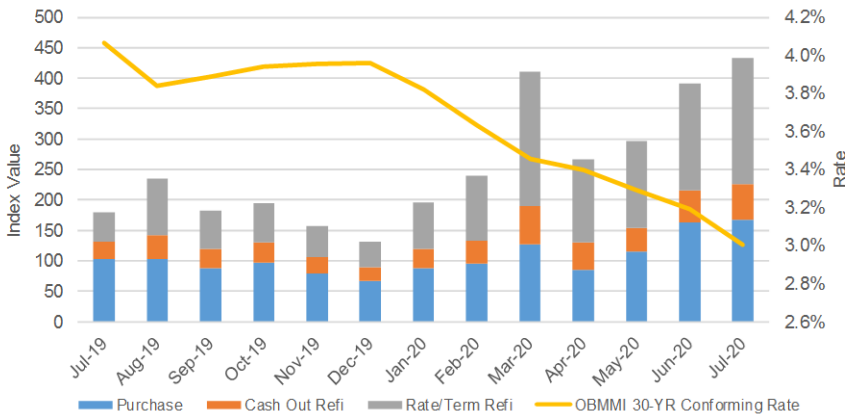
(138 bps)

Source: AD&Co Analytics — ad-co.com

PRIMARY MARKET

LOAN ORIGATION VOLUMES

July was a record month for rate lock volume, surpassing the previous high set in March. Rate/term lock volume was up over 300% from 2019, and cash-out refinance locks were up more than 100% year-over-year. As home buyers surged back into the market, purchase volume continued at the strong pace set in June.



VOLUME CHANGES

MoM, YoY

Purchase: +3%, +63%

C/O Refi: +12%, +103%

R/T Refi: +18%, +320%

Total: +11%, +140%

Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi
Optimal Blue Market Analytics — optimalblue.com/market-analytics

ORIGINATIONS BY PRODUCT

Conventional products took share from gov't. loans in July, as conforming and non-conforming volumes ticked higher. Conforming loans maintain a dominant market share; however, the market for non-conforming products, particularly jumbos, continues to show signs of recovery after bottoming in April. This is a good sign that liquidity may be returning for non-agency products.

PRODUCT SHARE

(MoM)

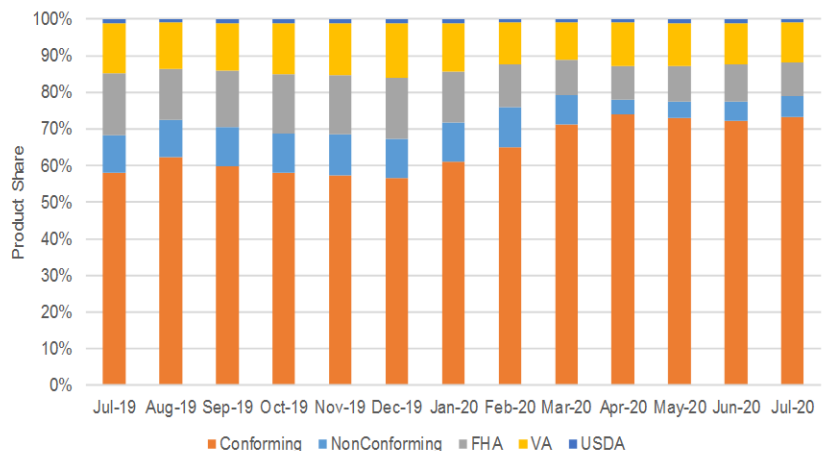
Conforming: 73.1% (+93 bps)

Non-Conforming: 5.7% (+51 bps)

FHA: 9.3% (-93/52 bps)

VA: 10.8% (-36 bps)

USDA: 1.0% (-15 bps)

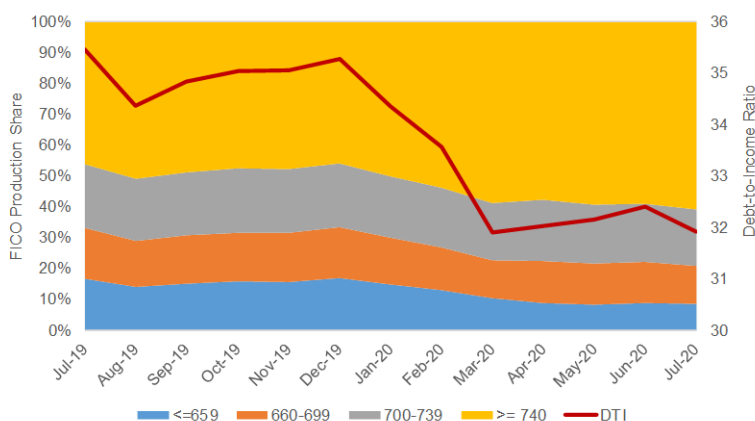


Source: Optimal Blue Market Analytics — optimalblue.com/market-analytics

PRIMARY MARKET - Cont'd.

ORIGINATIONS BY BORROWER CREDIT

As credit remains tight, high-FICO borrowers (740+) picked up a 2.0% share of the production in July and the average debt-to-income (DTI) ratio fell by 0.5%. Lender overlays that were meant to minimize fallout risk from forbearance risk have kept low-credit score borrowers on the sidelines. With no shortage of refi volume coming from lower risk borrowers, mortgage lenders are likely to maintain these high standards.



FICO BAND SHARE (MoM)

- <=659: 8.5% (-0.2%)
- 660-699: 12.5% (-1.0%)
- 700-739: 18.1% (-0.8%)
- >=740: 61.0% (+2.0%)

BACKEND DTI RATIO (MOM)

July: 31.9% (-0.5%)

Source: Optimal Blue Market Analytics – optimalblue.com/market-analytics

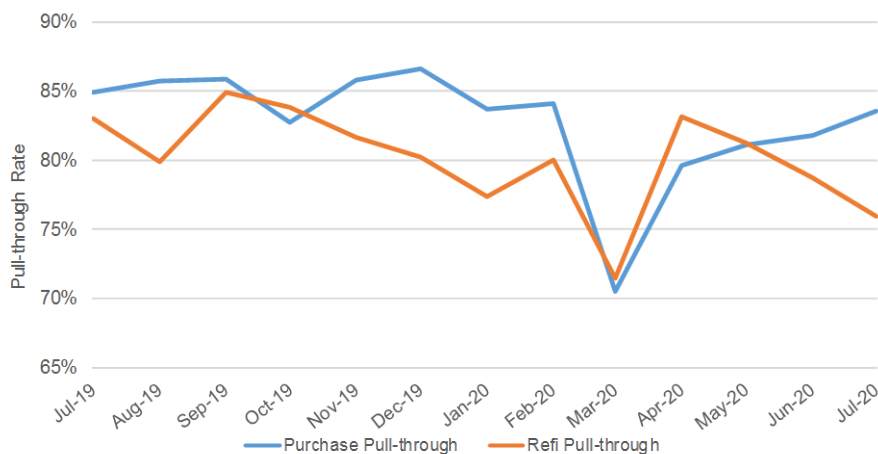
LENDER PIPELINE PULL-THROUGH

Rebounding after significant fallout in response to the COVID-19 pandemic, lender pipelines have now stabilized. Purchase pull-through rates ticked up to 84% in July, while refi pull-through rates dropped to 76%.

PULL-THROUGH (MoM)

Purchase: 83.6% (+1.8%)

Refi: 76.0% (-2.7%)

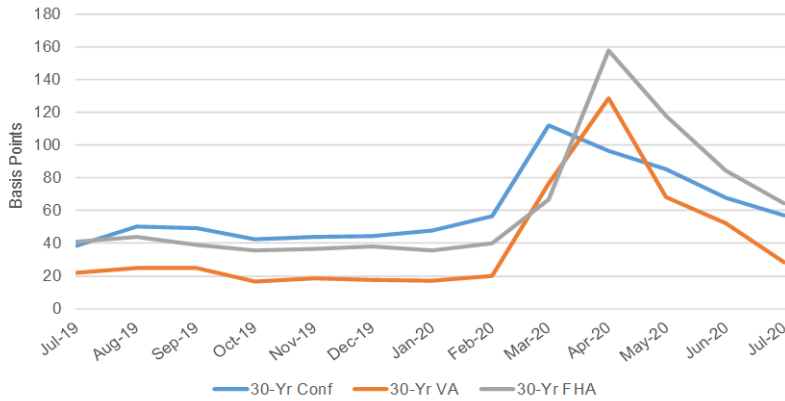


Source: Optimal Blue Hedge Analytics – optimalblue.com/hedge-analytics

PRIMARY MARKET - Cont'd.

BEST-EFFORTS VS. MANDATORY SPREAD

The spreads between best efforts and mandatory delivery fell again in July and are now very close to pre-pandemic levels. As stability returns to the market, the contracting spreads signal lower pipeline hedging costs for lenders.



BEST-EFFORTS VS. MANDATORY SPREAD (MoM)

30-YR. Conf.: 57 bps (-11 bps)
 30-YR. VA: 29 bps (-24 bps)
 30-YR. FHA: 64 bps (-20 bps)

Source: Optimal Blue Hedge Analytics – optimalblue.com/hedge-analytics

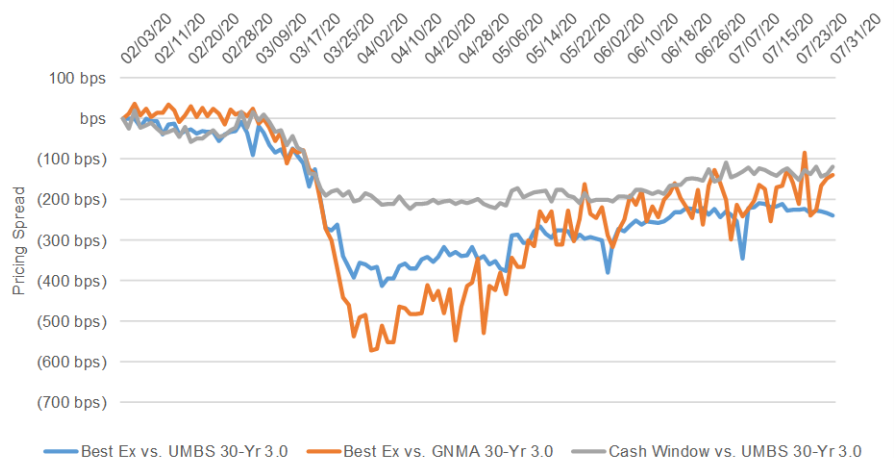
WHOLE LOAN VS. MBS PRICING

Investor/aggregator pricing relative to MBS is still down—roughly 1.5 to 2.5 points since the onset of the novel coronavirus. Although pricing has improved, concerns over forbearance have prevented a full return to “normal.” Government loan pricing improved by 27 bps in July, while conforming loan and cash window pricing was flat month-over-month.

SPREAD CHANGES (MoM)

Best Ex vs. UMBS: -4 bps
 Best Ex vs. GNMA: +27 bps
 Cash Window vs. UMBS: +6 bps

Spreads indexed to zero on February 3, 2020.

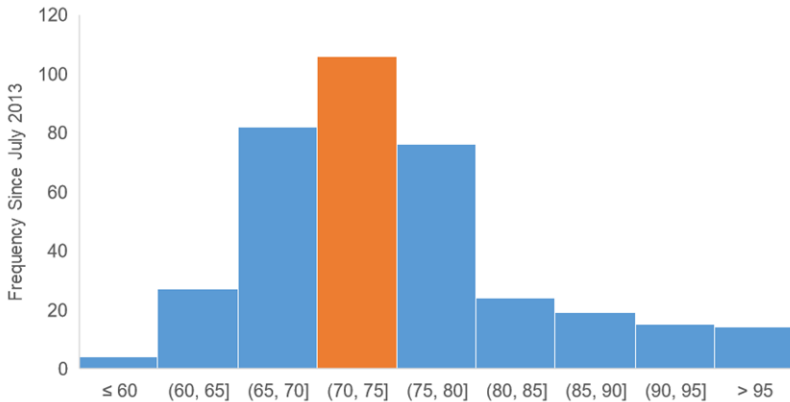


Source: Optimal Blue Hedge Analytics – optimalblue.com/hedge-analytics

SECONDARY MARKET

MBS NOMINAL SPREADS TO THE 10-YR. TREASURY

Nominal MBS spread to Treasury is 71 bps, down 23 bps for the month and 63 bps lower than the peak at 134 bps in mid-March. The nominal MBS spread to Treasury is now inside its 7-year trailing average of 75 bps.



MBS NOMINAL SPREAD

Current: 71 bps
Last Month: 94 bps
7-year Average: 75 bps
7-year Minimum: 57 bps
7-year Maximum: 141 bps

Source: AD&Co Analytics — ad-co.com

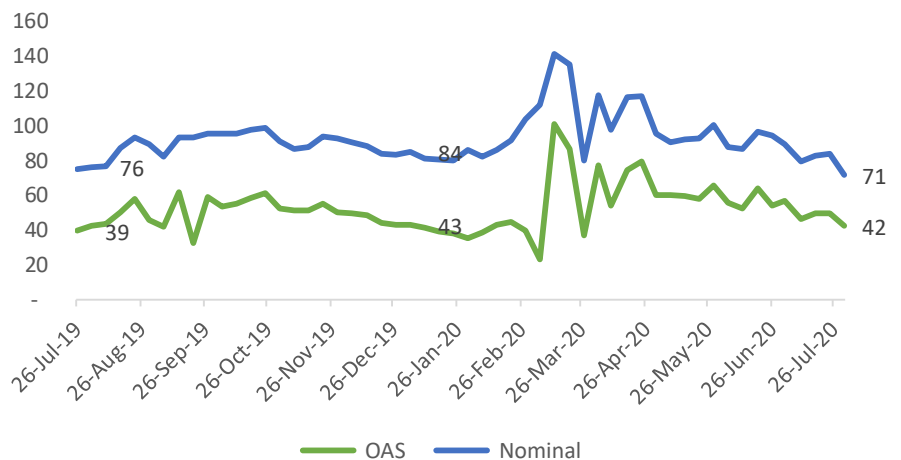
NOMINAL SPREAD & OAS HISTORY

MBS nominal and OAS spreads both tightened during July, and they now lie inside each of their respective trailing one-year averages. The two spreads are very near to pre-pandemic levels as well as to the levels observed a year ago.

MONTHLY SPREADS

NOMINAL, OAS

Last Month: 94, 54
Current: 71, 42
Average: 92, 52
Minimum: 71, 23
Maximum: 141, 101

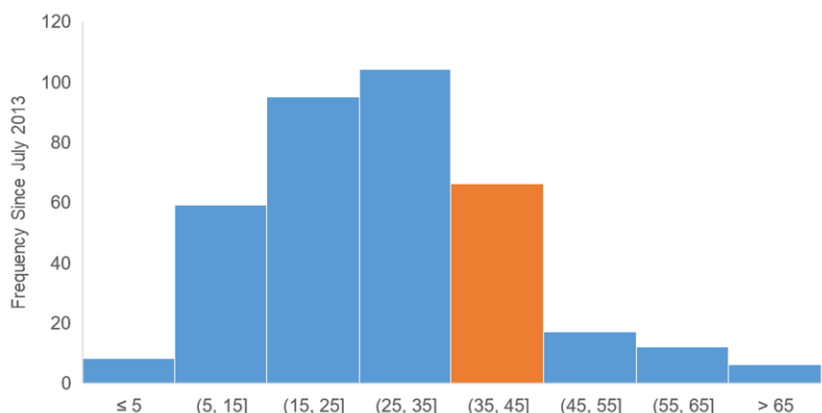


Source: AD&Co Analytics — ad-co.com

SECONDARY MARKET – Cont'd

MBS CURRENT COUPONS OAS TO SWAPS

Since late-May, MBS OAS has tightened by 11 bps to 42 bps, but remains wide over the past 7 years. The long-term average OAS is 28 bps. The current, wide MBS OAS reflects risk of adverse speeds.



MBS OAS
 Current: 42 bps
 Last Month: 54 bps
 7-year Average: 28 bps
 7-year Minimum: 2 bps
 7-year Maximum: 101 bps

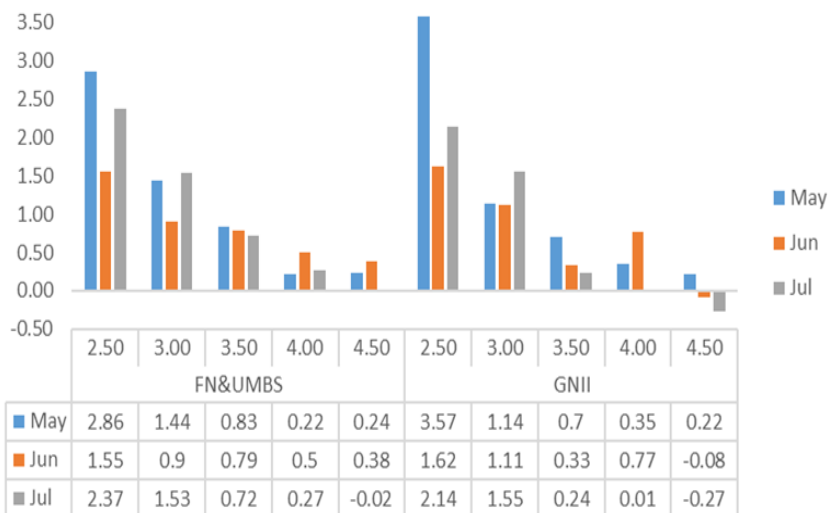
Source: AD&Co Analytics — ad-co.com

30-YR. MBS EMPIRICAL DURATIONS

Empirical durations indicate that investors are willing to pay for additional mortgage coupons. The lower coupon MBS empirical durations became significantly longer during July, while higher-premium coupon MBS empirical durations were only marginally shorter.

CHANGE

- GNII 2.5: +1.95
- GNII 3: +0.03
- GNII 3.5: +0.37
- GNII 4: -0.42
- GNII 4.5: +0.30
- FN&UMBS 2.5: +1.31
- FN&UMBS 3: +0.54
- FN&UMBS 3.5: +0.04
- FN&UMBS 4: -0.28
- FN&UMBS 4.5: -0.14

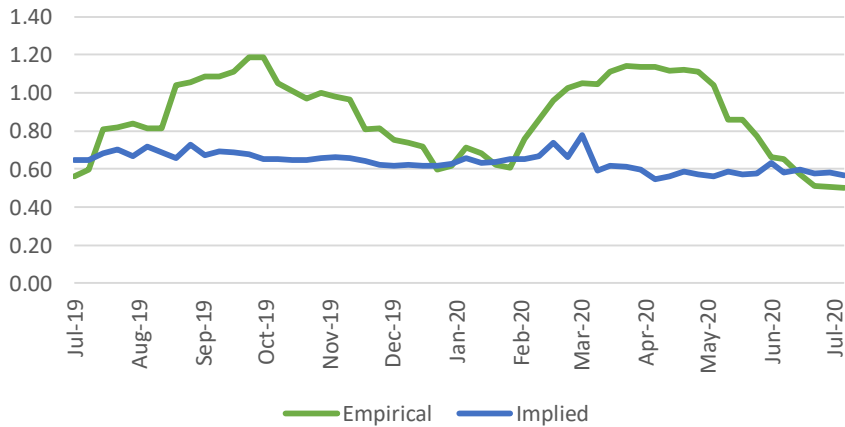


Source: AD&Co Analytics — ad-co.com

SECONDARY MARKET - Cont'd

EMPIRICAL VS. IMPLIED VOLATILITY

Empirical volatility measurement is based on weekly changes in a 60-day moving average for a 10-year swap rate, annualized. Implied volatility used in MBS OAS calculations had recently been well below realized volatility. Driven by decreases in the observed volatility of market prices as risk conditions have gradually steadied, the difference between the two series has narrowed over the last several months.



VOLATILITY
EMPIRICAL, IMPLIED
 Last Month: .67, .63
 Current: .50, .57
 Average: .87, .64
 Minimum: .50, .55
 Maximum: 1.19, .78

Source: AD&Co Analytics — ad-co.com

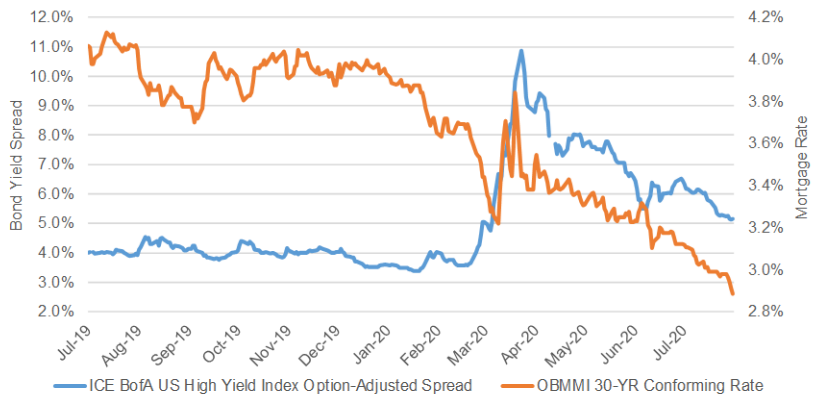
CORPORATE CREDIT MARKET HIGH-YIELD SPREADS

Corporate credit spreads fell over 120 bps in July to 516 bps. Corporate spreads are now just over 150 bps wider than pre-COVID-19 levels. Mortgage rates, funding costs, and corporate credit spreads all continue to trend downwards.

CORPORATE HIGH-YIELD SPREADS

March 20: 1087 bps
 June 30: 644 bps
 July 31: 516 bps

Source: Optimal Blue Mortgage Market Indices™ (OBMMI™) — optimalblue.com/obmmi
 Federal Reserve Economic Data (FRED) | Federal Reserve Bank of St. Louis — fred.stlouisfed.org



SECONDARY MARKET – Cont'd

GSE CONFORMING MORTGAGE CREDIT CONDITIONS

Market implied GFees are derived from CRT prices using three factors: (A) expected loss, (B) price of unexpected risk, and (C) technical spread. Implied GFees remained steady during July. Since their peak at the end of March in the upper 60s, implied GFees have now fallen 30 or more bps into the low-30s. Implied GFees remain above their pre-pandemic levels by 7 to 11 bps, but the loss expectations they imply for GSE credit are now marginally above pre-pandemic levels.

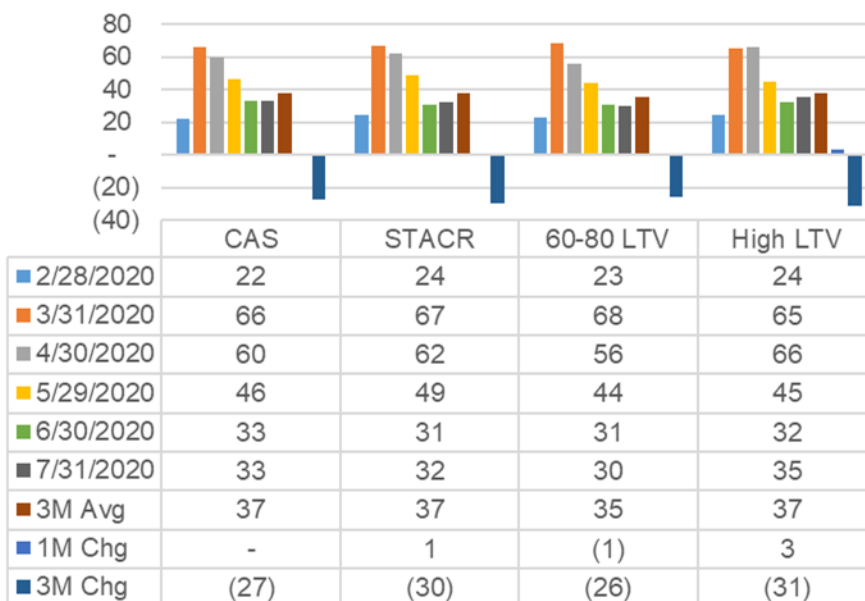
CHANGE FROM FEBRUARY TO JULY

CAS: +11

STACR: +8

60-80 LTV: +7

HLTV: +11

Source: AD&Co Analytics — ad-co.com

SOURCES & REFERENCES

ABOUT OPTIMAL BLUE

Optimal Blue's Marketplace Platform connects the industry's largest network of originators, investors, and providers. Nearly \$2 Trillion of transactions are processed across the platform each year, facilitating a broad set of secondary market interactions like pricing, locking, hedging, and trading of mortgage loans. For more information, please visit www.optimalblue.com.



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ABOUT ANDREW DAVIDSON & CO., INC.

Andrew Davidson & Co., Inc. (AD&Co) was founded in 1992 by Andrew Davidson, an international leader in the development of financial research and analytics, mortgage-backed securities product development, valuation and hedging, housing policy and GSE reform, and credit-risk transfer transactions. Since its inception, the company has provided institutional fixed-income investors and risk managers with high quality models, applications, consulting services, research, and thought leadership, aimed at yielding advanced, quantitative solutions to asset management issues. AD&Co's clients include some of the world's largest and most successful financial institutions and investment managers. For more information, please visit www.ad-co.com.



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