National Council of State Housing Agencies

2021 NCSHA

Capital and Housing Market Update

September 2021

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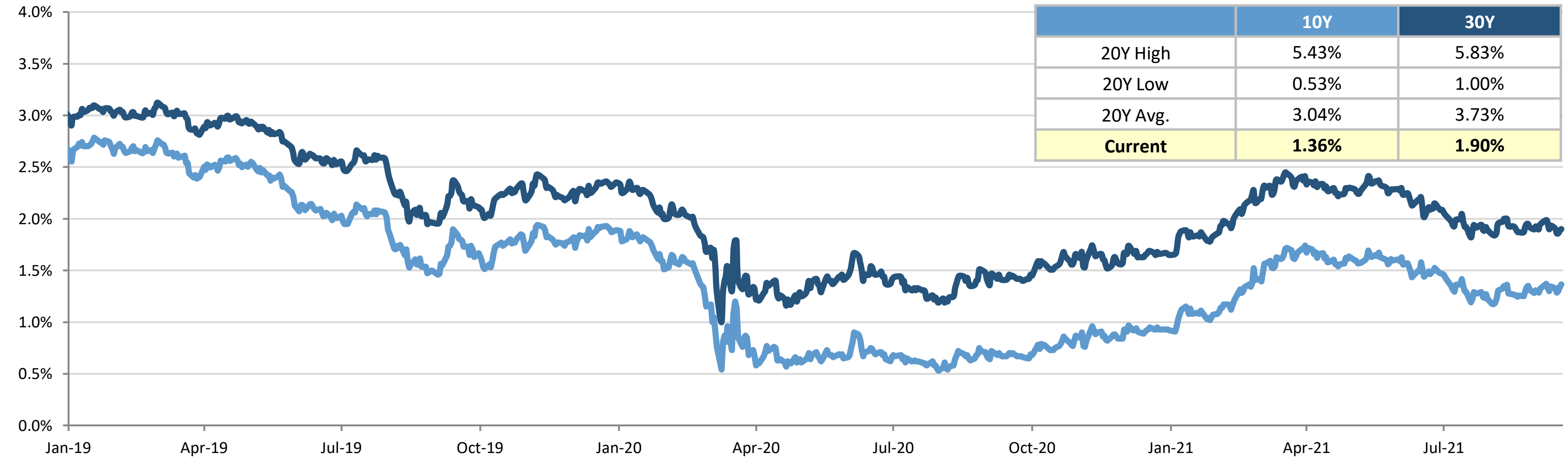
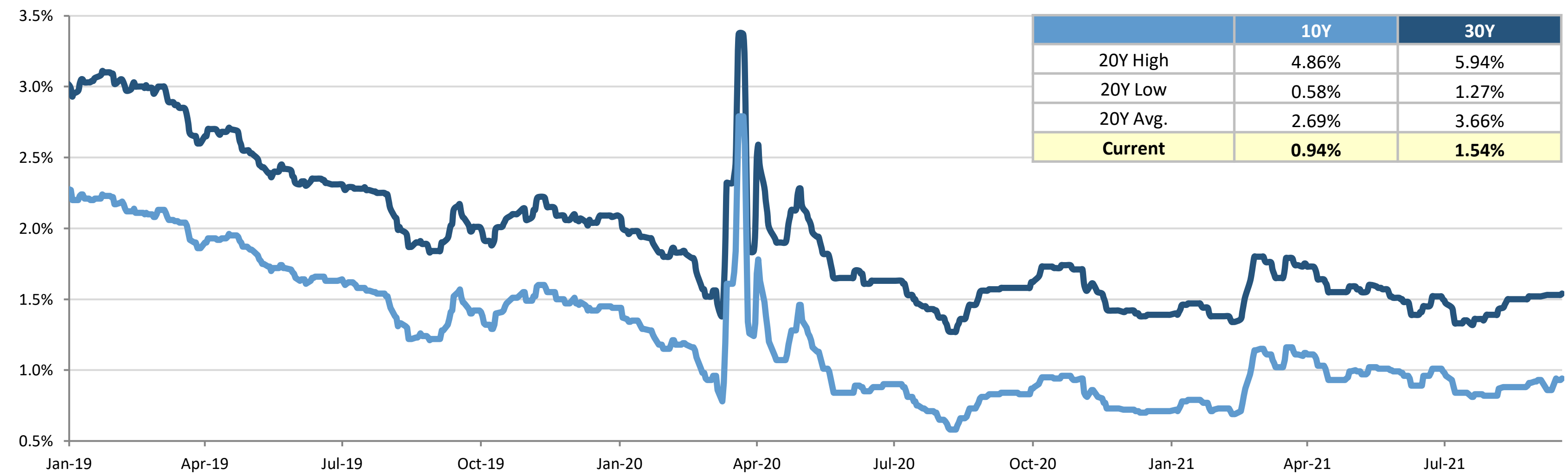
Benchmark Rates Remain Attractive Compared to Historic Levels

10-year and 30-year UST rates are currently 168 and 183 bps below their respective 20-year averages



	10Y	30Y
20Y High	5.43%	5.83%
20Y Low	0.53%	1.00%
20Y Avg.	3.04%	3.73%
Current	**1.36%**	**1.90%**

10-year and 30-year MMD rates are currently175 and 212 bps below their respective 20-year averages



	10Y	30Y
20Y High	4.86%	5.94%
20Y Low	0.58%	1.27%
20Y Avg.	2.69%	3.66%
Current	**0.94%**	**1.54%**

Source: Bloomberg

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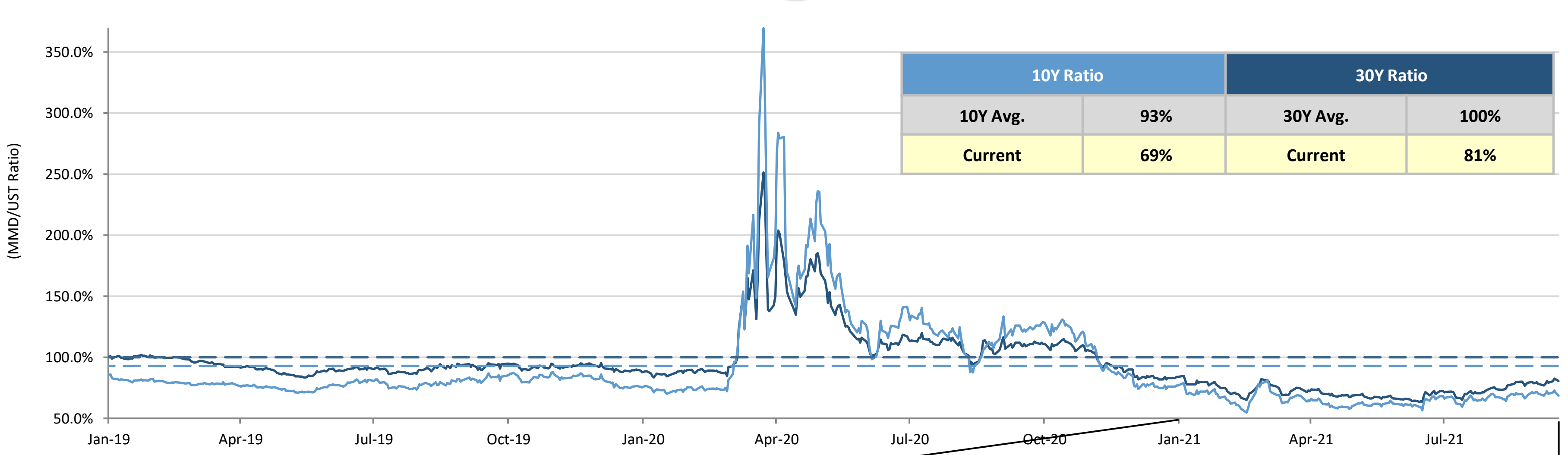
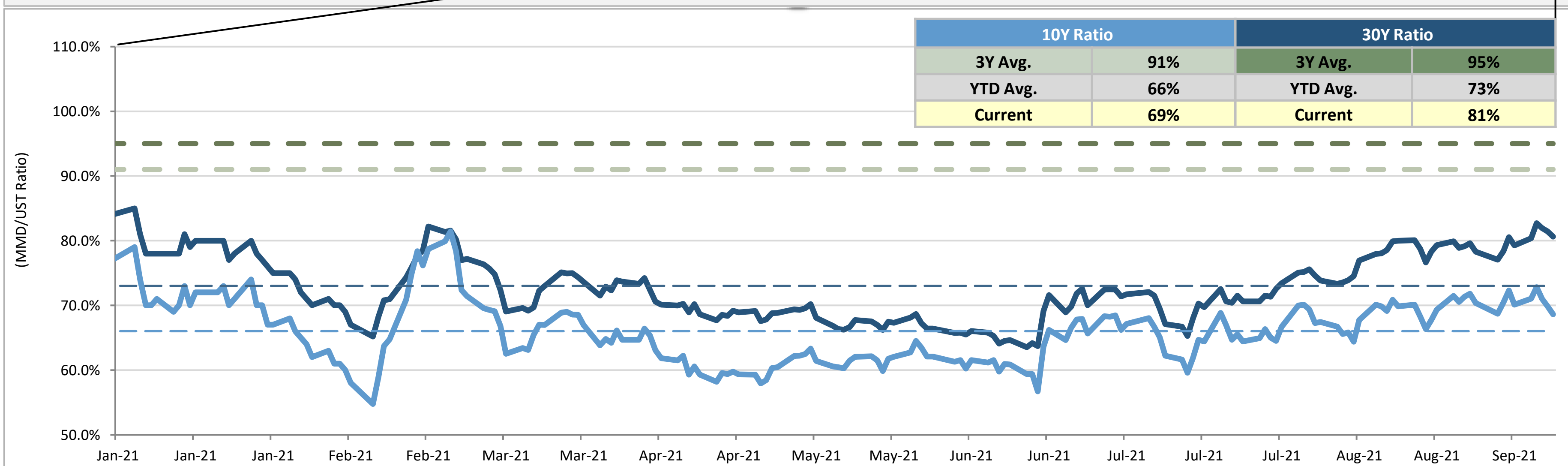
Tax-exempt and Taxable Ratios Remain Strong Versus Historical Averages

Tax-exempt/taxable ratios are rich when compared to their historical averages



10Y Ratio		30Y Ratio	
10Y Avg.	93%	30Y Avg.	100%
Current	69%	Current	81%

Year-to-date, 10-year and 30-year tax-exempt/taxable ratios have averaged 66% and 73%, respectively



10Y Ratio		30Y Ratio	
3Y Avg.	91%	3Y Avg.	95%
YTD Avg.	66%	YTD Avg.	73%
Current	69%	Current	81%

Source: Bloomberg and Thomson Reuters as of 09/17/2021

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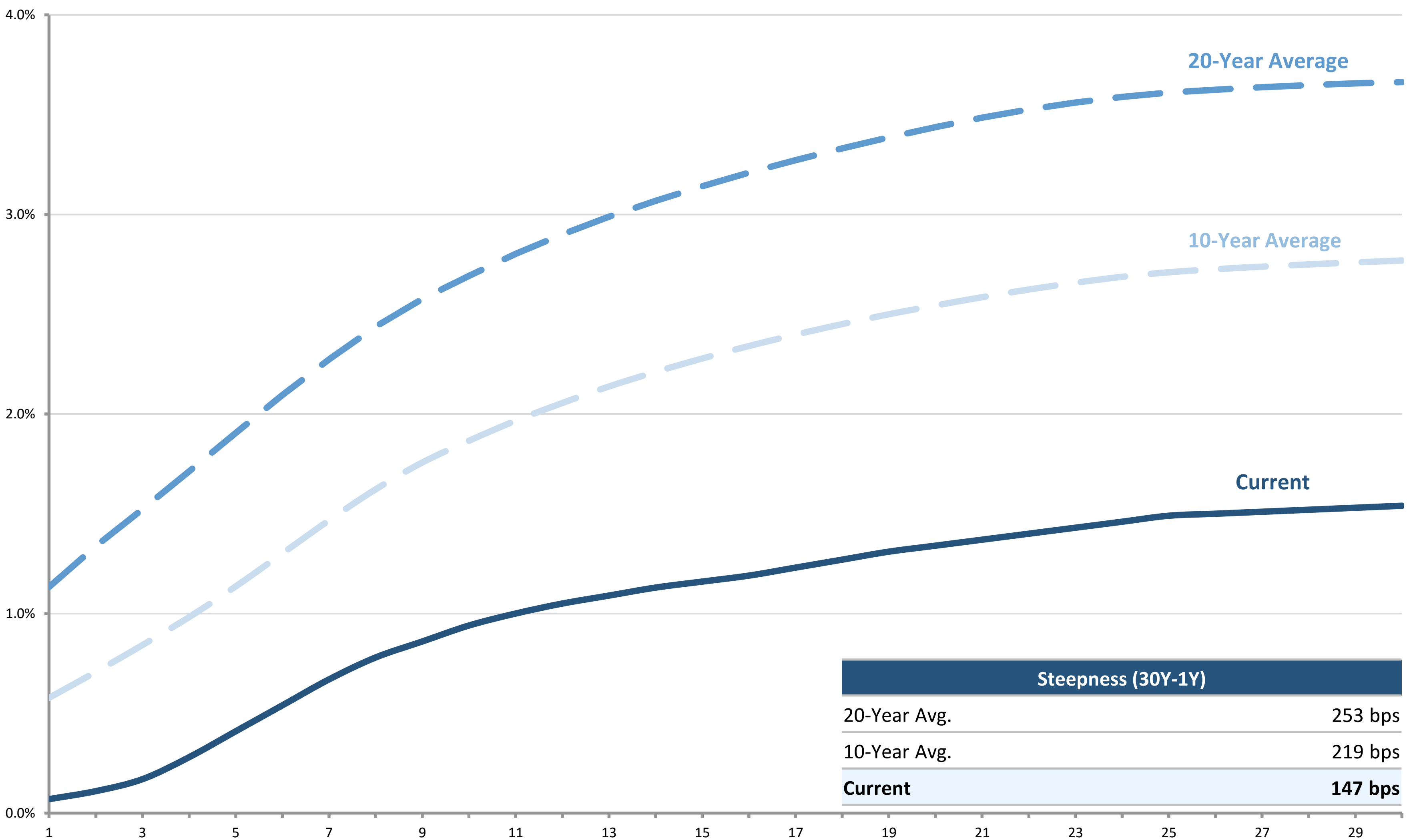
Yield Curve Averages Over Time

The current yield curve is significantly flatter than its historic averages



Steepness (30Y-1Y)	
20-Year Avg.	253 bps
10-Year Avg.	219 bps
Current	**147 bps**

Source: Bloomberg and Thomson Reuters as of 09/17/2021

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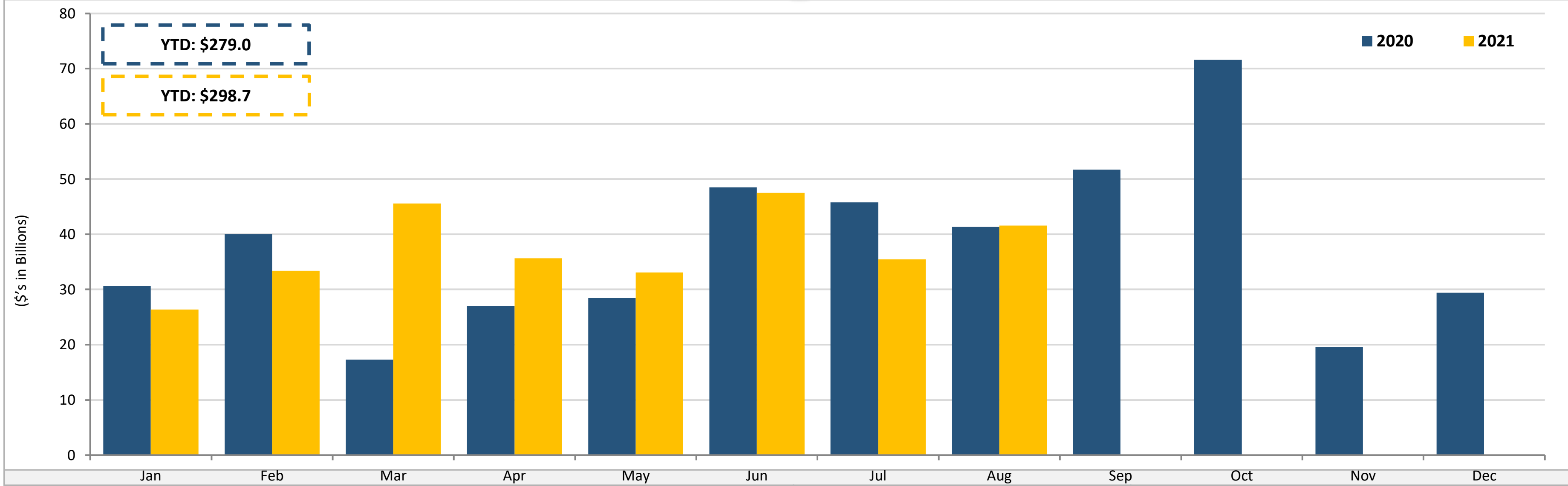
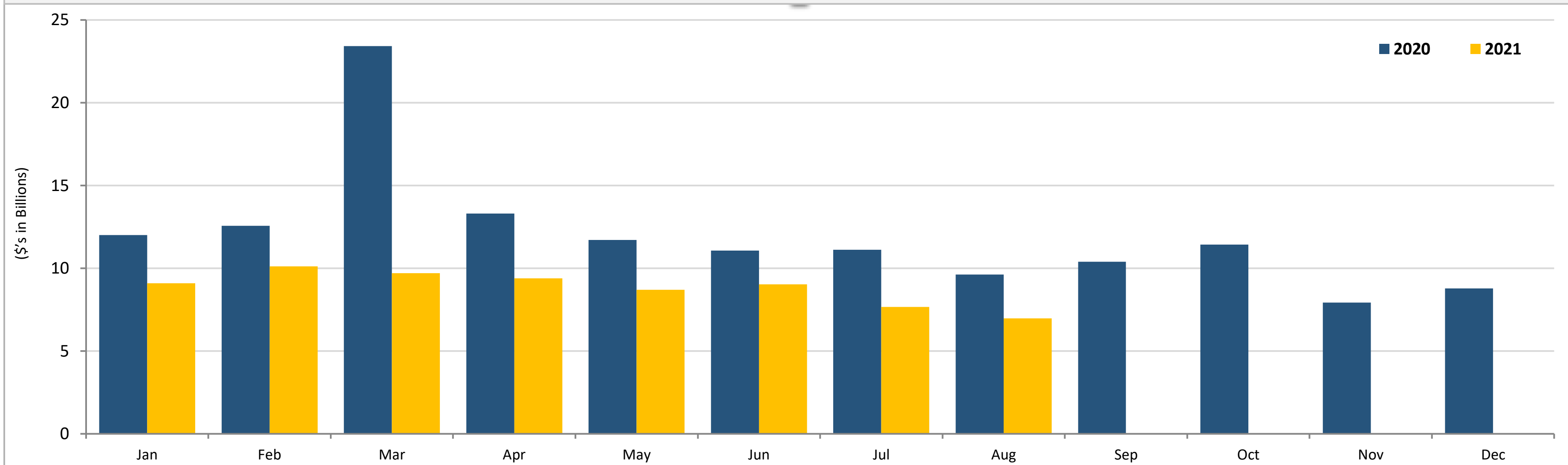
Municipal Supply and Demand

Municipal issuance through August is up 7.1% compared to the same period in 2020



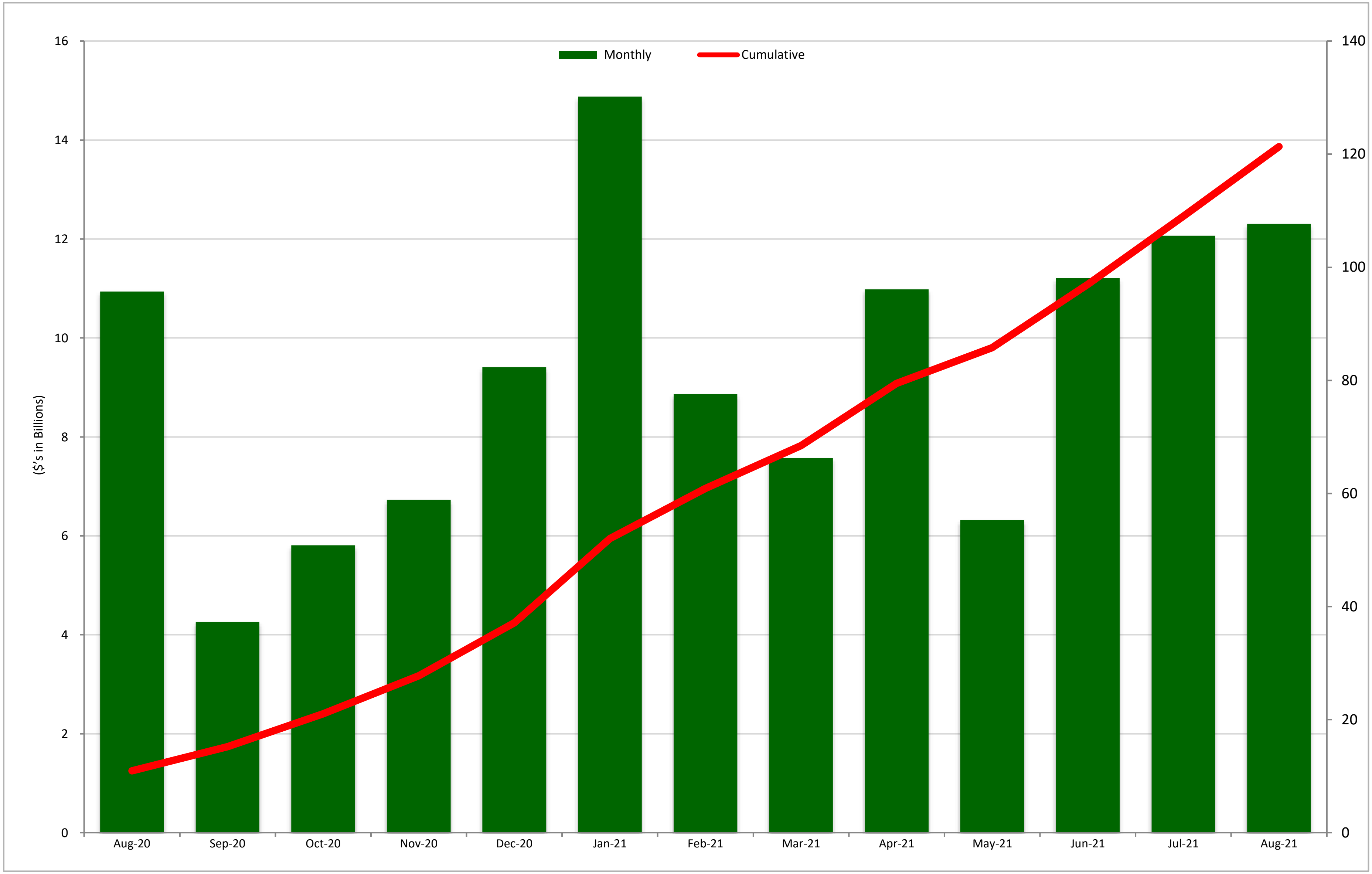
Average municipal daily trading volume through August is $8.8 billion, compared to $13.1 billion over the same period in 2020



Source: Bloomberg and SIFMA as of 09/17/2021

Monthly Fund Flows into the Municipal Market

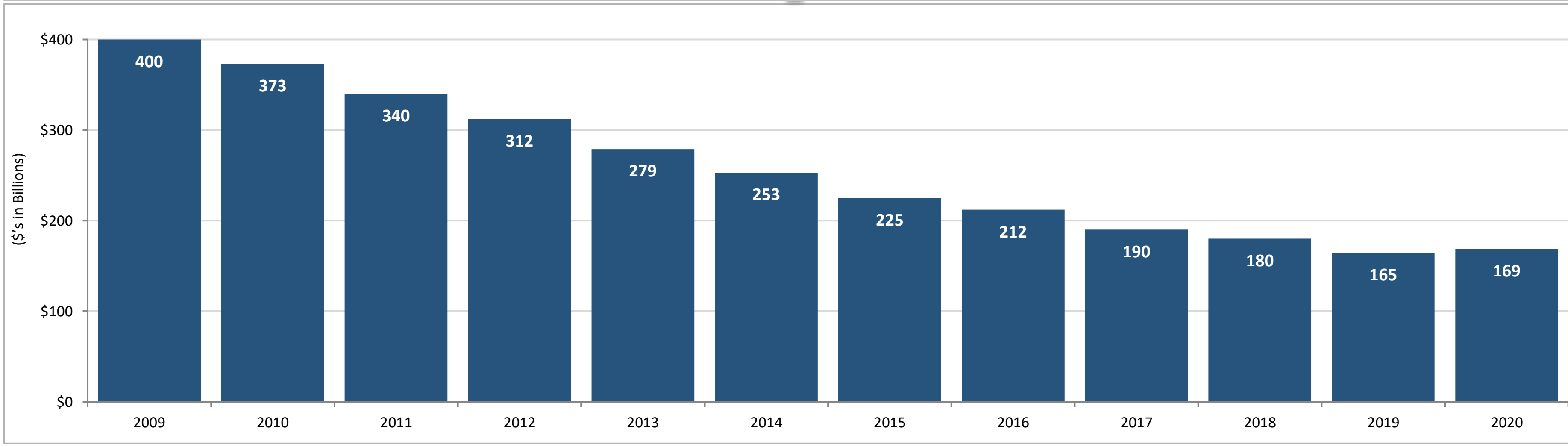
Fund flows are considerably strong, as total inflows over the last 12 months are over $121 billion



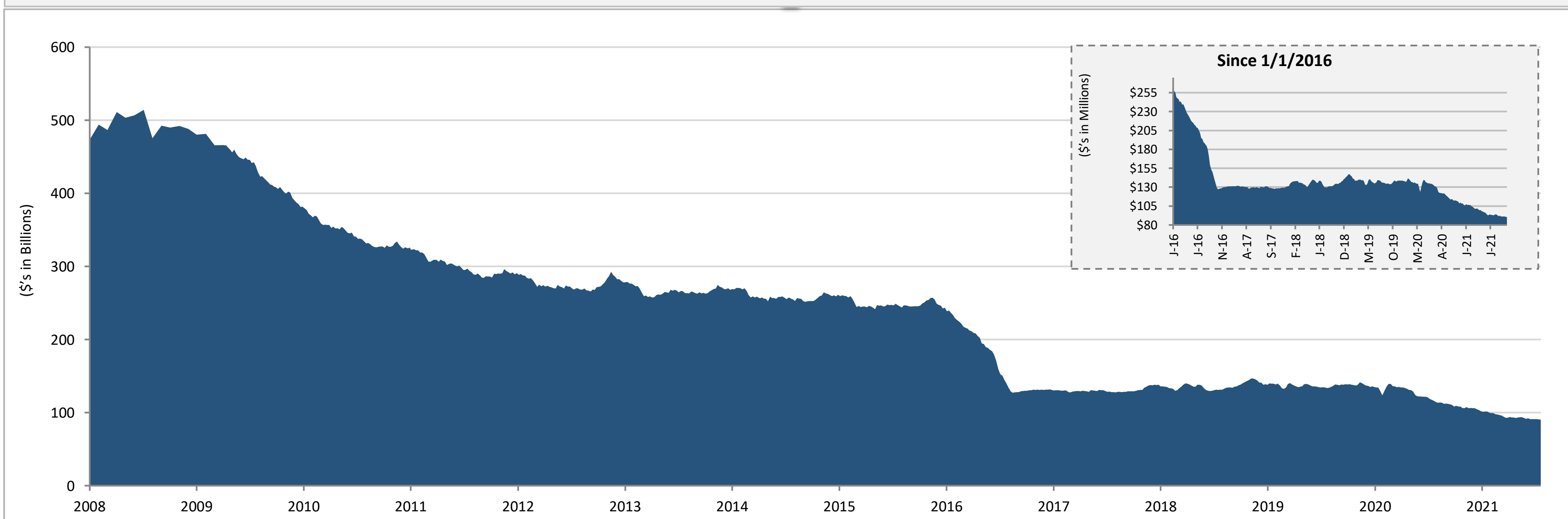
Source: Bloomberg as of 09/17/2021

Short-term Market

VRDBs outstanding have increased for the first time since 2009 as issuers capitalized on all-time low rates in 2020



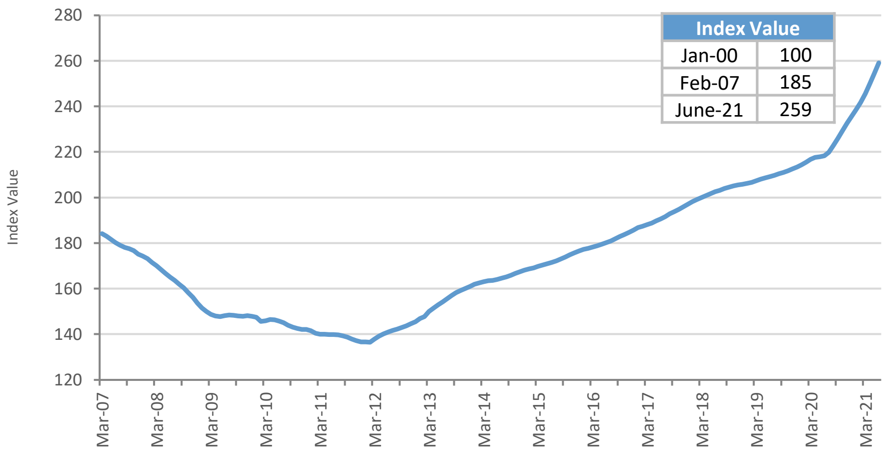
Tax-exempt money market fund assets continue to aggressively lose assets since early 2020



Source: Thomson Reuters and EPFR as of 09/17/2021

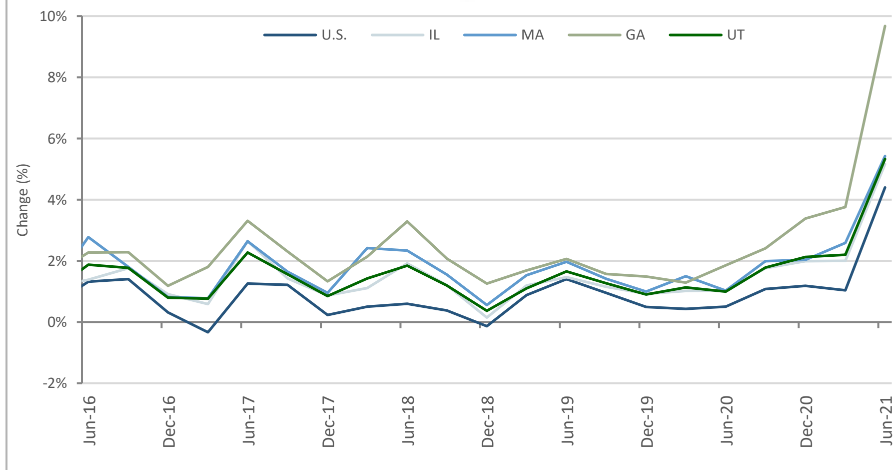
U.S. Housing Market Indicators

S&P Case-Shiller Index Prices are well above Pre-Crisis Levels



Index Value	
Jan-00	100
Feb-07	185
June-21	259

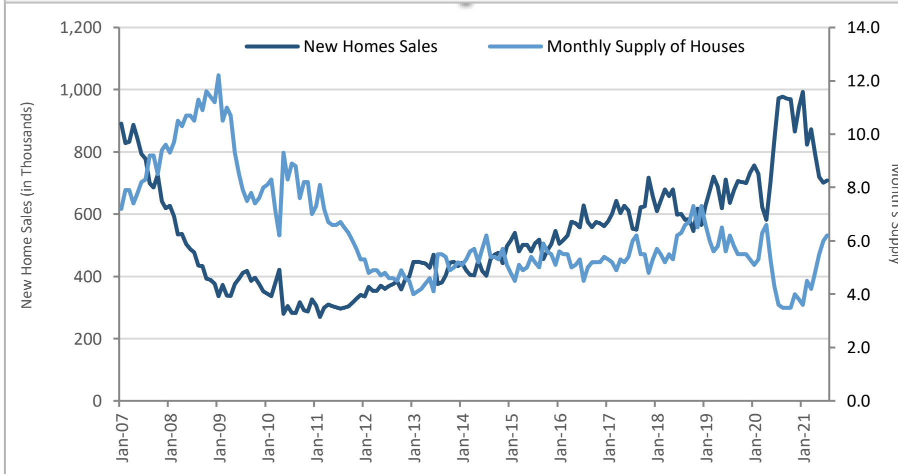
Changes in Housing Prices (HPI) QoQ Since 2016



Rental Vacancy is near 20-Year lows

Monthly Vac.	
High	11.1%
Low	5.7%
Current	6.2%

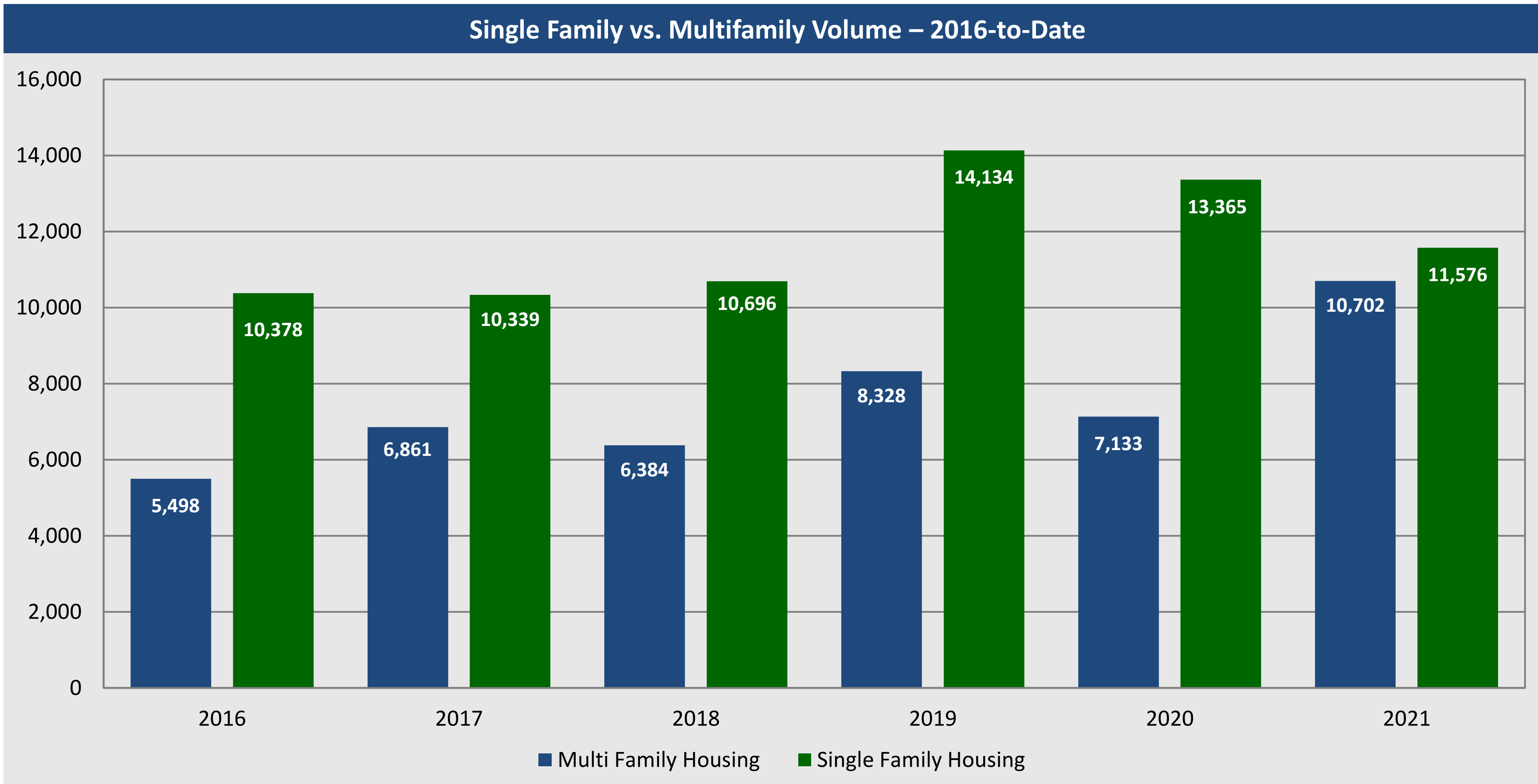
New Home Sales and Monthly Supply



Source: Bloomberg as of September 2021; FRED – St. Louis Federal Reserve as of September 2021

Housing Finance Agency Issuance Volume — Single Family and Multifamily

- Since the COVID-19 Pandemic began in March 2020, multifamily volume has nearly doubled compared to 2020
- Single family issuance volume year-to-date is on track to outpace single family total volume in 2020



Source: SDC Thompson Reuters

Conventional Mortgage Rates Compared to Tax-exempt Single-Family Bond Yields (YTD)

Year-to-date, tax-exempt single-family yields have averaged 1.82% versus FNMA mortgage rate of 2.37% bps

	TE SF Yields	FNMA Rate
Average	1.82%	2.37%
Current	**1.94%s**	**2.44%**
Avg. Spread	55bps	
Current Spread	50bps	

Source: Bloomberg

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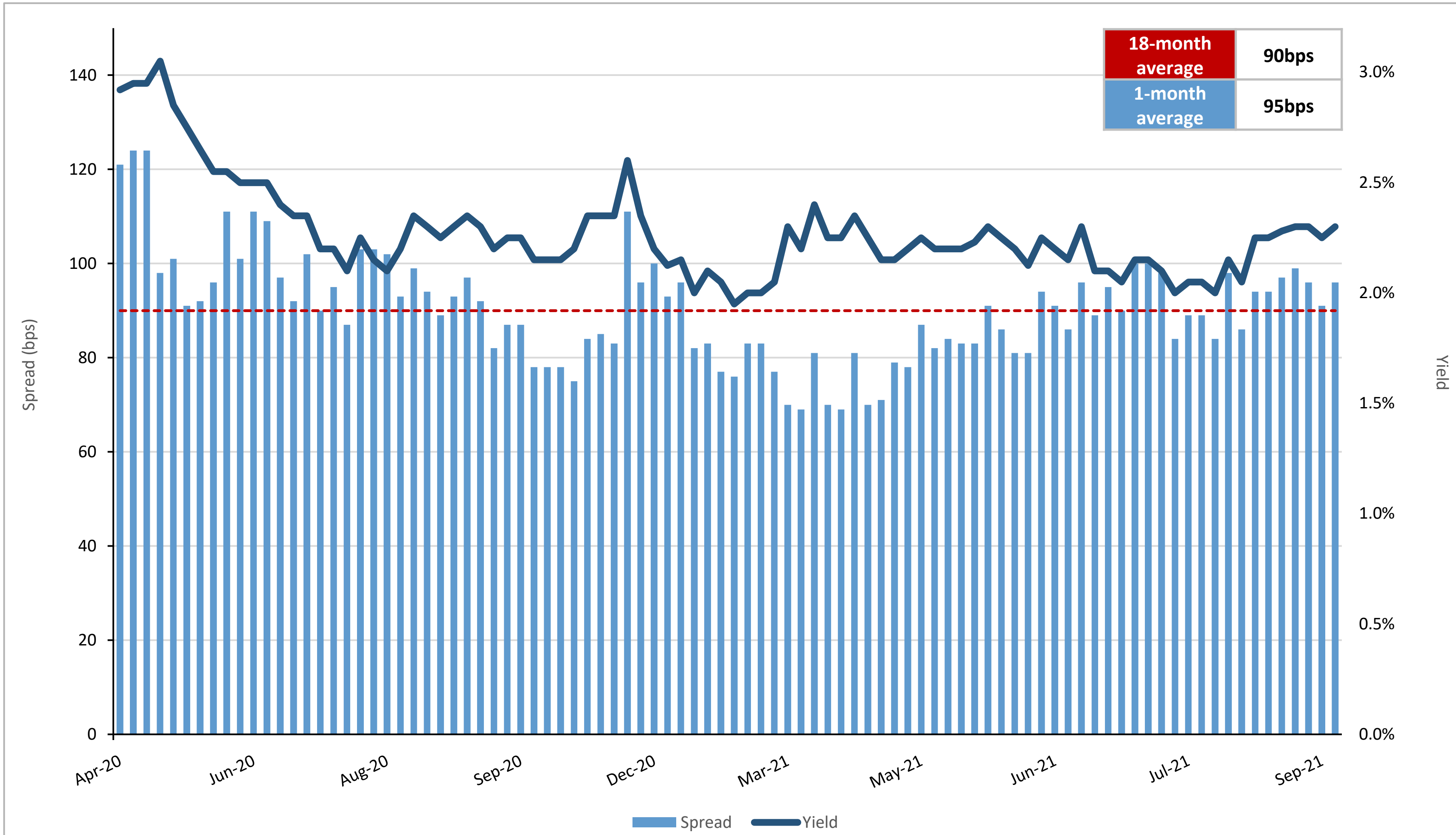
Single Family 20-year Term Bond Spreads

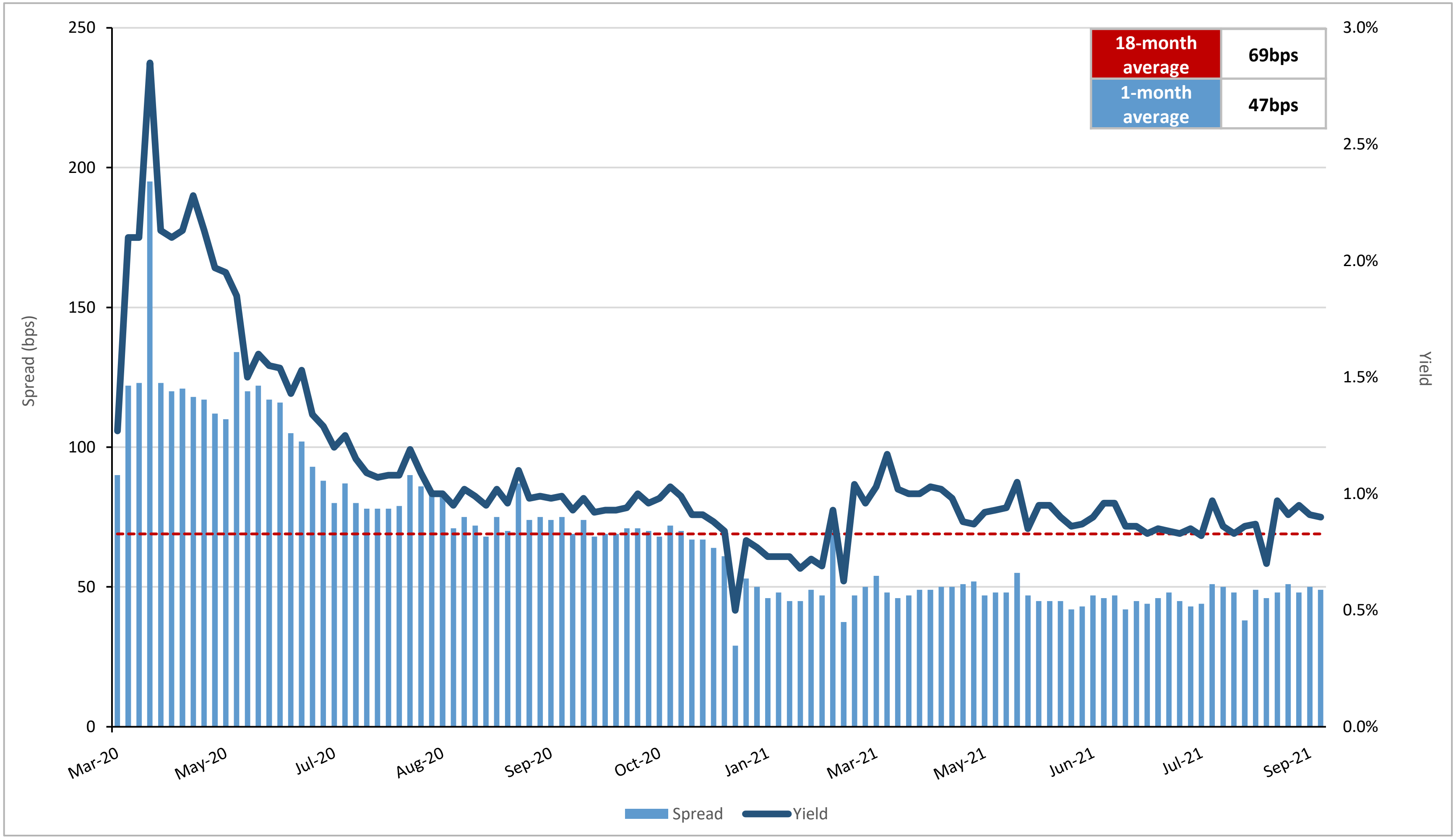
Over the past month, 20-year single family term bond spreads have widened versus their 18-month average



Source: SDC Thompson Reuters

PAC Bond Spreads

Over the past eighteen months, PAC bond spreads have declined and stabilized below their 18-month average



Source: SDC Thompson Reuters

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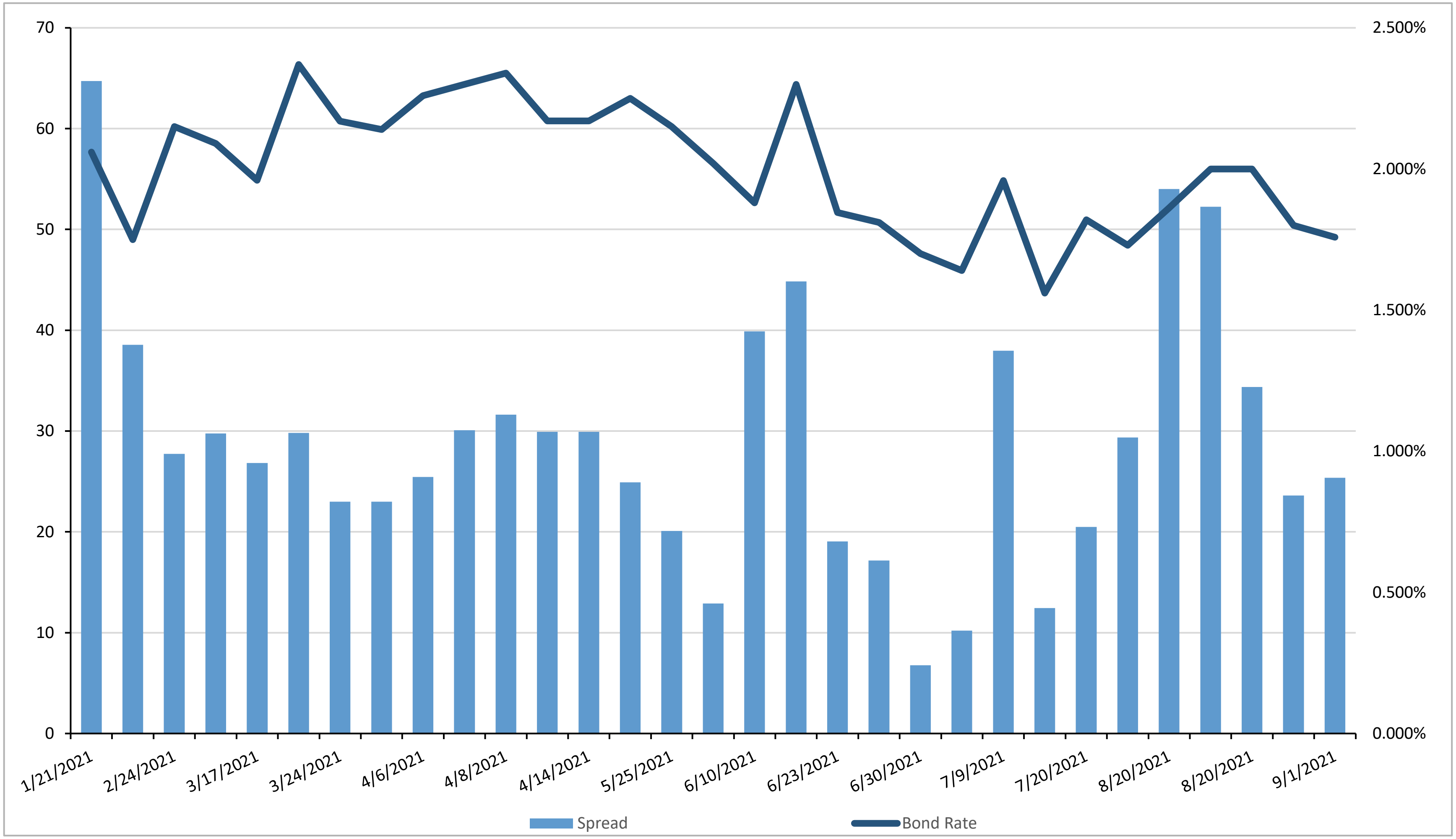
Fannie M-TEB Pricing Continues to Produce Attractive Mortgage Rates

MTEB interest rates and spreads (Year-to-date)



Source: SDC Thompson Reuters

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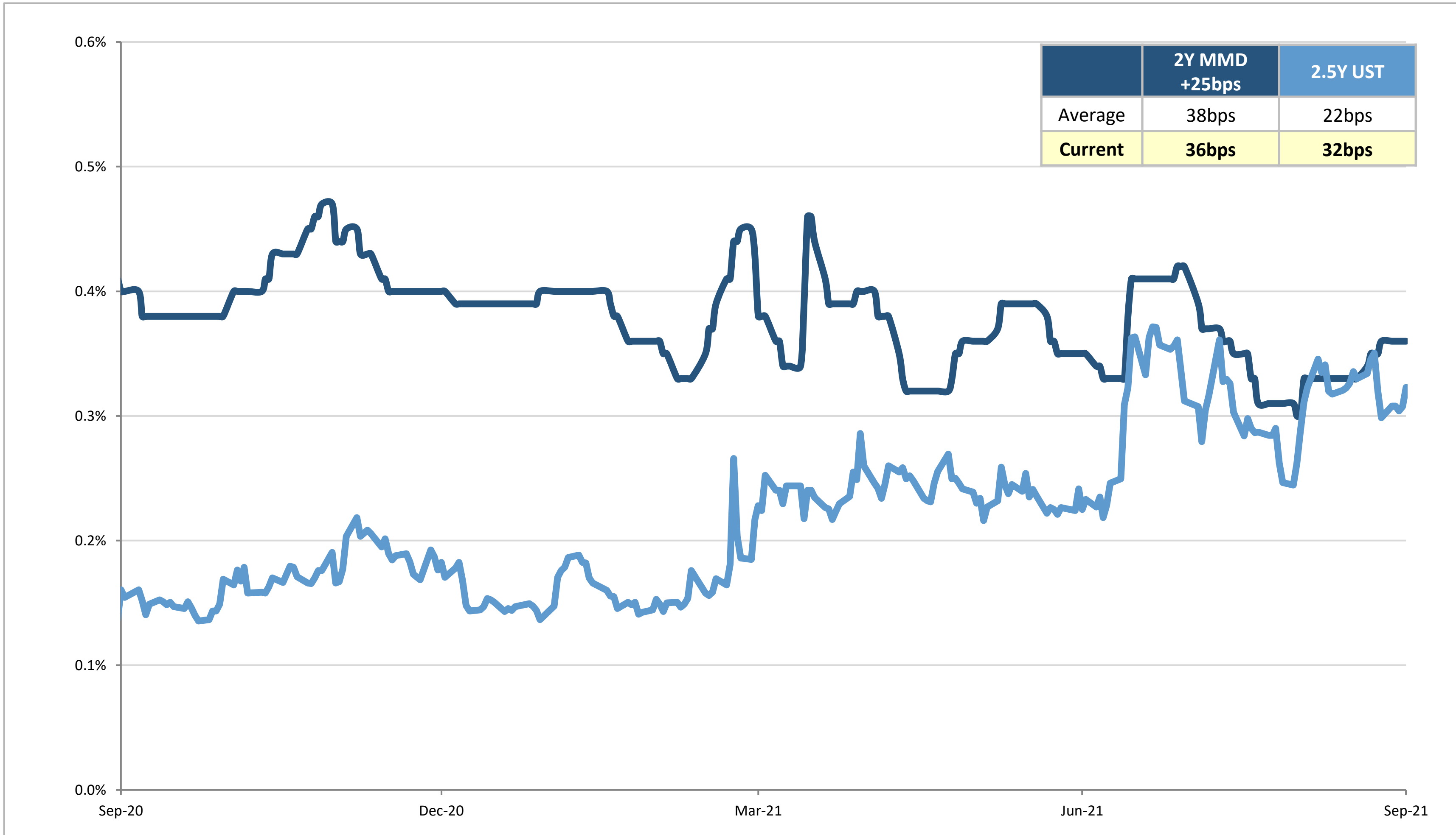
Negative Arbitrage on Cash Collateralized Transactions is Now Close to Zero

Over the past year, negative arbitrage for short term transactions almost disappeared



	2Y MMD +25bps	2.5Y UST
Average	38bps	22bps
Current	**36bps**	**32bps**

Source: Bloomberg

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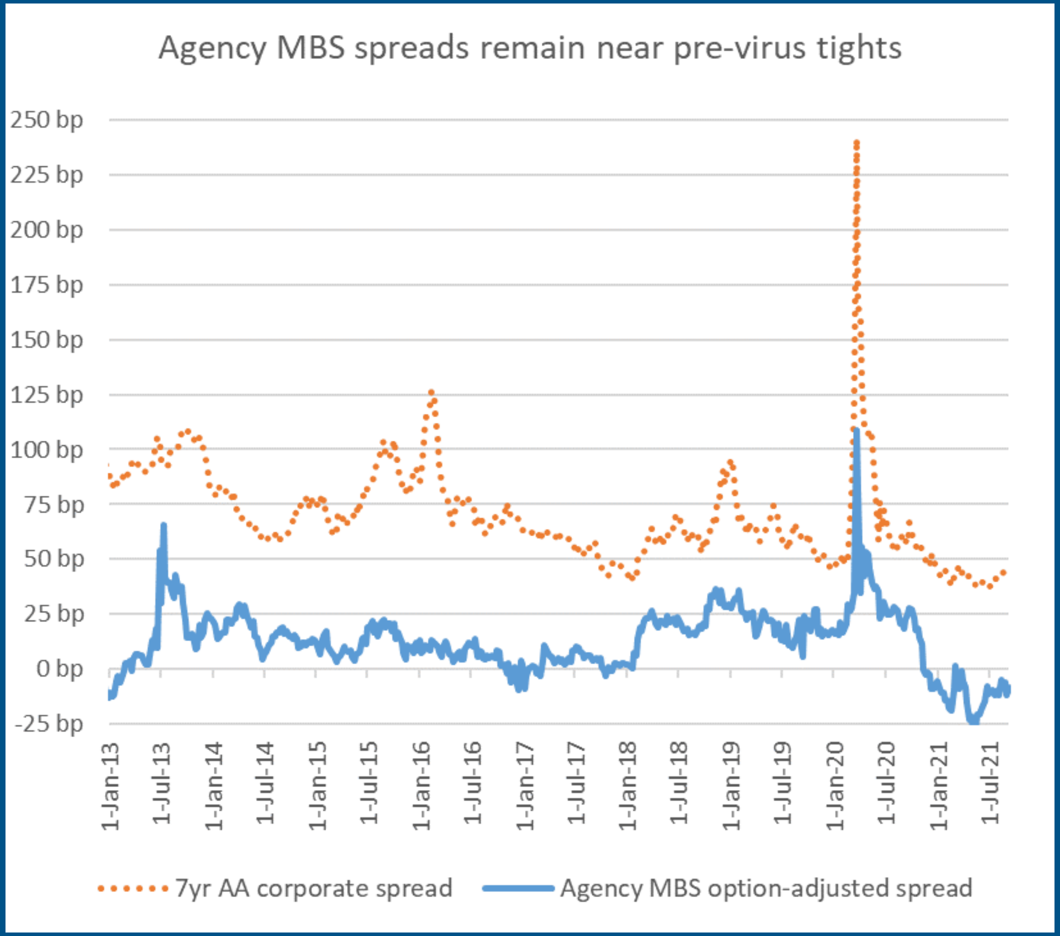
Agency MBS: Overview and Benefits

- Agency MBS market is one of the most liquid bond markets in the world; on par with US Treasuries
- Easily accessible as issuing as small as $1 million or as large as $1 billion achieves similar liquidity
- Bonds trade at negative spread to Treasuries (after accounting for prepayment option)
- Considerable short base reduces spread widening relative to other asset classes during risk events
- Favorable capital treatment makes Agency MBS an asset of choice for banks
- Inclusion of Agency MBS in FED repo facility allows investors to borrow against MBS very cheaply, even during times of stress



HFA Loans: Unique Characteristics

All HFA loans have the following positive attributes:

- Lower loan sizes (borrowers with lower loan sizes are less likely to refinance as savings are much lower)
- Very low % of VA loans (VA program allows for very easy refinancing)
- 100% purchase loans (loans for purchase tend to prepay slower than loans created from a prior refinance)

The majority of HFA loans have an added benefit of 2nd liens. These can *greatly* mute refinancing because:

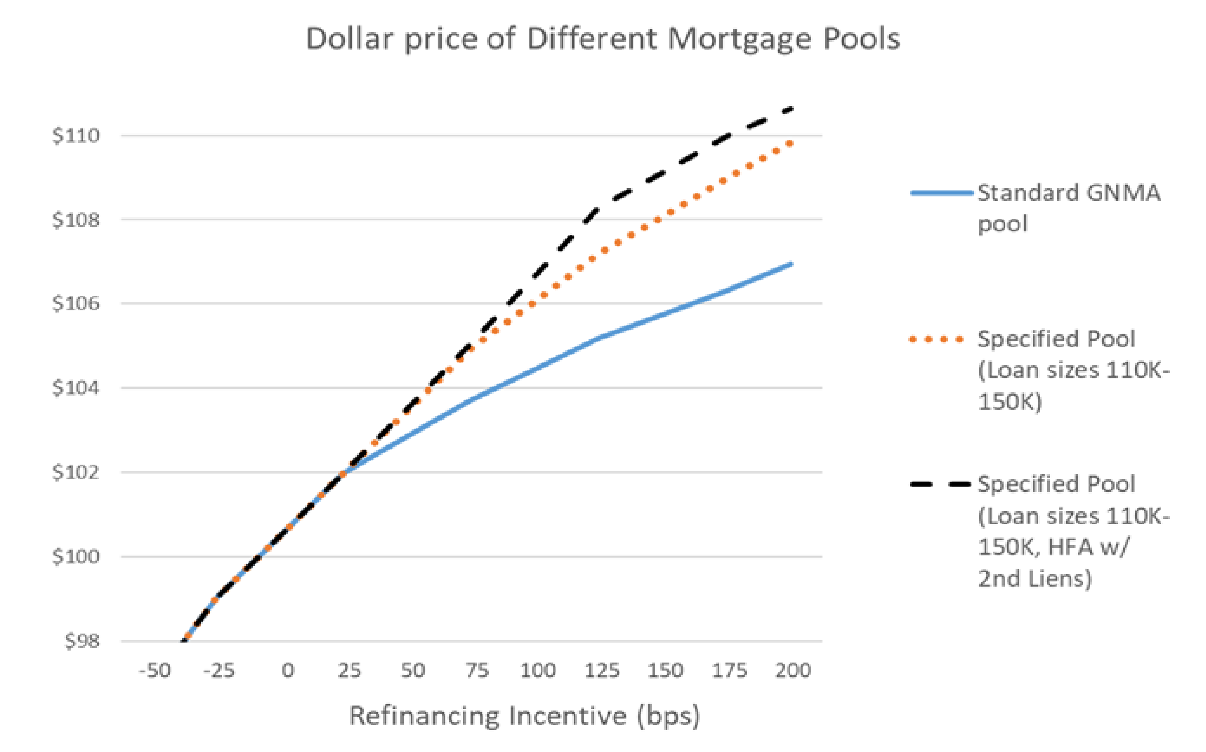
- Borrower must wait for combined LTV (1st and 2nd lien) to drop below standard LTV limits
- In most cases HFAs do not permit subordinations and therefore, the borrower is prohibited from a streamlined refinance (new loan must be fully underwritten with a new appraisal)
- For FHA loans, borrower must wait 12 months from home purchase to use a new appraisal value unless they can document home improvements to substantiate the higher value.

Several HFAs also have desirable geographic locations, contributing to slower prepayments:

- TX, FL, NY all tend to prepay slower

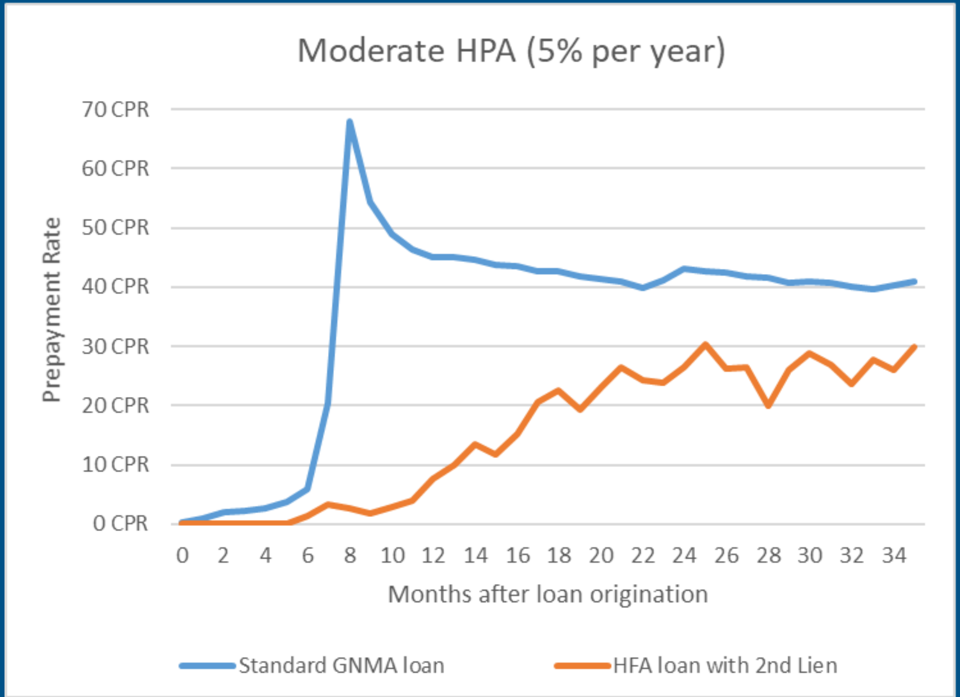
HFA MBS: Strengths

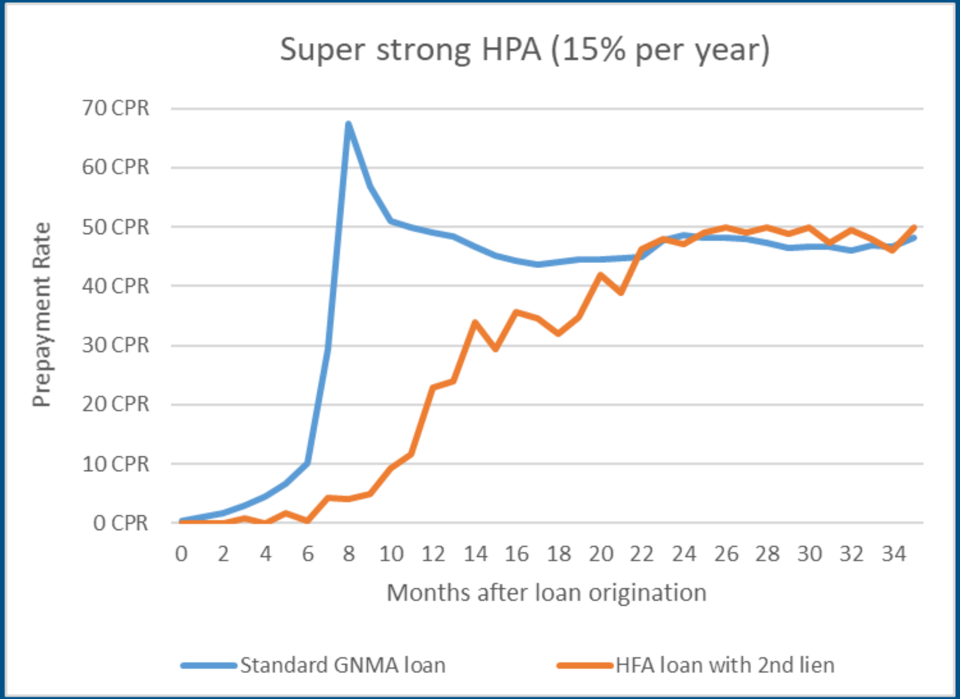
- MBS backed by HFA loans have a multitude of attributes that mute refinancing behavior, making them attractive to investors.
- Mortgage refinancing hurts investors because principal is returned at par, and refinancing happens when the market is rallying.
- Investors will pay more for loans that have muted refinancing behavior.



Home Price Appreciation: Prepayment Impact

- In cycles with normalized levels of home price appreciation, HFA loans are slow to build equity, causing combined LTV to remain elevated.
- We are currently seeing extreme home price appreciation in which borrowers are able to achieve a combined LTV of less than 80 in less than 2 years.
- In both market conditions, significantly slower prepayments are seen during the first 12 months after loan origination.





*Prepayment ramps for HFA loans with 2nd liens that have >75bps refinance incentive

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Specified Market: Payups & DPA Funding

Investors are willing to pay a premium for MBS backed by HFA loans with specified characteristics:

- Loan Balance
- LTV
- DPA

HFAs have the ability to directly benefit from premium paid by investors on Specified HFA Pools:

- Down Payment Assistance (DPA) is frequently funded with premium pricing via the TBA market.
- When incorporating the specified payup into daily pricing, this creates additional premium resulting in higher “all-in” daily pricing.
- Obtaining higher “all-in” pricing drives the ability to offer higher levels of DPA at a lower cost/rate to the borrower.

What does this mean for borrowers and the HFA mission?

- HFAs achieve their mission of providing homeownership to low to moderate income borrowers by offering multiple DPA options at lower rates.

Looking Ahead: FED Taper

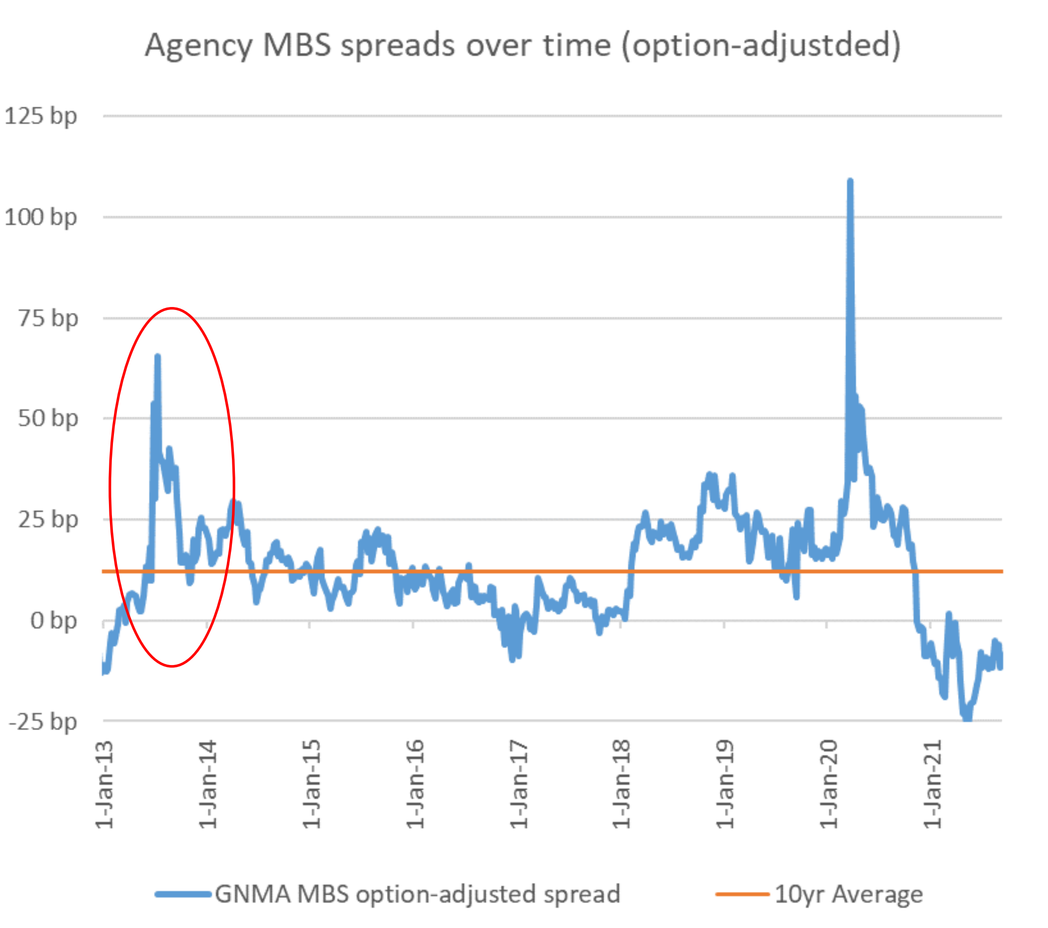
- Mortgage spreads are currently 20bps tighter than long term averages due to unprecedented demand from the Federal Reserve and US Banks.

- In 2013, the Taper Tantrum was a shock to markets, and spreads widened an additional 50bps before settling back to long term averages within a year.

- **2013 vs. Current Market**:
  - **This taper is well telegraphed** (2013 was a shock).
  - **Less bonds held by leveraged accounts.** Banks have been the marginal buyer and REITs already deleveraged in March 2020.
  - **Less extension risk in market**: 2013 Tantrum: MBS index fell from $107.5 to $102. March-2020 Tantrum: MBS index fell $107 to $104.5. Today, the MBS index is starting off lower at $104.5.

- Considerations to protect against a Taper:
  - Clear portfolio of production coupon loans and high priced loans with a lot of call protection. These mortgages don't benefit from slowing prepayments, and have large spread duration.
  - Manage convexity risk of mortgage portfolio (buy puts).

- While tapering will likely widen mortgage spreads (generally bad for borrowers), it can also increase premium pricing as prepayments slow down and yield curves steepen (good for DPA funding).



NCSHA 2021 ANNUAL CONFERENCE & SHOWCASE

CAPITAL AND HOUSING MARKET UPDATE: RELATIVE VALUE IN HFA CAPITAL MARKETS

SEPTEMBER 27, 2021

CaineMitter

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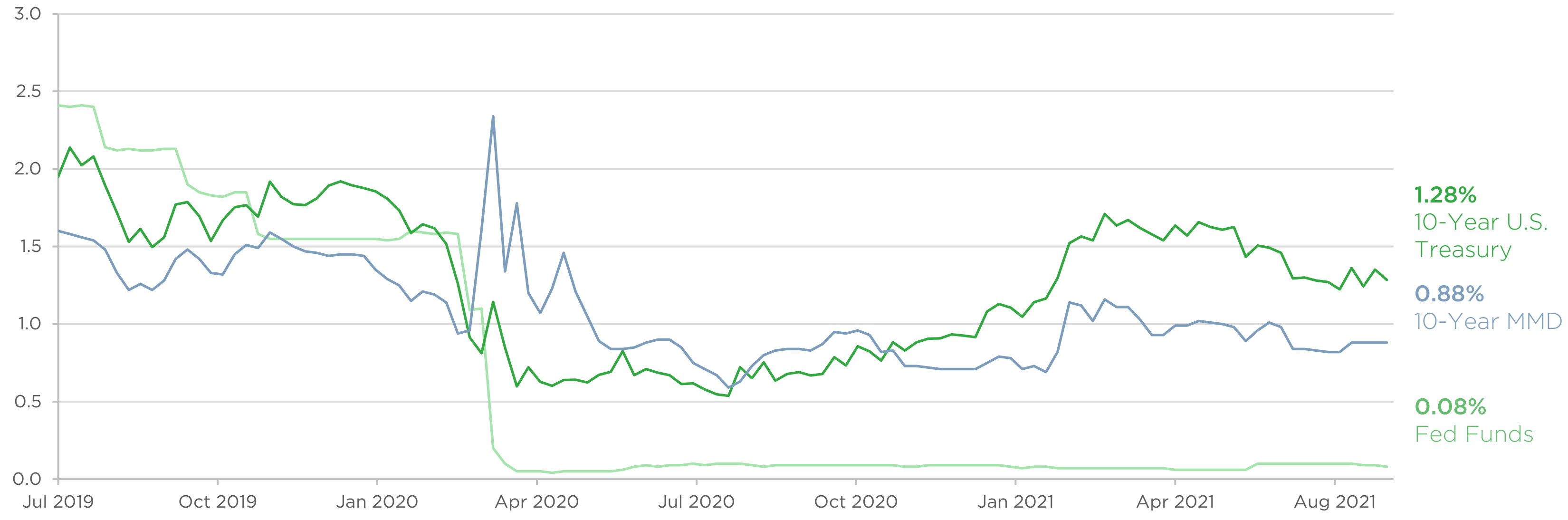
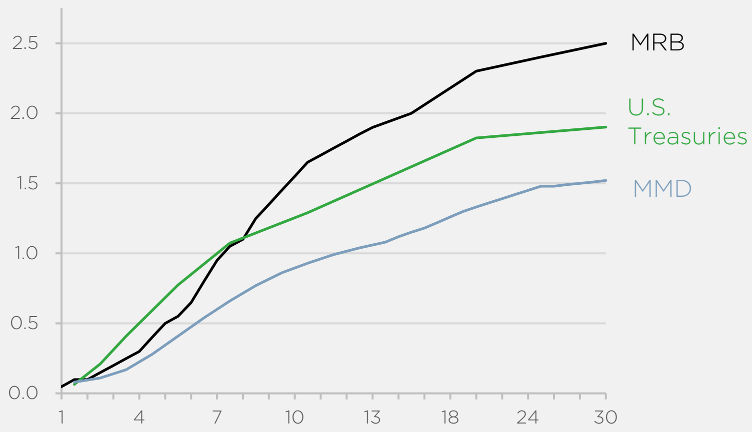
GENERAL **INTEREST RATE TRENDS**

BENCHMARK INTEREST RATES



MRB, UST, AND MMD YIELD CURVES



MMD/TREASURY RATIOS ALONG THE YIELD CURVE

Interest rates remain near historic lows

The yield curve is showing signs of steepening

MMD/Treasury ratios are attractive, but have risen from historic lows

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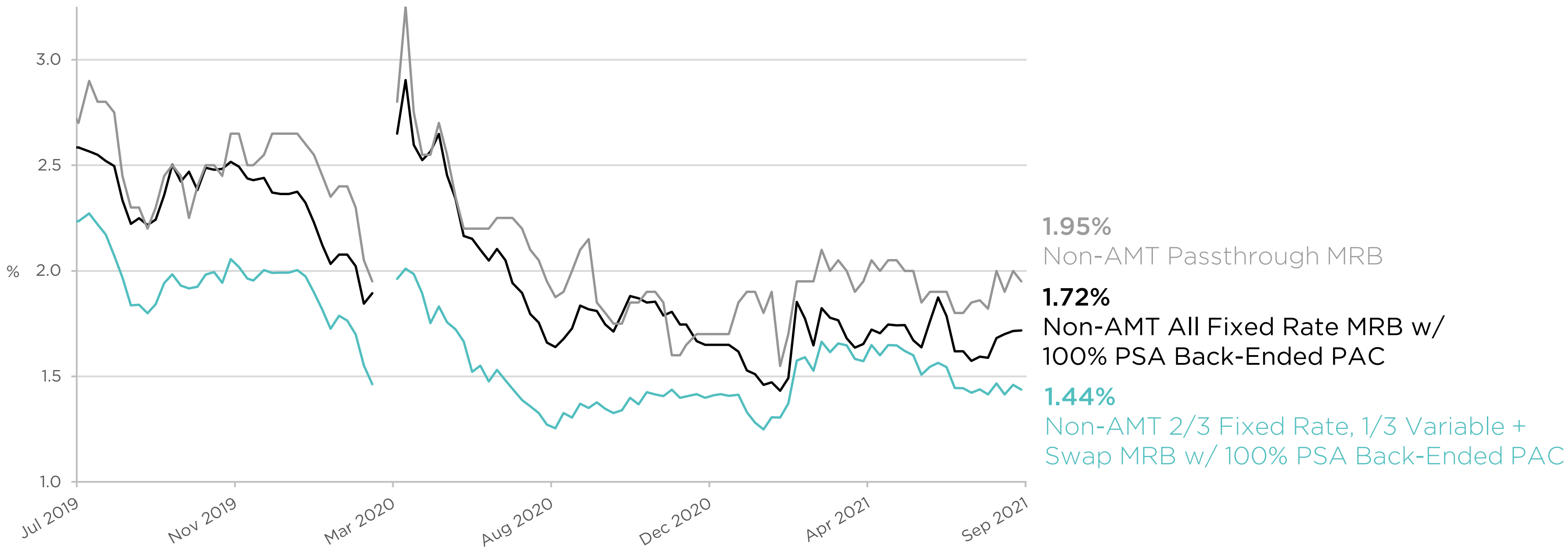
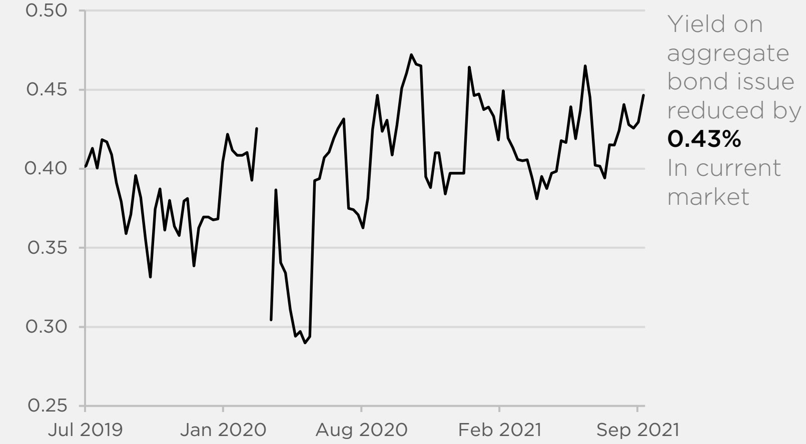
TAX-EXEMPT MRB PRICING TRENDS

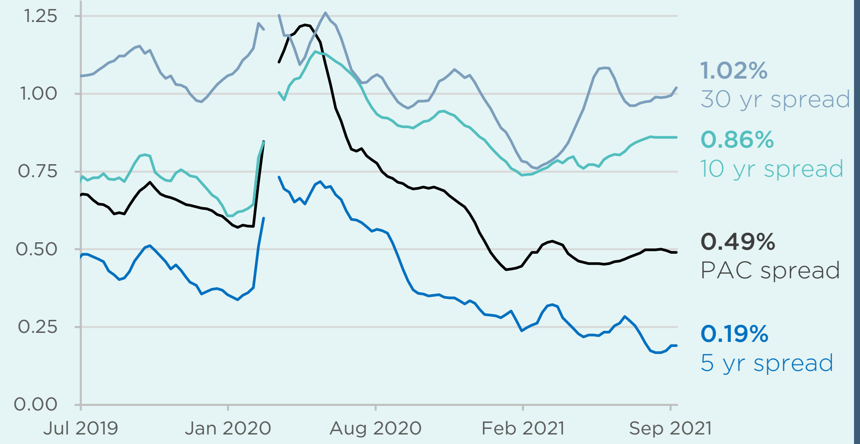
SINGLE FAMILY COMPOSIT TAX LAW BOND YIELDS



TAX LAW YIELD REDUCTION for 100PSA PAC



MRB SPREADS TO MMD (1mo Rolling Avg)



Yields on single family tax-exempt mortgage revenue bond issues remain low

Variable rate and swaps have been less attractive, with signs of the benefit improving in recent months

PAC bonds continue be key to keeping borrowing costs low

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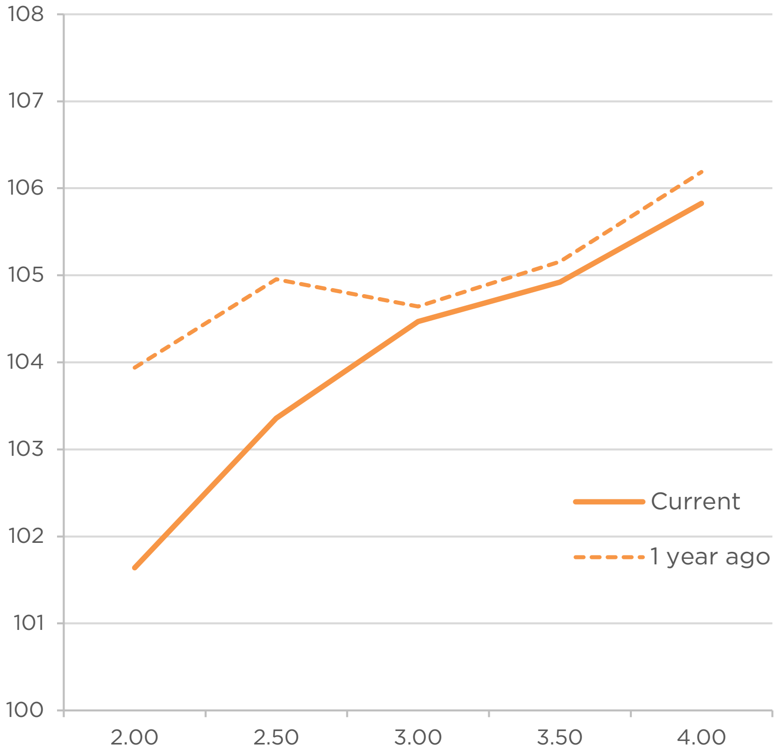
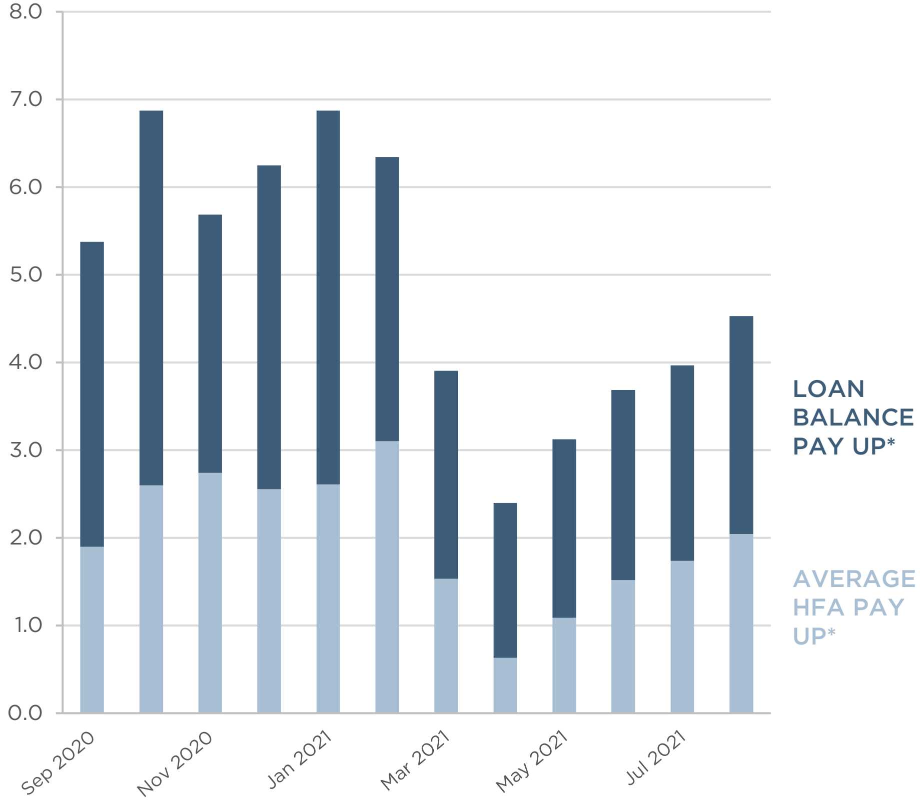
MBS SECONDARY MKT PRICING TRENDS

GNMA TBA Price / Coupon Curve



Specified Pool Pay Ups Over Time (Points)



* Based on Caine Mitter client trading activity

Low coupon MBS prices are less attractive than they were a year ago and the price/coupon curve remains flat at higher rates

Despite some volatility, HFA specified pool pay ups continue to be critical to HFA TBA programs

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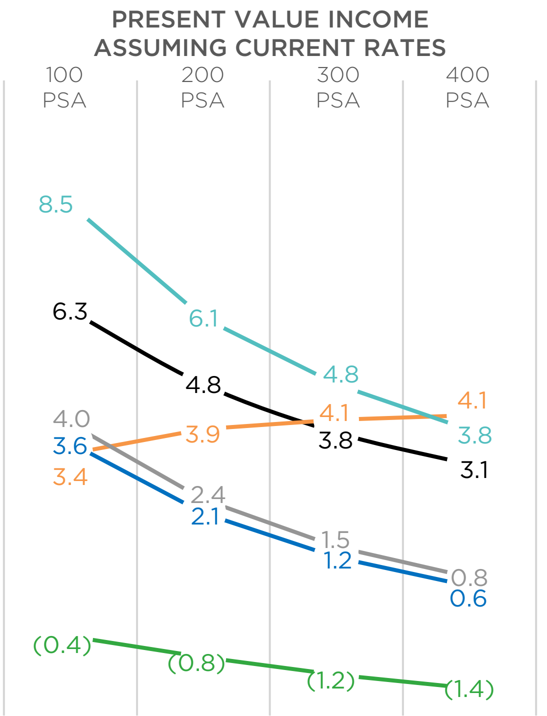
SINGLE FAMILY **MRB ECONOMICS**

ECONOMIC COMPARISON OF COMMONLY USED SINGLE FAMILY STRUCTURES

$100 MILLION | GNMA II | 3% DUE ON SALE 2ND DPA | 3.250% 1ST MORTGAGE RATE

BOND STRUCTURE	BOND YIELD
Tax-Exempt MRB, 67% Fixed Rate w/ 100% PSA PAC, 33% Swapped VRDO	1.44
Tax-Exempt MRB, 100% Fixed Rate w/ 100% PSA PAC	1.72
Tax-Exempt Passthrough	1.95
Taxable Passthrough	2.00
TBA / Specified Pool Sale	-
Taxable MRB, 100% Fixed Rate w/ 100% PSA PAC	2.30



Points earned on each loan at various prepay speeds including servicing and net of financing costs

Traditional tax-exempt MRBs continue to be the lowest cost of funds for HFA single family programs that rely on down payment assistance

The MBS secondary market remains the most favorable taxable financing mechanism, except where ultra-low prepay speeds can be expected

BEST EXECUTION **TAXABLE FINANCING**

ILLINOIS HOUSING DEVELOPMENT AUTHORITY

$144,300,000
Illinois Housing Development Authority
Revenue Bonds
$125,000,000 2021 D (Non-AMT)
$19,300,000 2021 E (Taxable)

Sale date: **9/9/2021**
Closing date: **9/23/2021**
Senior manager: **J.P. Morgan**
Proceeds:
- Tax-exempt new money: **$96.8mm**
- Tax-exempt repl refunding: **$33.8mm**
- Taxable new money: **$19.3mm**

Volume cap:
- Total volume cap used: **$96.8mm**
- Total loans financed: **$150.0mm**

Structure:
- $27.2mm non-AMT serial bonds (19%)
- $19.3mm taxable serial bonds (13%)
- $42.7mm term bonds (30%)
- $55.2mm back-ended PAC bond (100psa) (38%) - $5.6mm premium

Cost of funds:
- Tax-exempt yield: **1.75%** vs 1.71%
- Taxable yield: **1.54%** vs 1.90%
  - All-in: **1.72%** vs 1.72%

SOUTH DAKOTA HOUSING DEVELOPMENT AUTHORITY

$139,285,000
South Dakota Housing Finance Agency
Homeownership Mortgage Bonds
$119,285,000 2021 B (Non-AMT)
$20,000,000 2021 C (Taxable)

Sale date: **7/14/2021**
Closing date: **8/4/2021**
Senior manager: **Wells Fargo**
Proceeds:
- Tax-exempt new money: **$16.7mm**
- Tax-exempt repl refunding: **$87.4mm**
- Taxable new money: **$20mm**
- Tax-exempt economic refunding: **$20.3mm**

Volume cap:
- Total volume cap used: **$16.7mm**
- Total loans financed: **$119.0mm**

Structure:
- $33.8mm non-AMT serial bonds (24%)
- $20.0mm taxable serial bonds (14%)
- $36.7mm non-AMT term bonds (26%)
- $48.7mm non-AMT back-ended PAC (100psa) (35%) - $5.1mm premium

Cost of funds:
- Exp. tax-exempt yield: **1.55%** vs 1.52%
- Exp. taxable yield: **1.50%** vs 1.70%
  - All-in: **1.54%** vs 1.54%

ILLINOIS HOUSING DEVELOPMENT AUTHORITY

$144,280,000
Illinois Housing Development Authority
Revenue Bonds
$125,000,000 2021 B (Non-AMT)
$19,280,000 2021 C (Taxable)

Sale date: **6/8/2021**
Closing date: **6/29/2021**
Senior manager: **Jefferies**
Proceeds:
- Tax-exempt new money: **$85.9mm**
- Tax-exempt repl refunding: **$44.8mm**
- Taxable new money: **$19.3mm**

Volume cap:
- Total volume cap used: **$85.9mm**
- Total loans financed: **$150.0mm**

Structure:
- $30.7mm non-AMT serial bonds (21%)
- $19.3mm taxable serial bonds (13%)
- $39.1mm term bonds (27%)
- $55.2mm back-ended PAC bond (100psa) (38%) - $5.7mm premium

Cost of funds:
- Tax-exempt yield: **1.59%** vs 1.54%
- Taxable yield: **1.61%** vs 1.90%
  - All-in: **1.59%** vs 1.59%

Over the past six months, two HFAs have used taxable serials and a novel tax-exempt PAC structure to achieve incremental taxable financing that outperforms the TBA market without sacrificing best execution overall

THANK YOU

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Capital and Housing Market Update

September 2021

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Credibility
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Engagement
Meaningful interactions across multiple channels between our analysts and market participants.

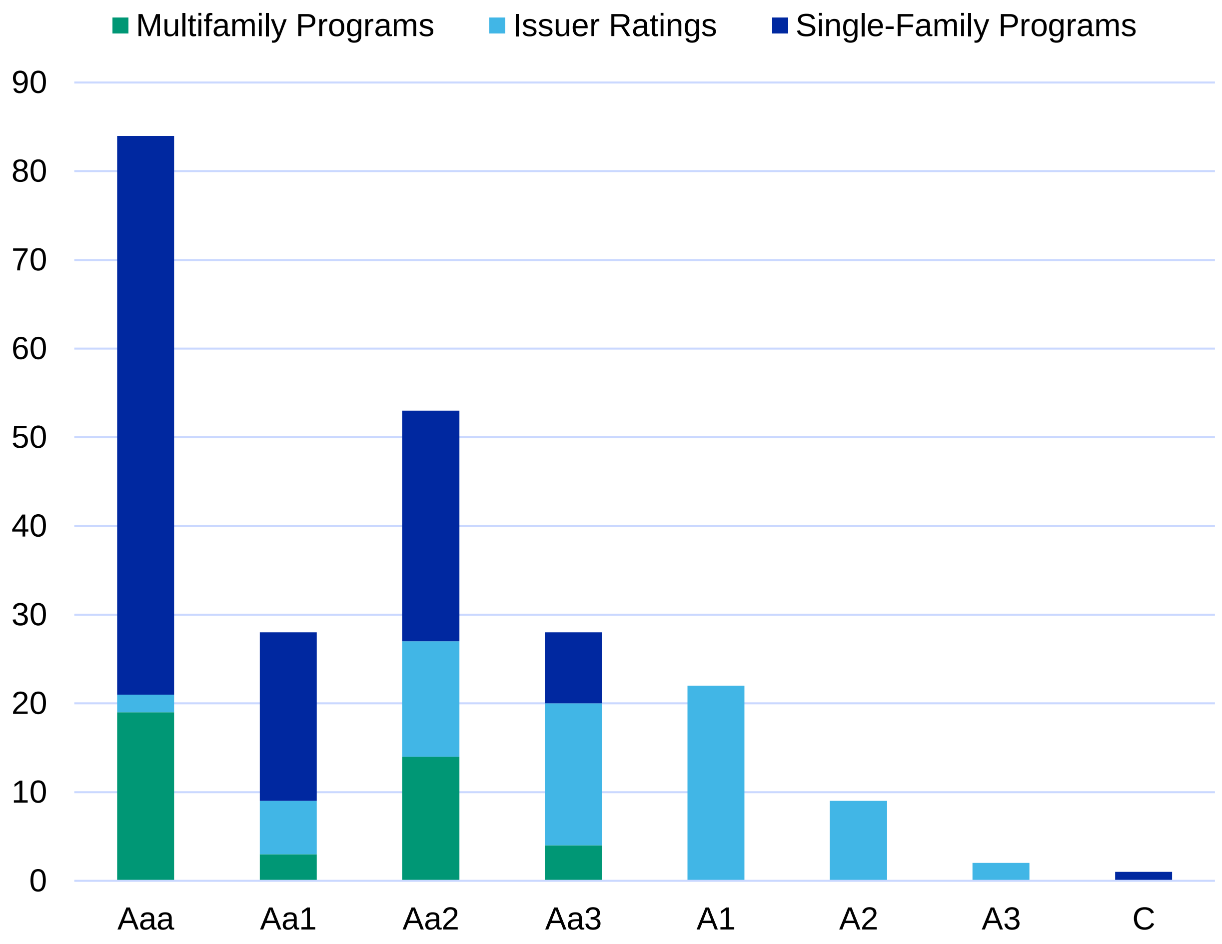
Rating Distribution – HFAs

» **State HFAs maintain high investment grade ratings**

– Single family programs median rating: **Aaa**

– Multifamily programs median rating: **Aa1**

– Issuer ratings median rating: **Aa3**

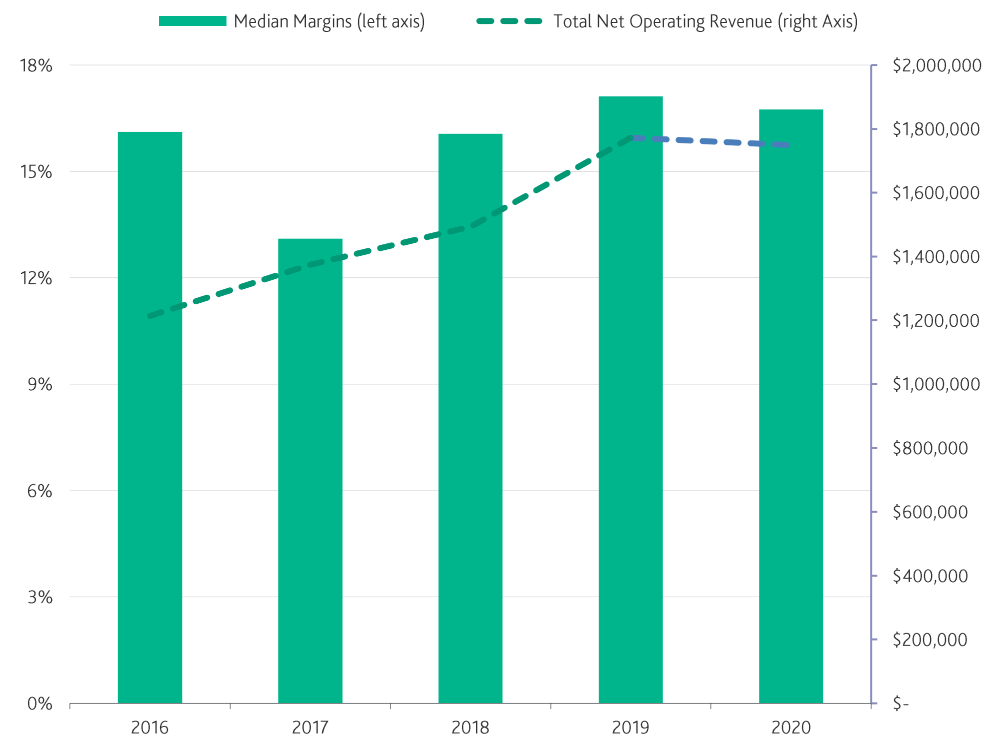


Source: Moody's Investor Service

Strong HFA financial position entering the crisis

» Margins have remained steady

Net Revenue

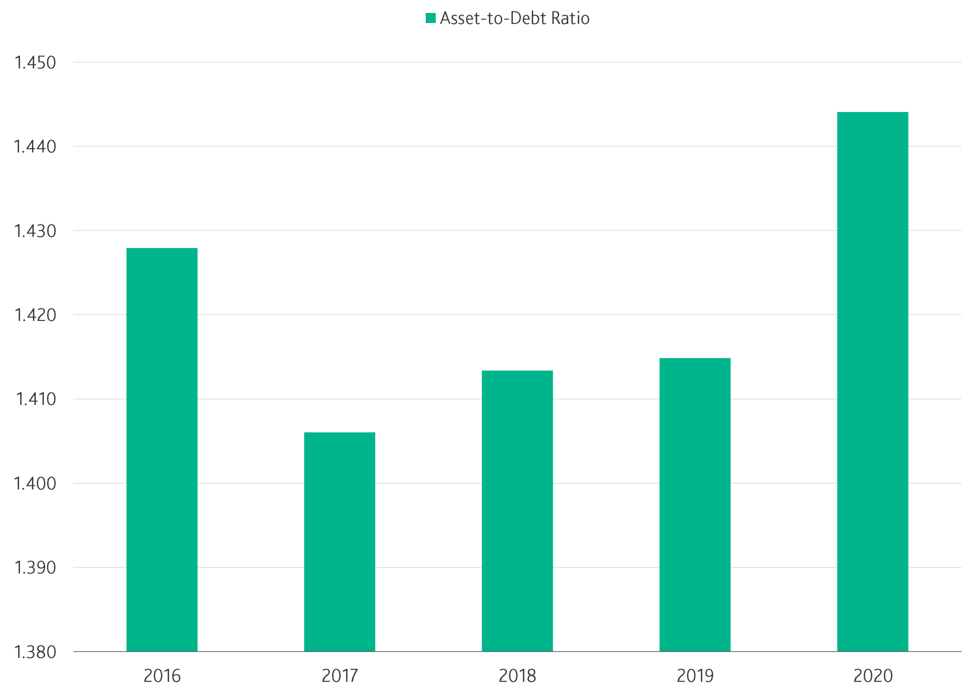


Source: HFA audits net of Moody's Investors Service adjustments

» Asset-to-Debt ratios are high

Leverage

Median asset-to-debt ratios continued to demonstrate stability



Source: HFA audits net of Moody's Investors Service adjustments

US state housing finance agencies (HFAs) outlook stable despite interest rate cuts

Margins, while still healthy, will decline owing in part to interest rate cuts, declining secondary market sales and increased bond issuance costs

Negative

What could change outlook to negative

- Margins of under 10% with potential for continued declines
- Substantial growth in loans in delinquency, forbearance or foreclosure well into 2021
- Significantly lower levels of bond issuance over several years that lead to a contraction of HFA balance sheets
- Changes in federal policy, such as government-sponsored enterprise (GSE) reform, that have a material negative impact on HFAs or their borrowers

Stable

Drivers of the stable outlook

- The median margin will remain flat at 15% in fiscal 2021 as increased loan sales on the secondary market help offset lost revenue due to loan forbearance and reduced investment income.
- HFAs' strong liquidity position will provide a sufficient buffer to withstand the cash flow disruption caused by loan forbearance.
- Multifamily loan performance will weaken barring increased federal stimulus.

Positive

What could change outlook to positive

- Margins of over 15% with potential for further growth
- Normalization of the unemployment rate and continued strong housing prices
- Potential for margin growth via sustained increases in loan originations or increasing investment rates

Industry outlooks reflect our view of fundamental business conditions for an industry over the next 12-18 months. Since outlooks represent our forward-looking view on business conditions that factor into our ratings, a negative (positive) outlook suggests that negative (positive) rating actions are more likely on average. However, the industry outlook does not represent a sum of upgrades, downgrades or ratings under review, or an average of the rating outlooks of issuers in the industry, but rather our assessment of the main direction of business fundamentals within the overall industry.

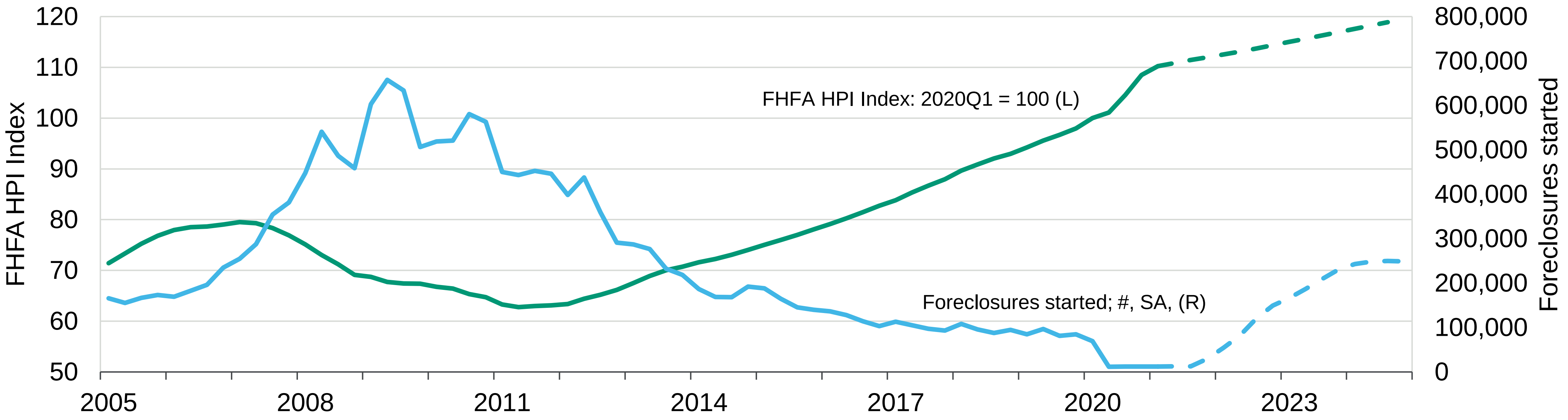
HFA performance strong through the pandemic

- **This is a public health not a housing crisis**
- **HFAs entered the crisis in a strong financial position**
- **HFAs can withstand loan non-payments arising from high unemployment**
- **Strong management response to adverse conditions provides support**

This is not a housing crisis

- » **Loan underwriting is prudent**
- » **Substantial federal insurance or guarantees on mortgage loans**
- » **Housing price growth reduces likelihood of default or losses**

Housing Price Index vs. Foreclosures 2005 – 2024 (proj.)



Note: Dotted line represents Moody's Analytics April 2021 baseline forecasts
Source: U.S. Federal Housing Finance Agency (FHFA); Freddie Mac; Fannie Mae; Mortgage Bankers Association (MBA); Moody's Analytics

Strong balance sheets offer financial strength & flexibility

- **Coverage of loan losses**
  - Offset non-payments from forbearance
  - MBS program less reliant on balance sheets
- **Mitigation on risks associated with complex structures**
- **Subsidies for new loans**
  - Lower interest rates
  - Down payment or closing cost assistance
- **Payment of bond costs**

Mix of assets an important consideration

- **Cash provides liquidity but investment returns are limited**
- **Credit, term, and structure of investments drive or mitigate returns & risk**
- **TBA sales increase assets but it's investment drives profile**
- **Mortgage loans offer good returns but bring risk of loan loss**
  - MBS returns lower but payment is guaranteed
  - Second loans have highest loss upon default
- **Diversification of assets and balancing risk and returns is an important approach**

HFAs can withstand high levels of loan forbearances

» **Forbearance have increased single family loan non-payments**

– Forbearance has doubled non-payments from 5% (prior delinquencies) to 10%

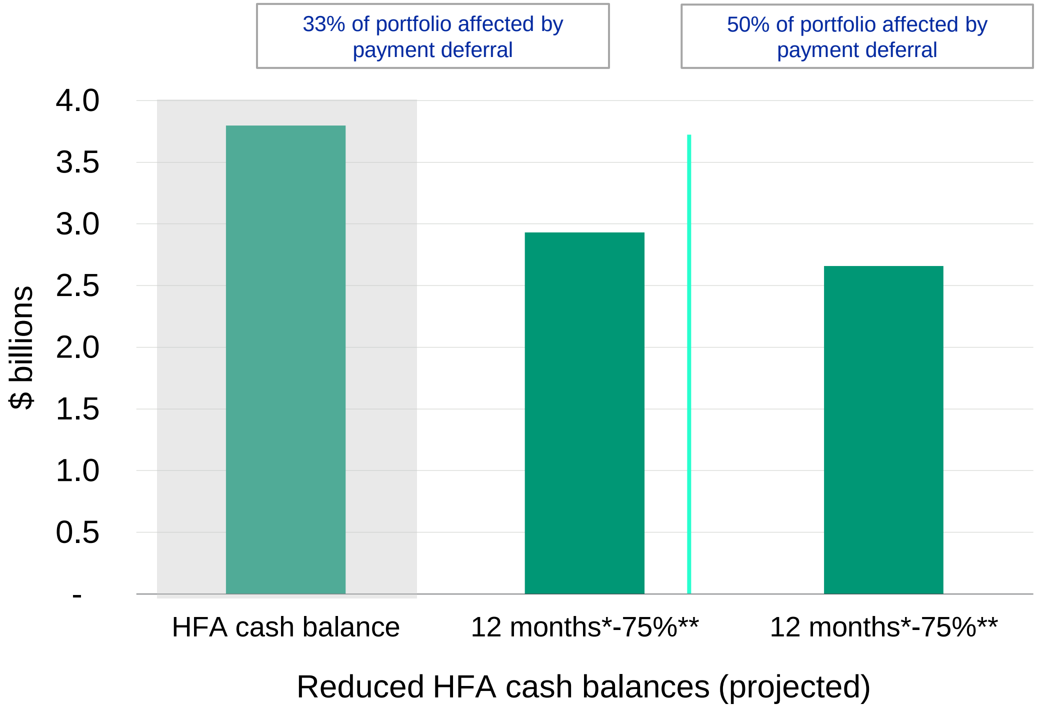
– Non-payment rates still at national GNMA levels and well below stress tests

» **On the multifamily side loan performance remains strong**

– Supplemental unemployment payments supportted tenants

– Subsidies such as section 8 support rental payments

HFA cash balance provide sufficient buffer to bridge COVID-19 related cashflow disruption



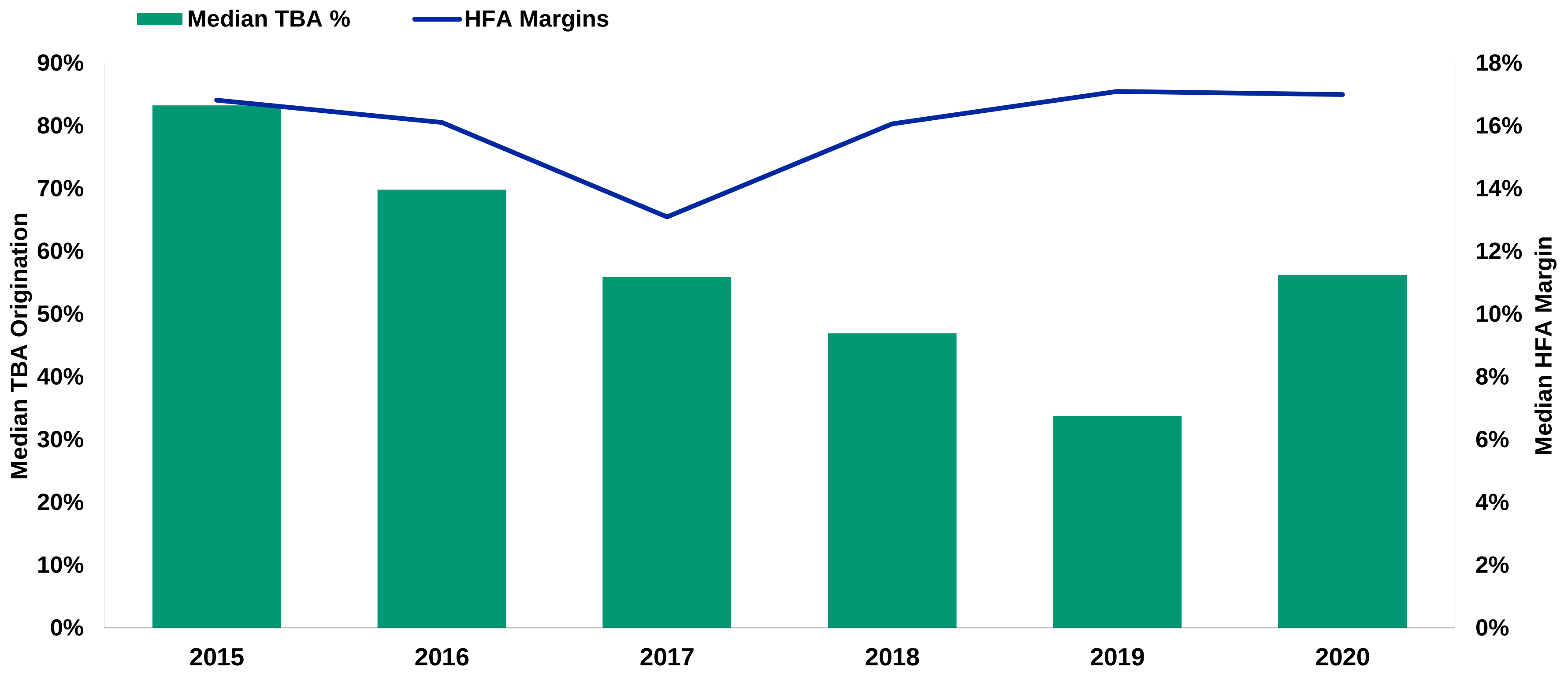
Source: Moody's Investors Service

Note: *Duration of payment deferral in whole-loan programs (months)
**Drop in sector-wide investment income

HFA have responded to adverse conditions

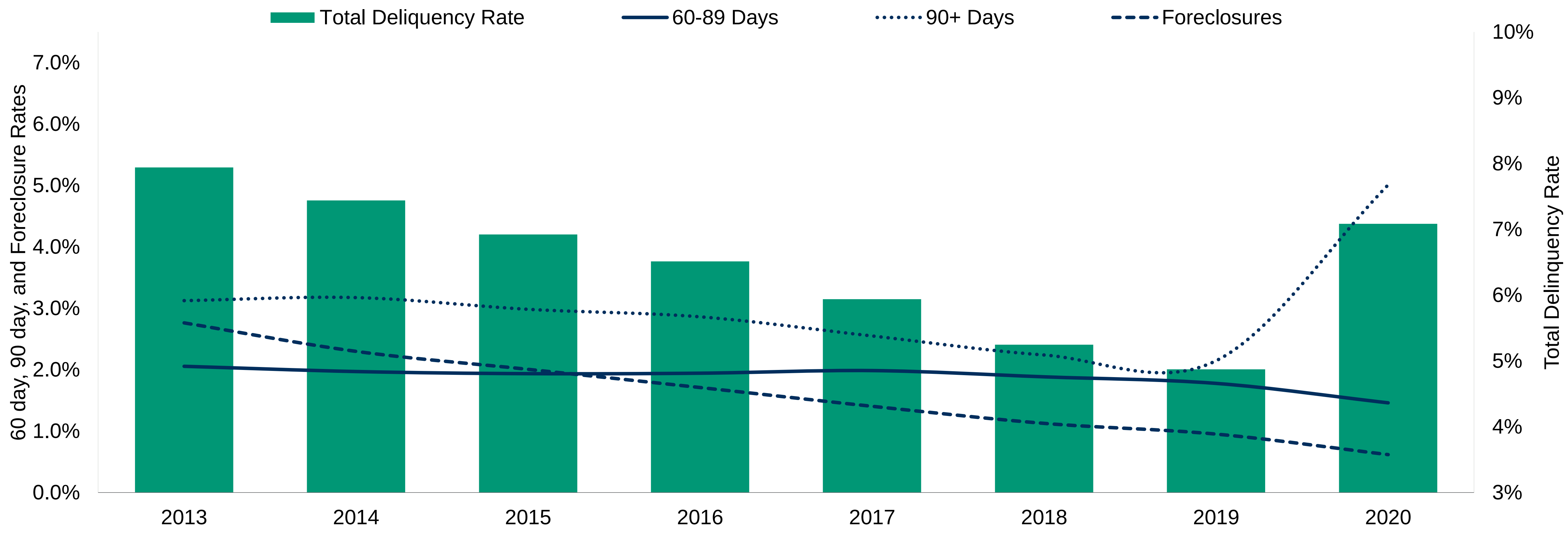
- **Many HFA are offering homeowner and rental assistance**
- **Some HFAs using partial FHA claim process on single family forbearance to reduce losses**
- **HFAs work with multifamily developers to reduce forbearance -- projects must use property reserves first**
- **Other investment options considered given low fed fund rate**
- **Loan originations remain very strong providing income going forward**
  - Many HFAs use “best execution” approach and finance loans with bonds and TBA

Secondary market loan sales strong throughout pandemic, maintaining strong margins



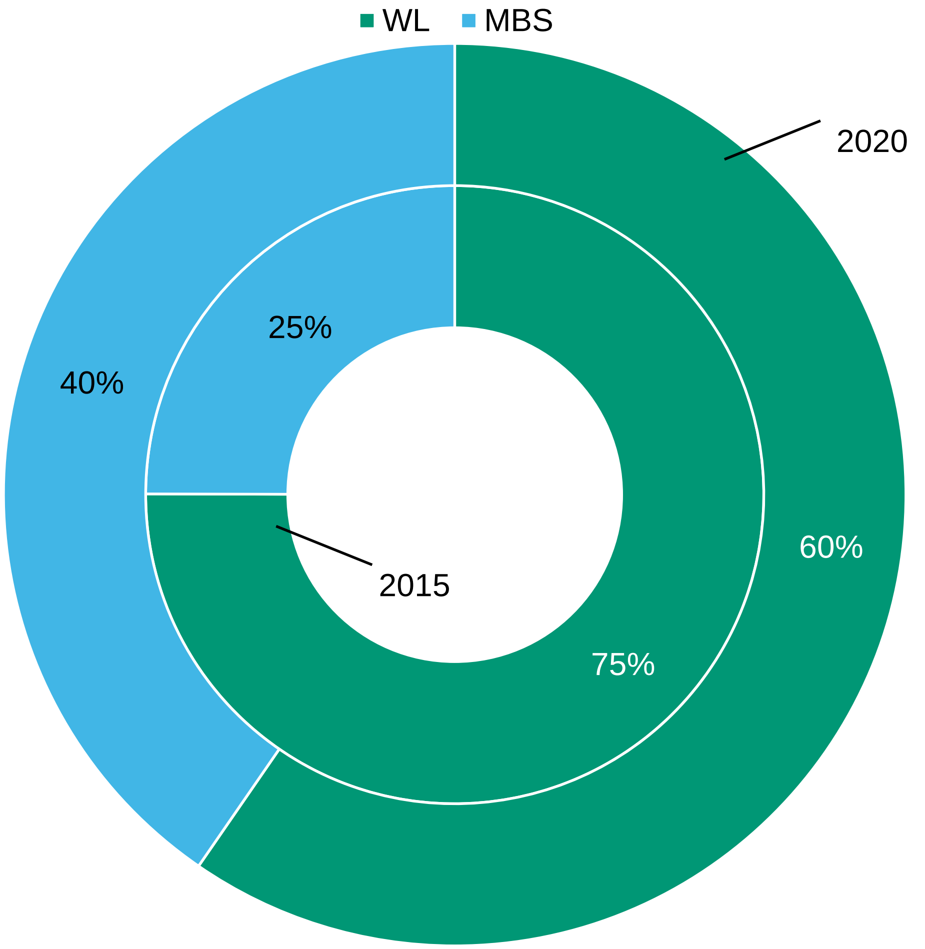
Source: Moody's Investors Service single-family HFA surveys

Single family delinquencies drop although forbearance dramatically increase non-payments



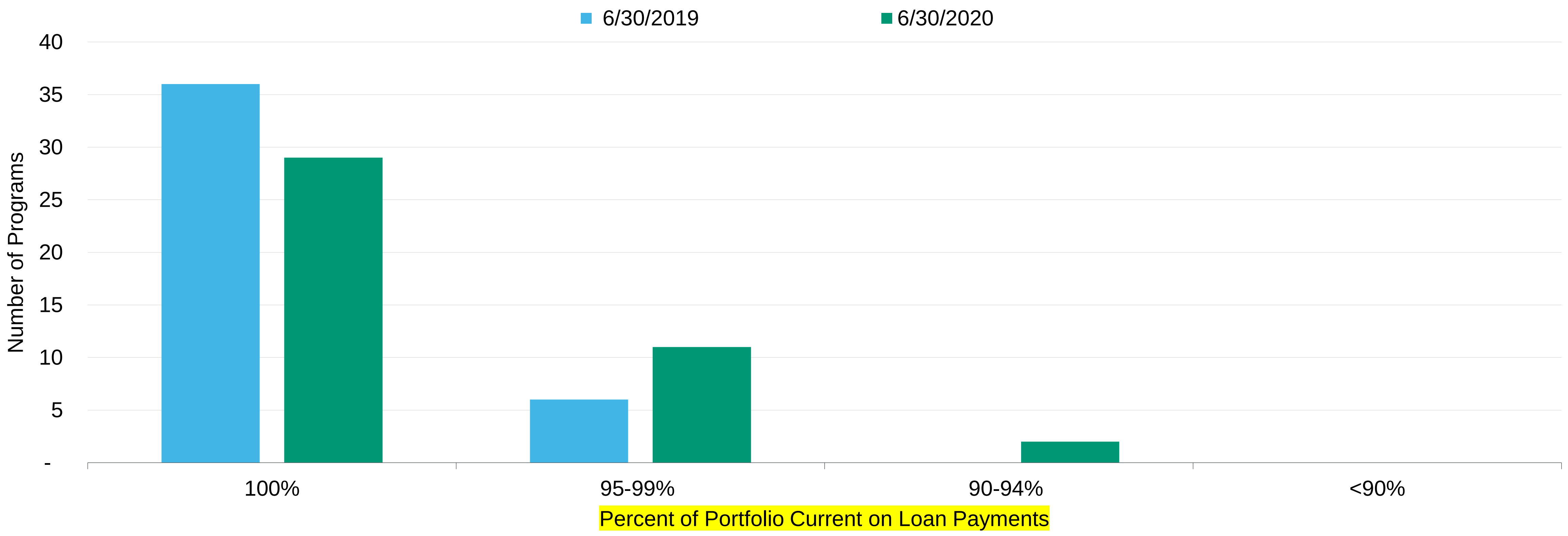
Source: Moody's Investors Service single-family HFA surveys

Growth of MBS in HFA portfolios strengthens programs



Source: Moody’s Investors Service

Multifamily performance strong despite recent weakening



Source: Moody's Investors Service

State HFAs – Key Credit Themes

- **Loan forbearance and lower investment returns will limit margins.** Revenue stress from loan forbearance, lower investment income and servicing advances will limit the median margin to 15% in fiscal 2021, a slight decline compared with 2020 (17%).

- **Secondary market loan sales provide stability.** HFAs will continue to finance most loans through sales on the secondary market, where upfront income will help offset lost revenue from delinquency and a weaker investment performance. Record-low mortgage rates and demand from first-time homebuyers will continue to drive strong HFA loan financings.

- **Multifamily loan performance benefitted from federal stimulus**. Federal expanded unemployment benefits and rental subsidy programs helped bolster HFA multifamily loan performance which was expected to weaken without these programs.
  - Eviction Moratorium will aid project owners

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September 2021