CAPITAL MARKET TRENDS AND OUTLOOK

HilltopSecurities.

NCSHA 2020 ANNUAL CONFERENCE & SHOWCASE



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- Production Trends
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 - TBAs
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PRODUCTION TRENDS

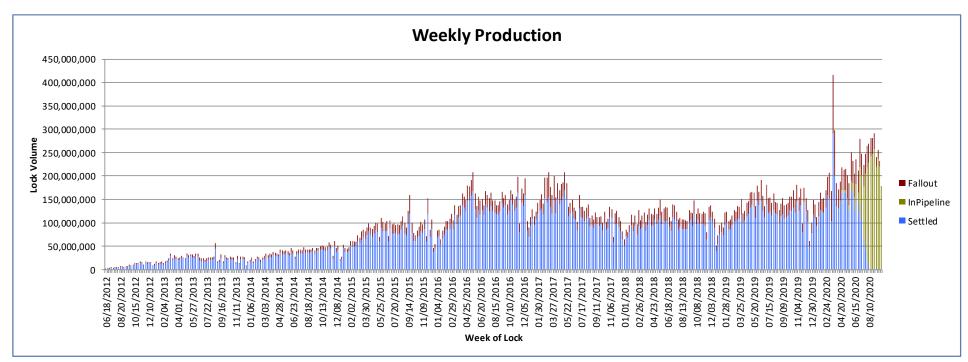


Production Trends

- HFAs continue to see robust TBA volume despite increase in MRB issuance
 - Record low mortgage rates
 - Strong home purchase activity
- 2020 another record year in lock volume for HTS clients
 - 2020 locks through September month end \$8.4 billion compared with \$5.3 billion in same period of 2019 – up almost 59% year-over-year
- Since July 2012 represented 18 state programs and over \$45.1 billion in locks with \$33.9 billion in MBS purchases
- 11 out of 18 HTS HFA partners using both MRB and TBA to fund single family activity



Production Trends (cont..)



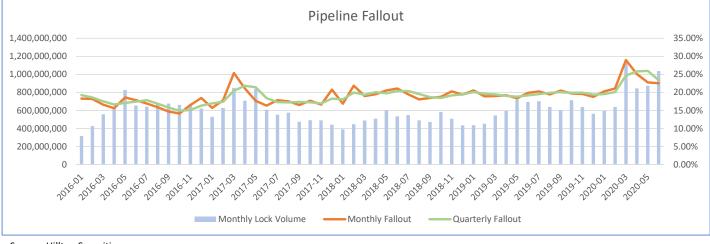
Source: Hilltop Securities



Production Trends (cont..)

- Under 14% of YTD locks comprise conventional product, down from 36% for the same period of 2019
 - Many HFAs have discontinued offerings conventional products altogether



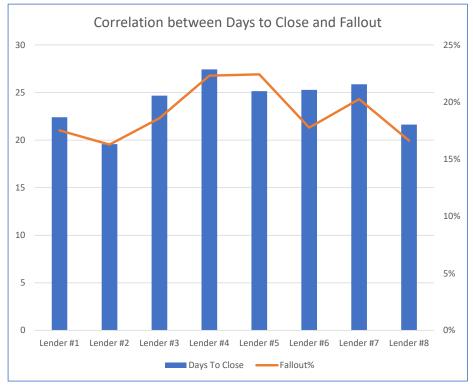


Source: Hilltop Securities

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Production Trends (cont..)



• Strong correlation between number of days lender takes to close new lock and that lender's fallout ratio

Source: Hilltop Securities

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MARKET UPDATE



Market Update – TBAs

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Source: Bloomberg

- TBAs trade based on worst to deliver assumption
- As mortgage rates have continued to hit new lows, 2.5s and higher coupons have sped up
- Fed has been buying ~5bb/day supporting the TBA market
- Fed currently buying 2.0s and 2.5s in G2 TBA space

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Market Update – TBAs (cont..)

- In the past you could hedge your long HFA lock/pool risk with short corresponding TBA
- Now duration/convexity profile of TBA are materially different than that of HFA pool. If you hedge your long G2 3.0 pool exposure with G2 3.0 TBA, you will be underhedged
- Given how integral pay-ups are to lock pricing at origination, it is very important to hedge pay-ups. Otherwise, the negative convexity of the asset class will result in bigger losses
- Making best execution decisions (MRB vs TBA) should consider real "spec" pay-ups and not only screen TBA levels



Market Update – HFA MBS

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Month CPR	39.2	30.6	20.5	12.0	7.9	3.1	2.3	1.8	1.9	1.0	1.0	
	22.9	17.4	20.0	12.0		011	210	2.0				
2 Month CPR		17.4	12.4	7.9	5.6	2.6	2.0	1.8	1.6	1.2	1.0	1.0

Source: Bloomberg

- G2 multi issuer pools continue to exhibit streamlined refi behavior
- Involuntary prepays stemming from Bank purchases of seriously delinquent loans have intensified overall prepays further
- Perfect tailwind for HFA Specified pools that have slow empirical speeds, especially nonbank serviced



Market Update – HFA MBS (cont..)

- Factors impacting prepay speeds on HFA Pools
 - DPA format
 - Home Price Appreciation
 - Servicer
- How to maximize execution on HFA Pools
 - Thorough analysis of prepays on production since inception, updated each month as speeds get reported
 - Industry standard MBS valuation models still do not understand HFA pools well, so onus lies on the entity that brings the HFA pools to market
 - Distribution
 - CMO structuring capability





NCSHA Annual Conference 2020 Capital Market Trends & Outlook

Damian Busch Director Barclays damian.busch@barclays.com

Financing HFA Programs

Macroeconomic factors are deeply intertwined, and we are in a uniquely uncertain environment. Decisions regarding financing product(s) are specific to each HFA's legacy conditions and goals.

Product Options							
Mortgage Revenue Bonds (MRBs)	Pass-Through Bonds	Direct MBS Sales in TBA Market	MBS Sale + IO Strip Purchase				

Macro	Consid	erations
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U.S. Economic Conditions	Shape of Yield Curve & Mortgage Rates	Mortgage Prepayment, Delinquency, & Default Rates	Need for Subsidy to Achieve Affordability
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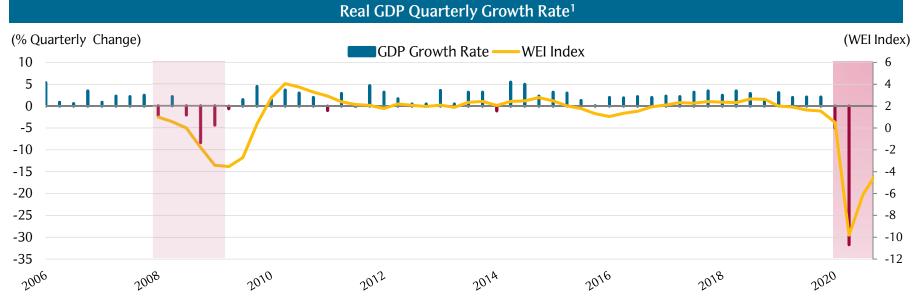


What will happen to the US economy in the coming months and years?

- Flexible Average Inflation Targeting (FAIT)
 - Front-end rates should stay low for next 2-3yrs
- Investors may adjust view of *real* returns to reflect inflation
 - Could make fixed-income less attractive
 - But could make tax-exemption more attractive
- Inflation generally reduces free cash flow in households
 - May put upward pressure on mortgage rates and housing prices
 - Could present a challenge to affordability
- Lackluster economic growth could lead to deflation or stagnation
 - Generally higher delinquencies and defaults could result



2021 GDP Projections Vary Significantly



Forecasted GDP Growth for Next Year ^{2,3}								
Bank	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2021 Average	
JP Morgan	34.50%	3.00%	2.00%	2.00%	1.80%	1.50%	2.06%	
RBC	35.00%	3.00%	2.50%	3.00%	3.00%	2.50%	2.80%	
BofA	33.00%	3.00%	5.00%	3.00%	3.00%	3.00%	3.40%	
Barclays	30.00%	2.50%	3.50%	5.00%	4.00%	3.50%	3.70%	
UBS	29.70%	2.40%	2.70%	5.40%	5.40%	2.70%	3.72%	
Citi	31.00%	6.90%	6.70%	3.90%	1.60%	1.60%	4.14%	
Goldman Sachs	35.00%	3.00%	7.00%	7.00%	4.50%	3.50%	5.00%	
Average	32.60%	3.40%	4.20%	4.19%	3.33%	2.61%	3.55%	

1.

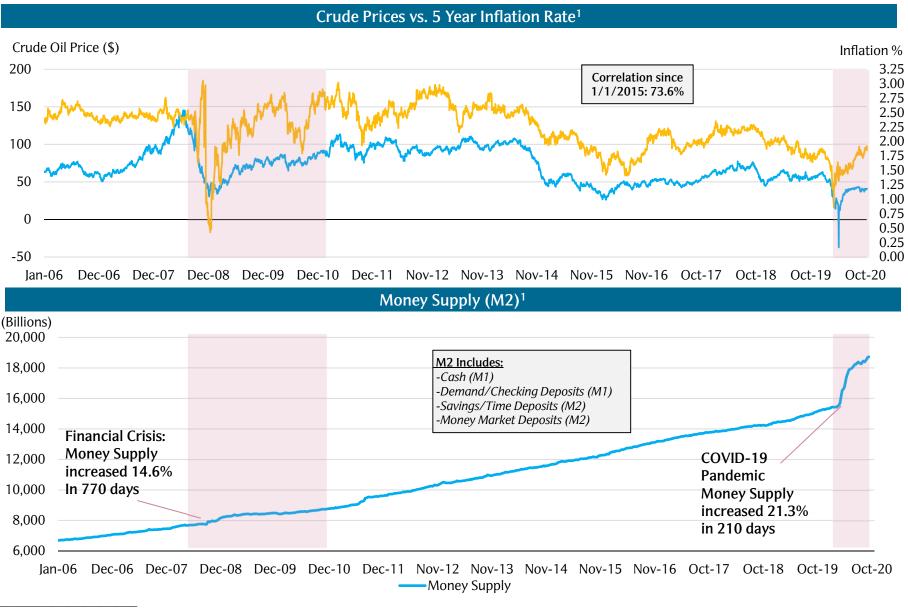
Source: FRED As of October 23, 2020. Source: Barclays Research. As of October 15, 2020. 2. 3.

Source: Bloomberg. As of October 21, 2020.

WEI Index: Produced by the Federal Reserve Bank of New York, The WEI provides a signal of the state of the U.S. economy based on data available at a daily or weekly frequency 4.



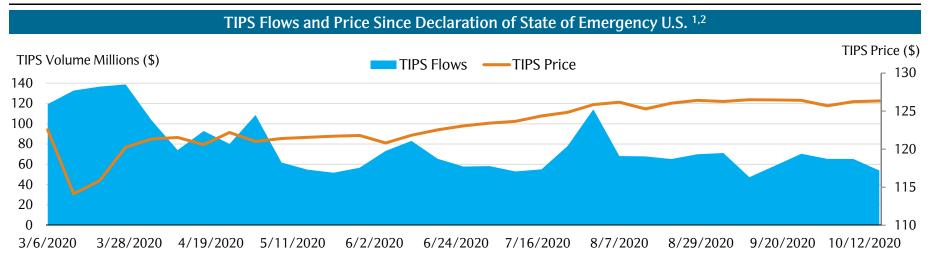
Inflation: Mixed Signals

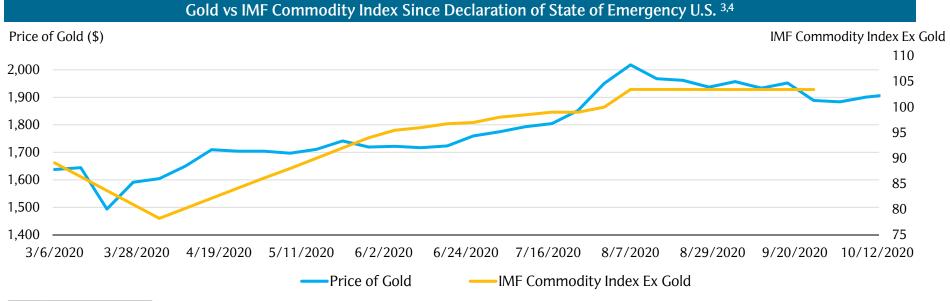


1. Source: FRED As of October 23, 2020.



TIPS flows have been muted, and the price of gold has been similar to the change in commodity prices broadly





1. Source: FINRA TRACE Treasury Aggregates: As of October 16, 2020.

2. Source: NYSEARCA:TIP: As of October 16,2020

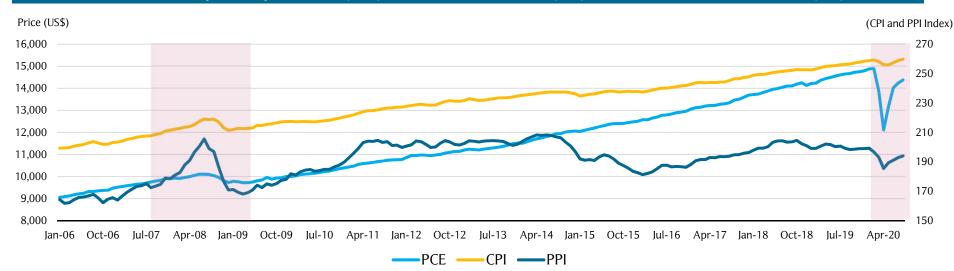
3. Source: IMF Data: Primary Commodity Price System: As of October 22, 2020; date axis presented to align with available TIPS flows data.

4. Source: FRED: As of October 22,2020.

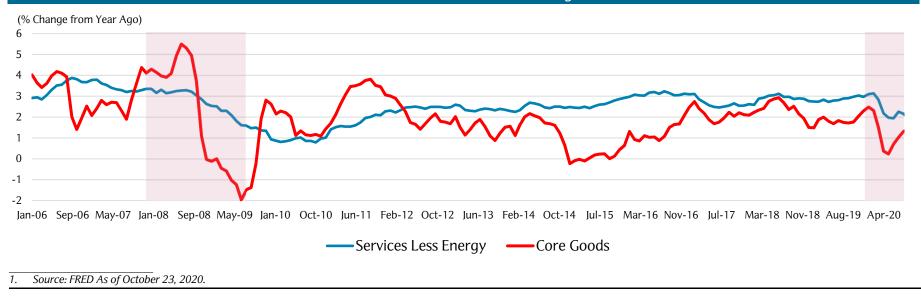


Spending recovers, boosting CPI, with PPI muted

Personal Consumption Expenditures (PCE), Consumer Price Index (CPI), Personal Producer Price Index (PPI)¹

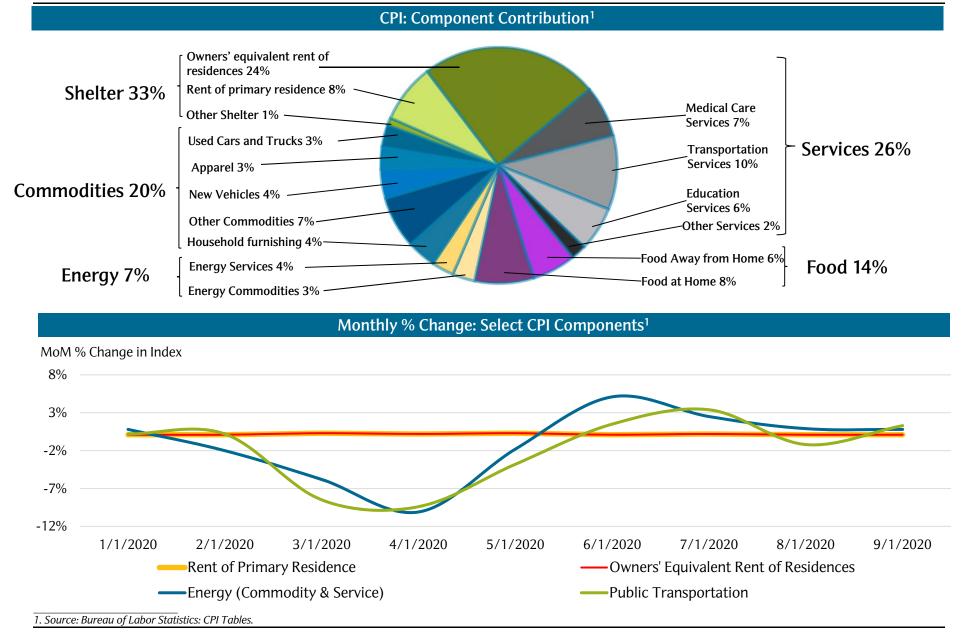


CPI: Core Goods vs. Services % Change YoY¹



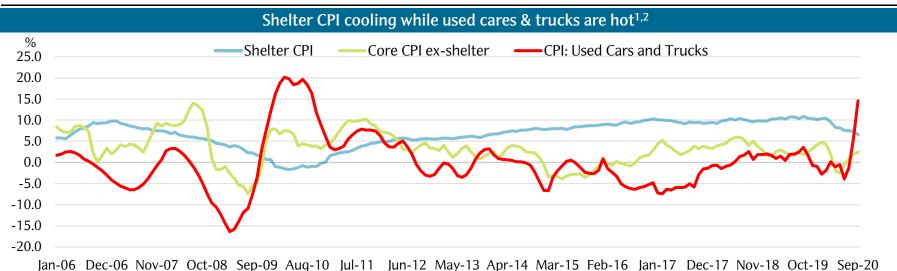


CPI Component Breakdown

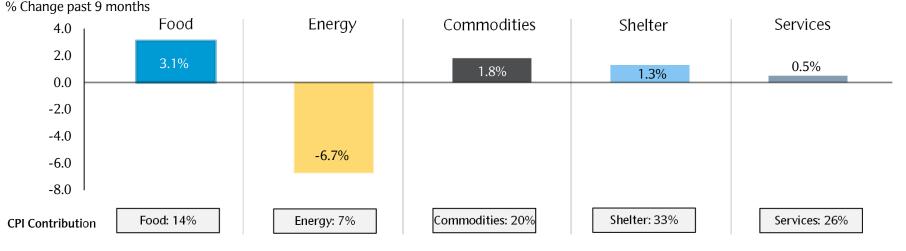




Somewhat unique changes in CPI during COVID



Component CPI % Change from January – September 2020³



% Change past 9 months

1. Source: Barclays Research: As of October 14, 2020.

Source: FRED As of October 23, 2020. 2.

Source: Bureau of Labor Statistics: CPI Tables.



What do you think will happen to the U.S. economy, broadly speaking, in 2021-2023?

- Inflation: greater than 4%
- Inflation: flat to 3.9%
- Deflation: flat to -3.9%
- Deflation: lower than -4%
- Stagflation: price inflation without economic growth

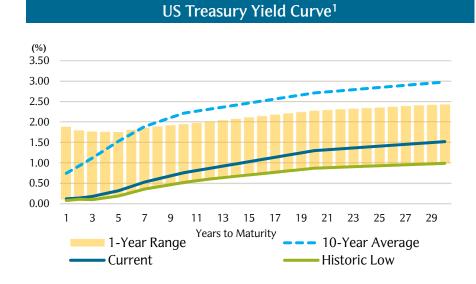


Yield curve shape influences product choice:

- Steep Curve moving down the yield curve:
 - PACs, variable rate, frontloading, and pass-throughs
- Flat yield curve provides the opportunity to sell longer fixed-rate debt or backload
- Increasing short-term rates may
 - Pressure mortgage rates higher
 - Slow legacy prepayments dramatically leads to easier to earn spread on MRBs
 - May increase the value of IO strips, which exhibit negative duration as prepayments slow with higher rates



Taxable and Tax-Exempt Rate Environment



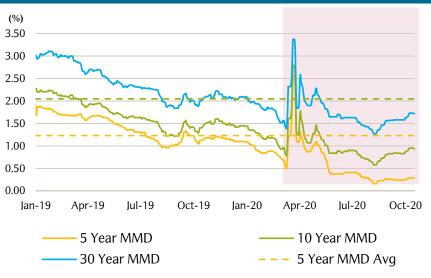
Front End of UST Curve at All-Time Low¹



High Grade MMD Yield Curve² 13 15 23 25 9 11 17 19 21 27 29 1 3 5 Years to Maturity 1-Year Range 10-Year Average

Historic Low

MMD Yields Are Below 10 Year Averages¹



1. Source: US Department of Treasury. As of October 22, 2020.

2. Source: Thomson Reuters. As of October 22, 2020.



Current

(%)

3.50

3.00

2.50

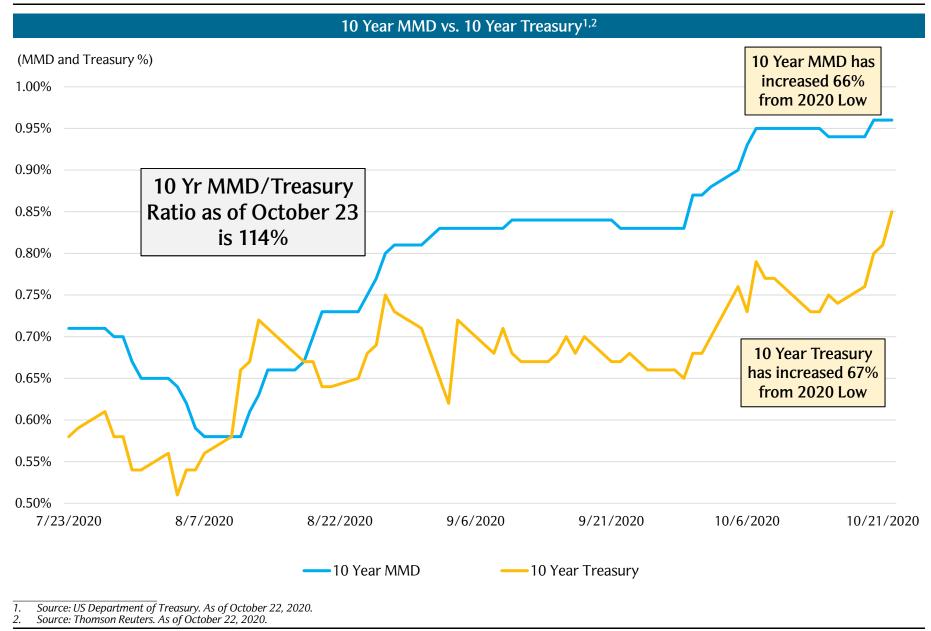
2.00

1.50 1.00

0.50

0.00

Rates rising, but tax-exemption severely underperforming



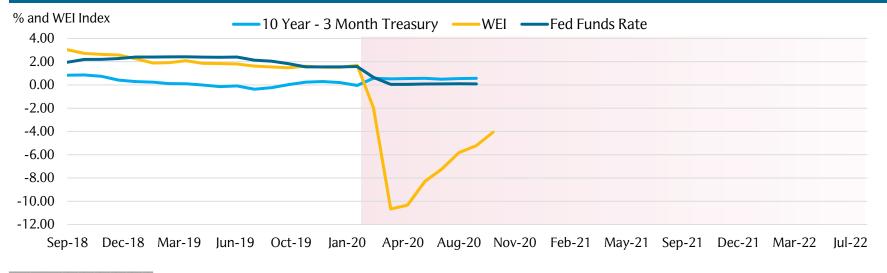
BARCLAYS

Recession Tools: Lessons from 2008



Fed Funds vs. Recession Indicators– Great Recession^{1,2}

Fed Funds vs. Recession Indicators – Covid-19¹

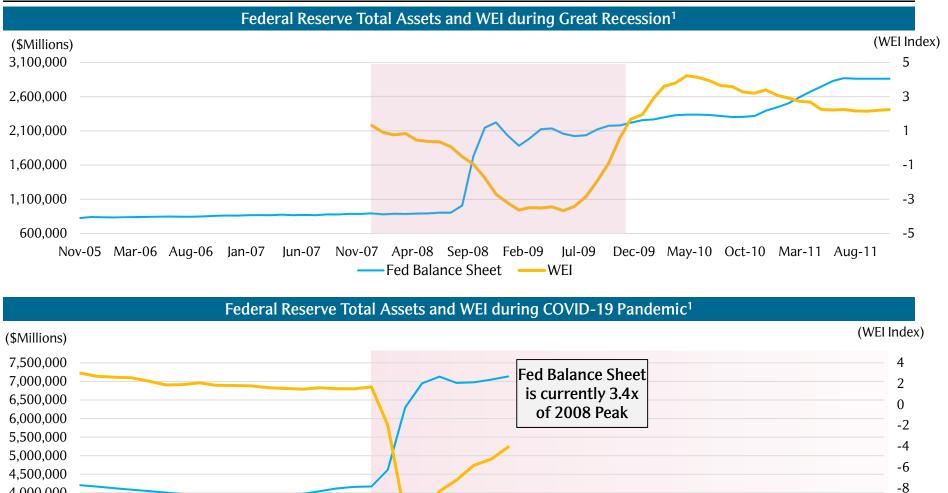


1. Source: FRED As of October 13, 2020.

2. Note: WEI data commences January 1, 2008.



Quantitative easing has gone from tool of last resort, to the dominant instrument

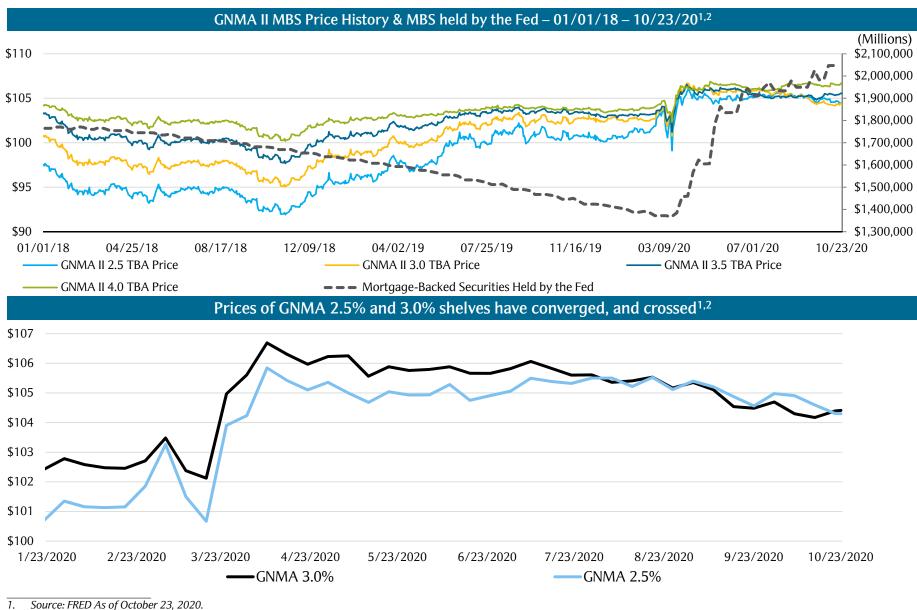




Source: FRED. As of October 23, 2020.



Massive Fed buying is impacting GNMA pricing



Source: FRED As of October 23, 2020.
Source: Barclavs Research. As of October 23, 2020.



Survey Question

In 2021-2023 the yield curve will be:

- Unchanged
- Steeper
- Flatter
- Inverted
- I have no idea



Election Ramifications

There may be an extended period of uncertainty around the 2020 Election this year, due to an unprecedented number of mail-in and absentee ballots

November 3, 2020	2020 Election Day	
December 8, 2020	State Safe Harbor deadline to finalize vote tally and resolve any legal disputes	
December 14, 2020	Electoral college delegations meet	• Equ
December 23, 2020	Certificates of electoral vote results delivered	elec
January 6, 2021	Joint session of Congress to ratify official results] (
I anuary 20, 2021	Inauguration	• Mar



- Equity markets are not demonstrating concern, as implied volatilities for the postelection period have fallen
 - Expected market movement has come down from 6.0% to 3.5%
- Markets are prepared for a 0% to 5% sell-off

		Market Reaction					
Scenario	Long-Term Effects	Yields	Ratios	Immediate	Medium-Term		
Delay in Results	Flight to safety	Lower	Higher	-	-		
Democratic Sweep	Fiscal expansion, stimulus, higher taxes	Higher	Lower	Risk-off Rally	Bear Steepening		
Biden + Republican Congress	Risk of fiscal tightening, no stimulus	Lower	Elevated	Relief selloff	Bull Flattening		
Trump + Republican Congress	Trade uncertainty, neutral fiscal policy	Slightly Lower	Elevated	Relief selloff	Mild Bull Flattening		
Trump + Democratic Congress	Areas of compromise	Slightly Higher	Neutral	Relief selloff	Mild Bear Steepening		



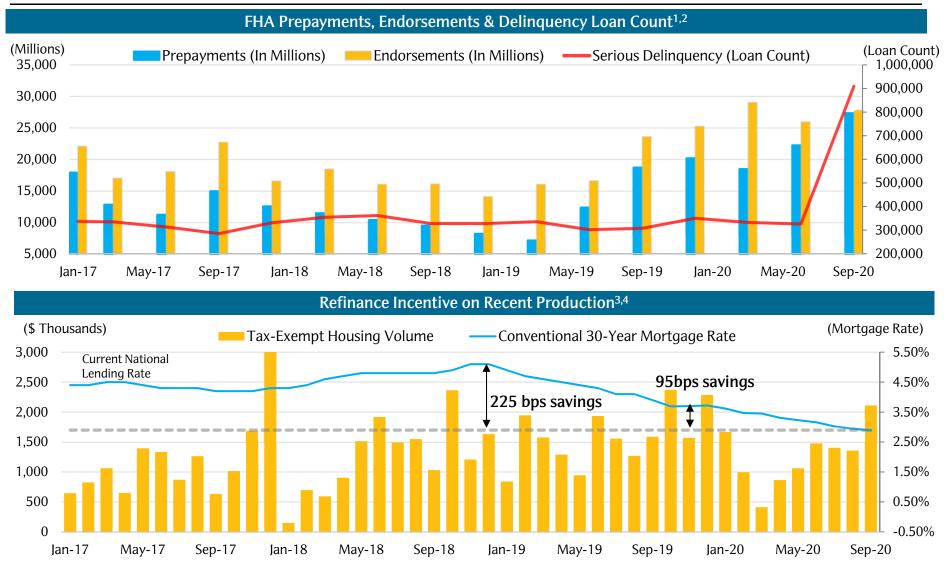
Consideration: What will happen to prepayments and delinquencies?

Mortgage prepayment expectations impact planning:

- If prepayments are low:
 - Earn more spread on MRBs
 - Could put pressure on maintaining higher PSA PAC bonds
 - Will TBA pay-ups adequately compensate for slower prepayments speeds?
 - Existing IO strips can generate impressive returns
- If prepayments increase:
 - Do delinquent mortgages default and increase prepayments?
 - MRBs may earn less than planned
 - Existing IO strips may experience severely diminished returns
 - TBA prices shift, but profit from sales may be insulated, if well hedged



Prepay speeds and delinquencies picking up



1. Serious Delinquency Loans are those that have been delinquent for more than 90 days.

2. Source: U.S. Department of Housing and Urban Development: FHA Production Reports.

3. Source: FHFA National Mortgage Data Base.

4. Source: Bloomberg as of October 20th, 2020.



Owners unconcerned, while rental fears slowly subsiding

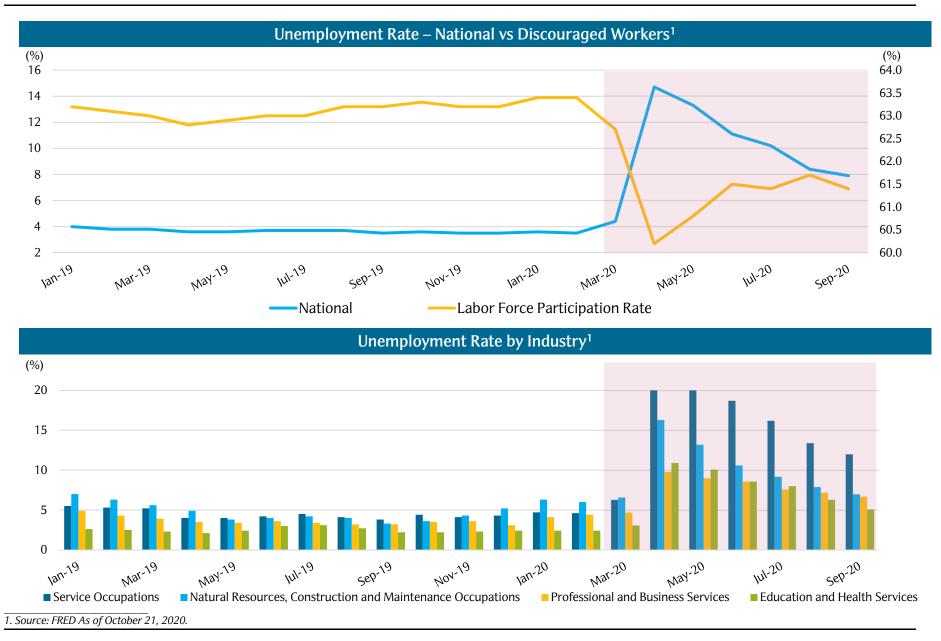
% Surveyed 16% Renters: No Confidence to make next month's rent payment 14% 12% 10% 8% **Owners: No Confidence to make** 6% next month's mortgage payment 4% 2% 6/18/20 4/23/20 5/7/20 5/21/20 6/4/20 7/2/20 7/16/20 7/30/20 8/13/20 8/27/20 9/10/20 9/24/20 10/8/20

How confident are you that your household will be able to pay your next rent or mortgage payment on time?¹

Source: United State Census Bureau, "Weekly Household Pulse Survey, April 23 – October 12."



Unemployment rate falls, but some is due to people leaving the workforce; some industries suffering more than others





Prepayments and delinquencies for existing HFA loans in 2021-2023 will generally be:

- Much faster
- A little faster
- A little slower
- Much slower
- Will vary a lot by region and HFA program



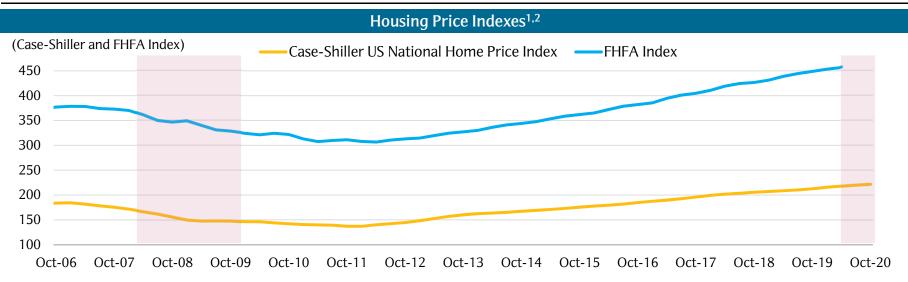
Consideration: What is the cost of affordability?

Subsidy has become a critical component of many HFA programs:

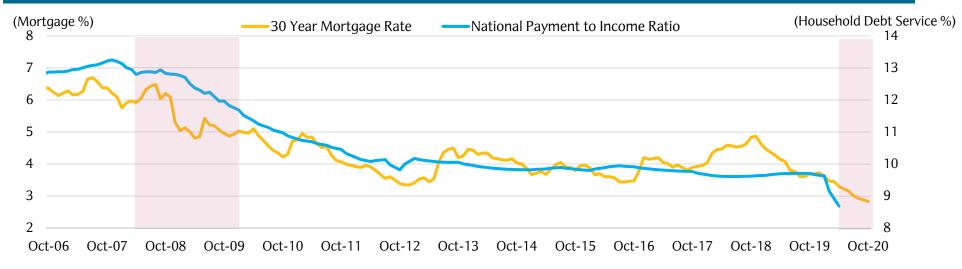
- If prices continue to rise or accelerate:
 - DPA may not prove sufficient in some markets
 - HFAs may have to sacrifice full spreads or pursue higher yield opportunities
- But if housing prices fall:
 - It could be an indicator of a suffering economy, which could be problematic for existing borrowers (high LTVs)
- If rents rise:
 - More projects pencil out, but affordability/subsidy is a concern
- If rents fall:
 - Potential shortage in new MF construction may result



Housing prices exhibit inverse relationship with mortgage rates



Household Debt Service as a Percentage of Income vs. 30 Year Mortgage Rate Chart^{1,2}



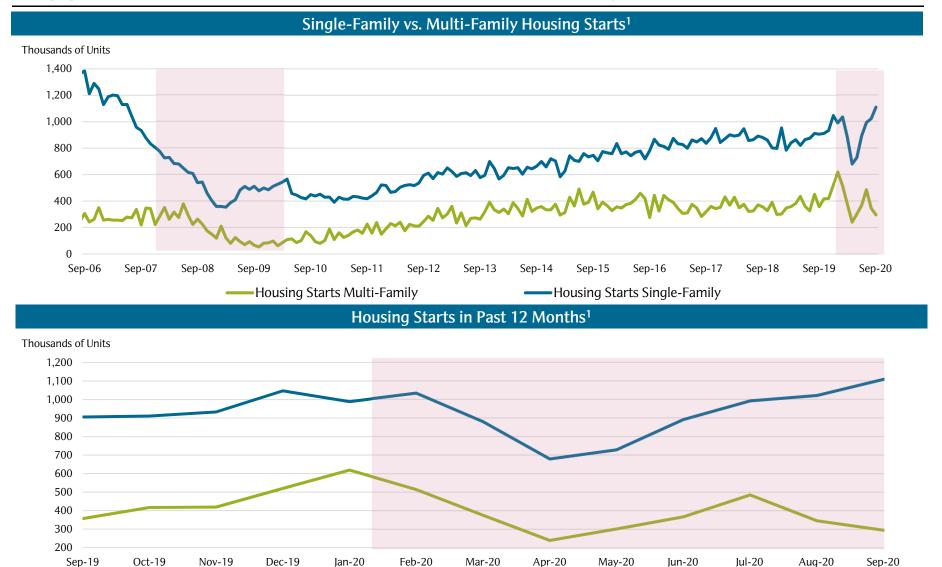
1. Source: ALFRED. As of October 23, 2020.

2. Source: FRED As of October 23, 2020.



Supply side: SF starts recover while MF lags

Housing Starts Multi-Family



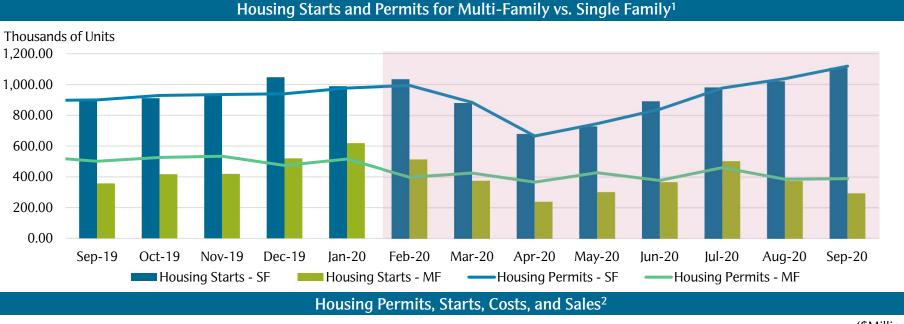
Source: FRED. As of October 22, 2020.



1.

-----Housing Starts Single-Family

Permits suggest a strong Q4 for single family, with robust construction spending signaled by Census Survey

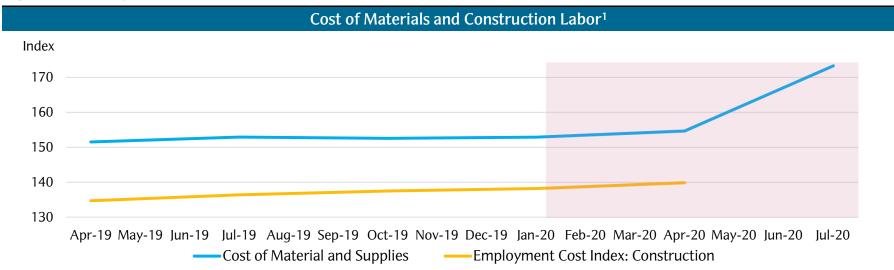


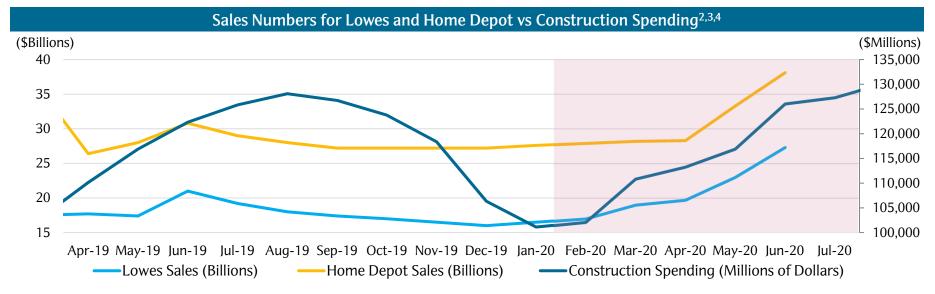


Source: United States Census Construction Survey: As of October 19, 2020.



Reduced inventory: materials cost rising as construction spending resumes





Source: FRED: As of October 19,2020, Note: Employment Cost Index released quarterly.

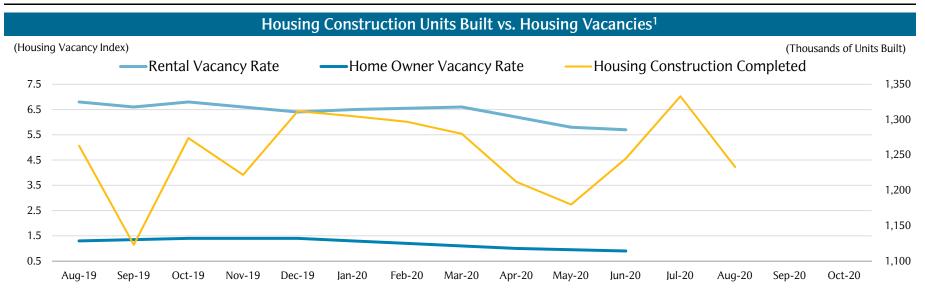
2. Source: Home Depot Investor Relations: As of October 19, 2020.

3. Source: Lowes Investor Relations: As of October 19, 2020.

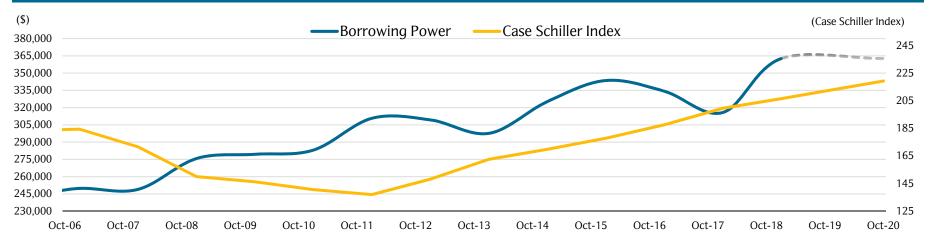
4. Source: United States Census Construction Survey: As of October 19, 2020.



Vacancies falling as construction completion relatively consistent, but falling mortgage rates have maintained household borrowing power



Cost of Housing vs. Household Borrowing Power^{2,3}



1. Source: United States Census Bureau, "Housing Construction and Housing Vacancies", Data released quarterly.

2. Source: FRED: As of October 20, 2020.

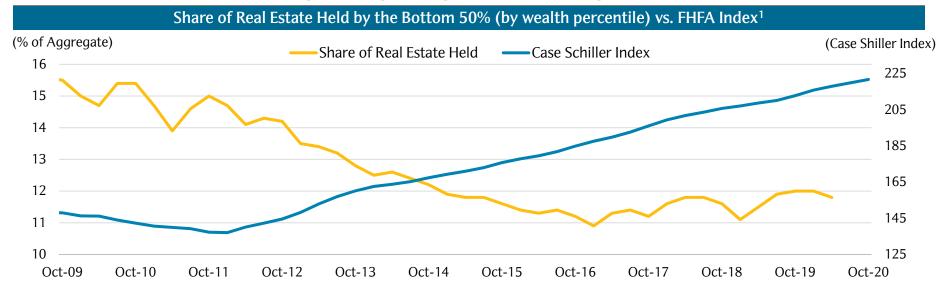
3. Borrowing Power is calculated in 2020 dollars, assumes 30% of income , as defined median household income published by FRED, is used on mortgage payments and prevailing mortgage rate to calculate maximum loan amount; Borrowing Power is smoothed as data is released annually.



Housing prices in 2021-2023 will:

- Be higher for single family and rentals
- Be higher for single family but rents will fall
- Be lower for single family but rents will be higher
- Be lower for both single family and rentals
- This will vary significantly by region





The bottom 50% are not participating in ownership

\$ Home Mortgages Held by the Bottom 50% (by wealth percentile) vs. 30 Year Mortgage Rates¹ (Mortgage Rate %) (Millions) Mortgage Dollars Outstanding **—**30 Year Mortgage Rate 5.5 3,600,000 3,400,000 5.0 3,200,000 4.5 3,000,000 4.0 2,800,000 3.5 2,600,000 3.0 2,400,000 2.5 2,200,000 Jul-20 lul-09 lul-10 lul-11 lul-12 lul-13 lul-14 lul-15 lul-16 lul-17 lul-18 lul-19

1. Source: FRED: As of October 23,2020.



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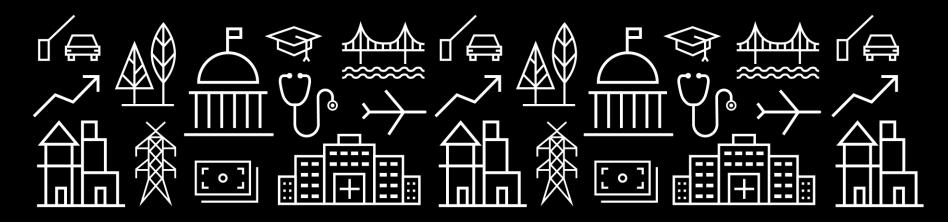
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Housing Market Trends and Outlook

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October 27, 2020

NCSHA Annual Conference

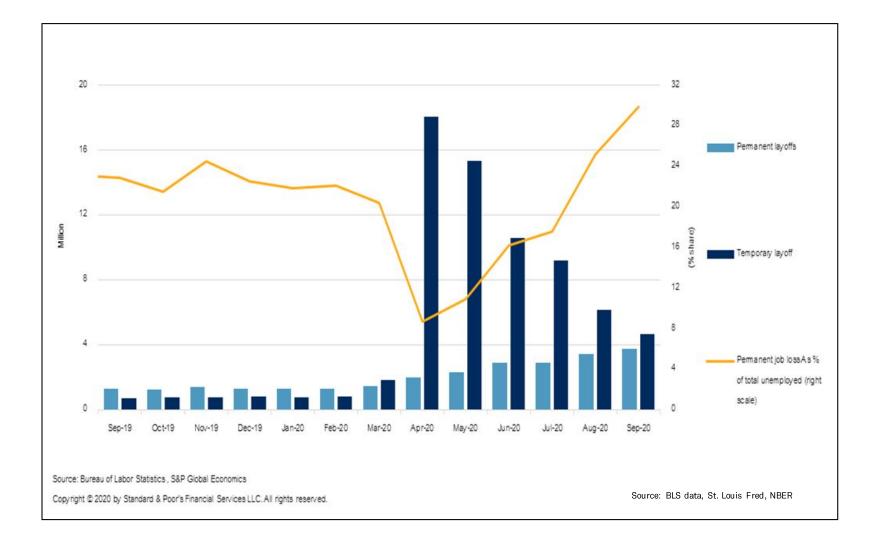
Marian Zucker Sector Lead, Senior Director USPF Housing



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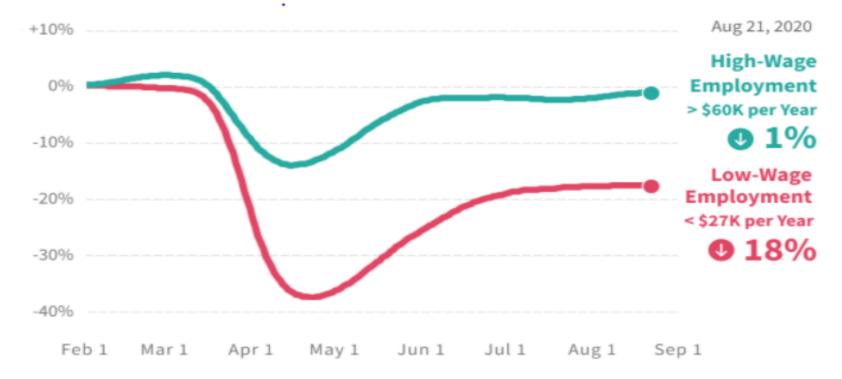
US Jobs Market's Slow Return to Normalcy



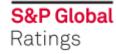
S&P Global Ratings

Job Market Near-normal For High-wage earners... Low-wage Earners Fall Further Behind

While employment rates have rebounded to nearly pre-COVID-19 levels for high-wage workers, they remain significantly lower for low-wage workers.

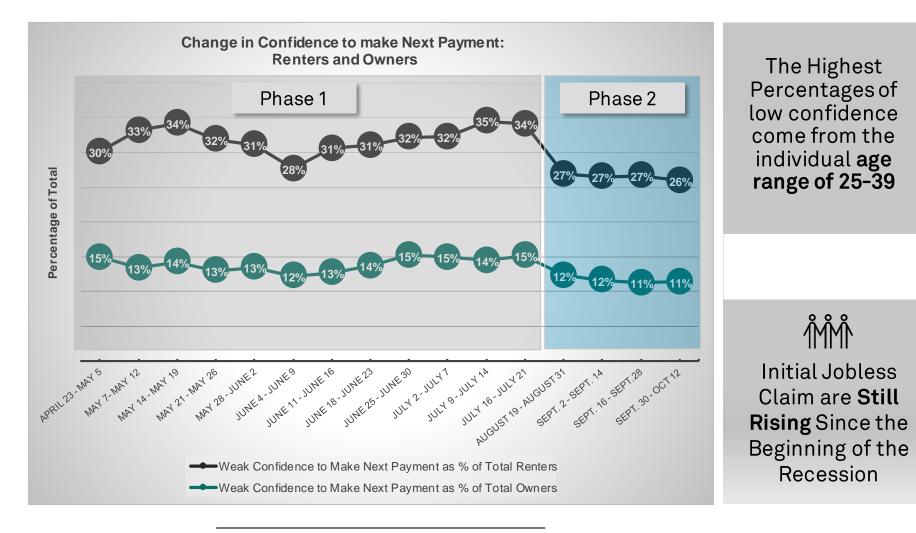


Source: tracktherecovery.com



Trends in Household Confidence

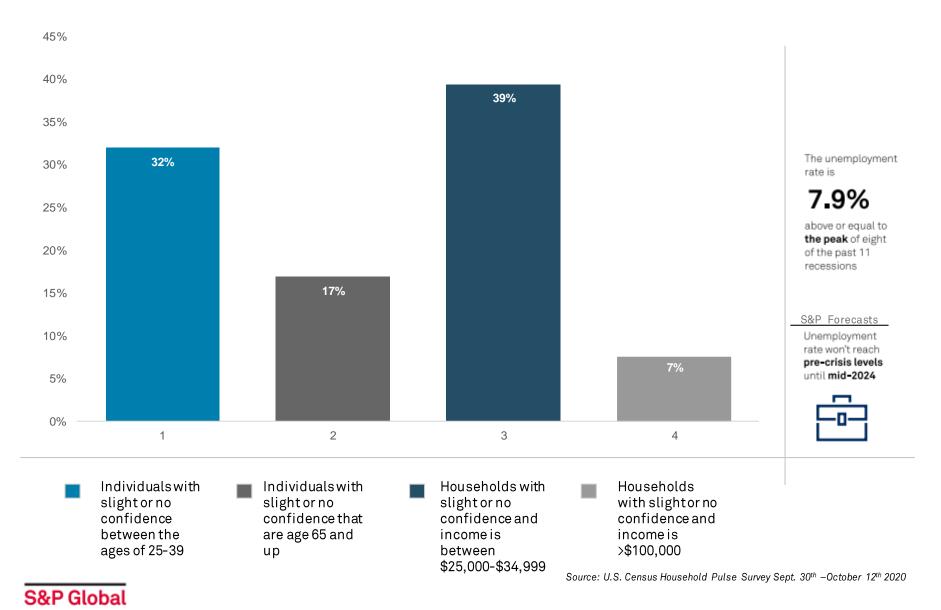
Households are more confident about their ability to make next month's payment



Source: U.S. Census Household Pulse Survey

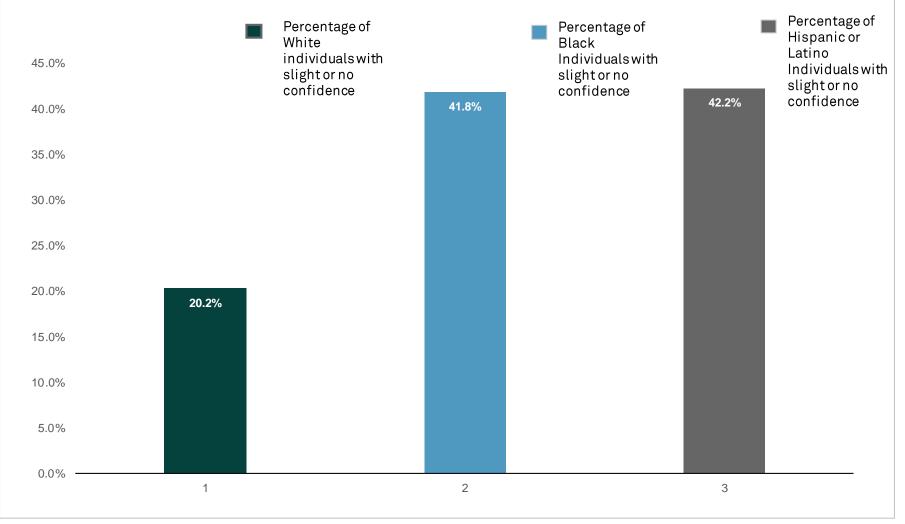


Impact of Economic Downturn on Renters



Ratings

Disparity of Confidence Between Ethnic Groups

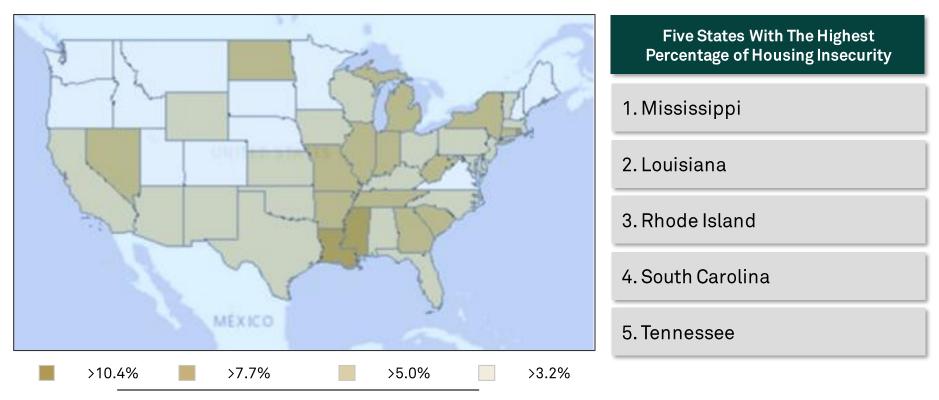




Source: U.S. Census Household Pulse Survey Sept. 30th –October 12th 2020

Housing Insecurity as of 10/12/2020

Percentage of adults who have slight or no confidence that their household can pay next month's rent or mortgage on time

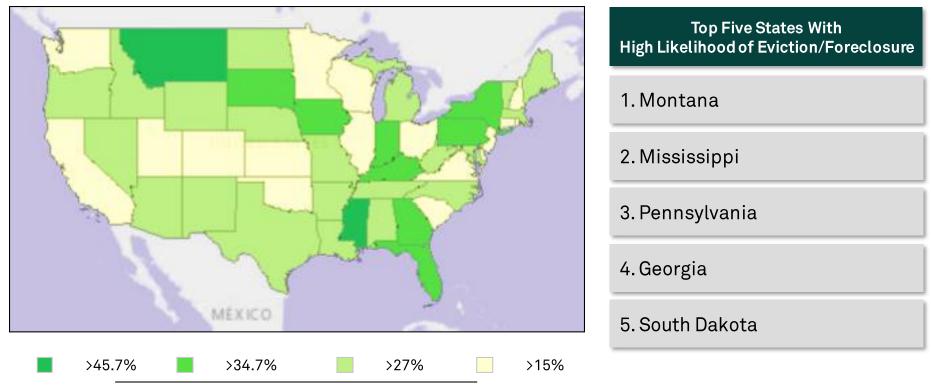


Source: U.S. Census Household Pulse Survey Sept. 30th –October 12th 2020



Likelihood of Eviction/Foreclosure

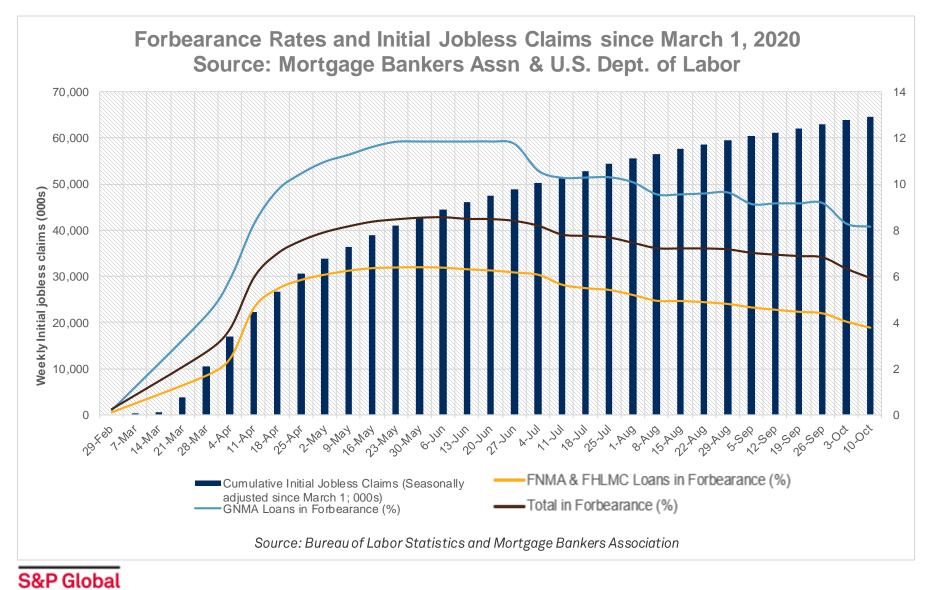
Percentage of adults living in households not current on rent or mortgage where eviction or foreclosure in the next two months is either very likely or somewhat likely



Source: U.S. Census Household Pulse Survey Sept. 30th –October 12th 2020



Total Forbearance



Ratings

Recession Comparison Highlights

Highlighting March 2020 – September 2020 and December 2007 – June 2008

Basis of Comparison	COVID-19 Recession	The Great Recession (2008)
Housing Starts	11.5%	1 0.8 %
U.S Mortgage Application Home Purchase Index	19.1 %	<mark>-21.9</mark> %
Existing Home Sales	1 24.0%	<mark>↓</mark> -7.2 %

Source: Federal Reserve Bank of St. Louis, IHS Markit (2020)

	Latest period	Oct. 2020	Sept. 2020	Aug. 2020	Level a year ago	Year-over-year % change
Labor market						
Jobless claims (four-week moving average)	10-Oct-20	866,250	870,250	992,500	215,750	
Consumer spending and confiden	ce					
Consumer Sentiment Index (UMich.)	October-preliminary	81.2	80.4	74.1	95.5	

Forecast full-year GDP to shrink

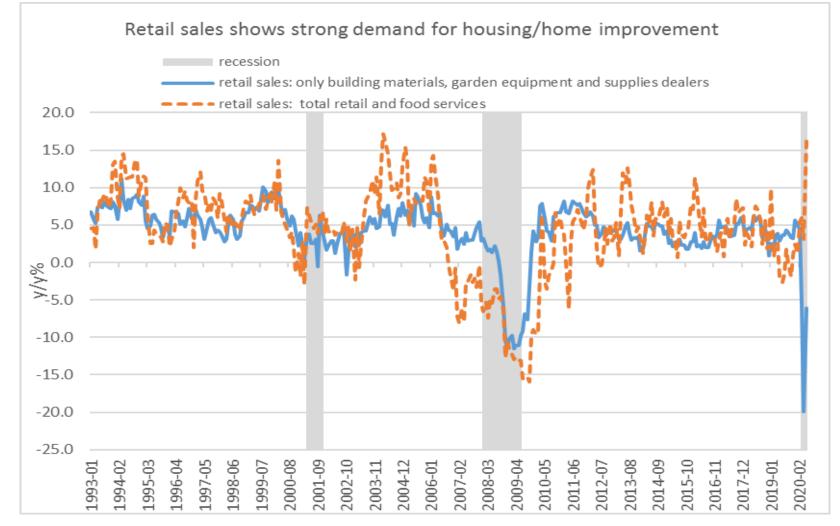
4%

Economy won't get back to pre-pandemic level until late-2021



Source: S&P Global Economics

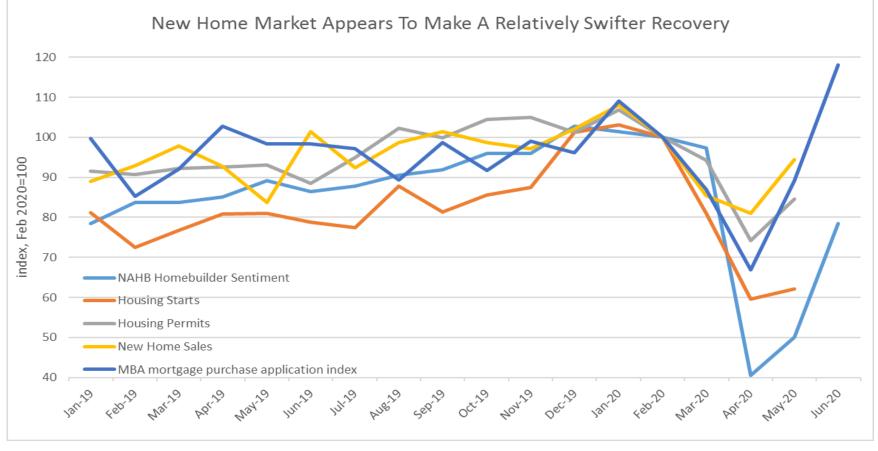
Housing spending increased during this recession



Source: S&P Global Economics

S&P Global Ratings

Housing indicators point to a sharp recovery from April

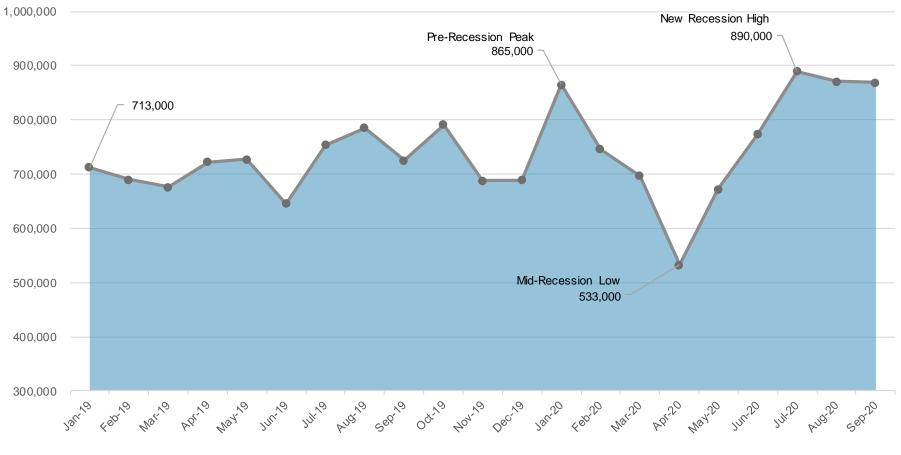


Source: S&P Global Economics

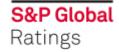


Housing Demand has Bounced Back From April Low

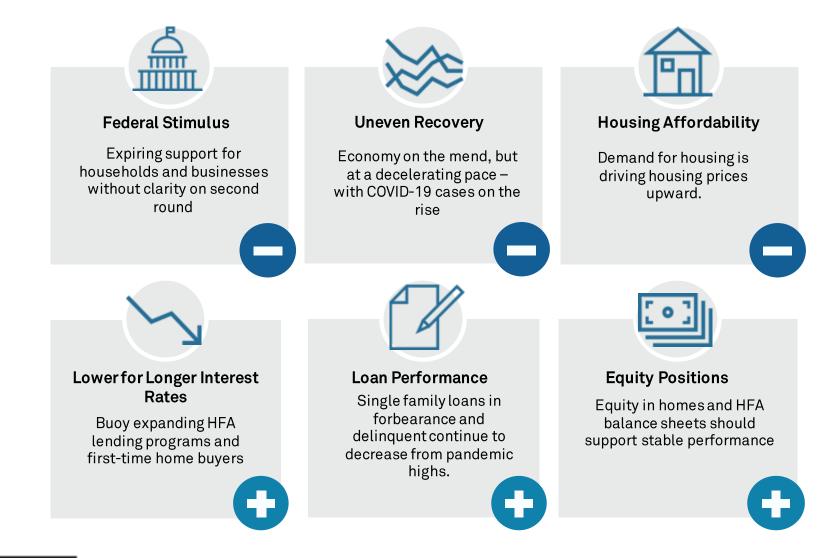
Seasonally Adjusted Estimate of Home Purchase Mortgage Applications



Source: Mortgage Bankers Association



Key Takeaways





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