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VIRTUAL
2020

Using Data to Inform COVID-19 Response

NCSHA

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Margaret Miller, PhD
Sr Statistician
CHFA (Colorado)

NCSHA

2020 hindsight

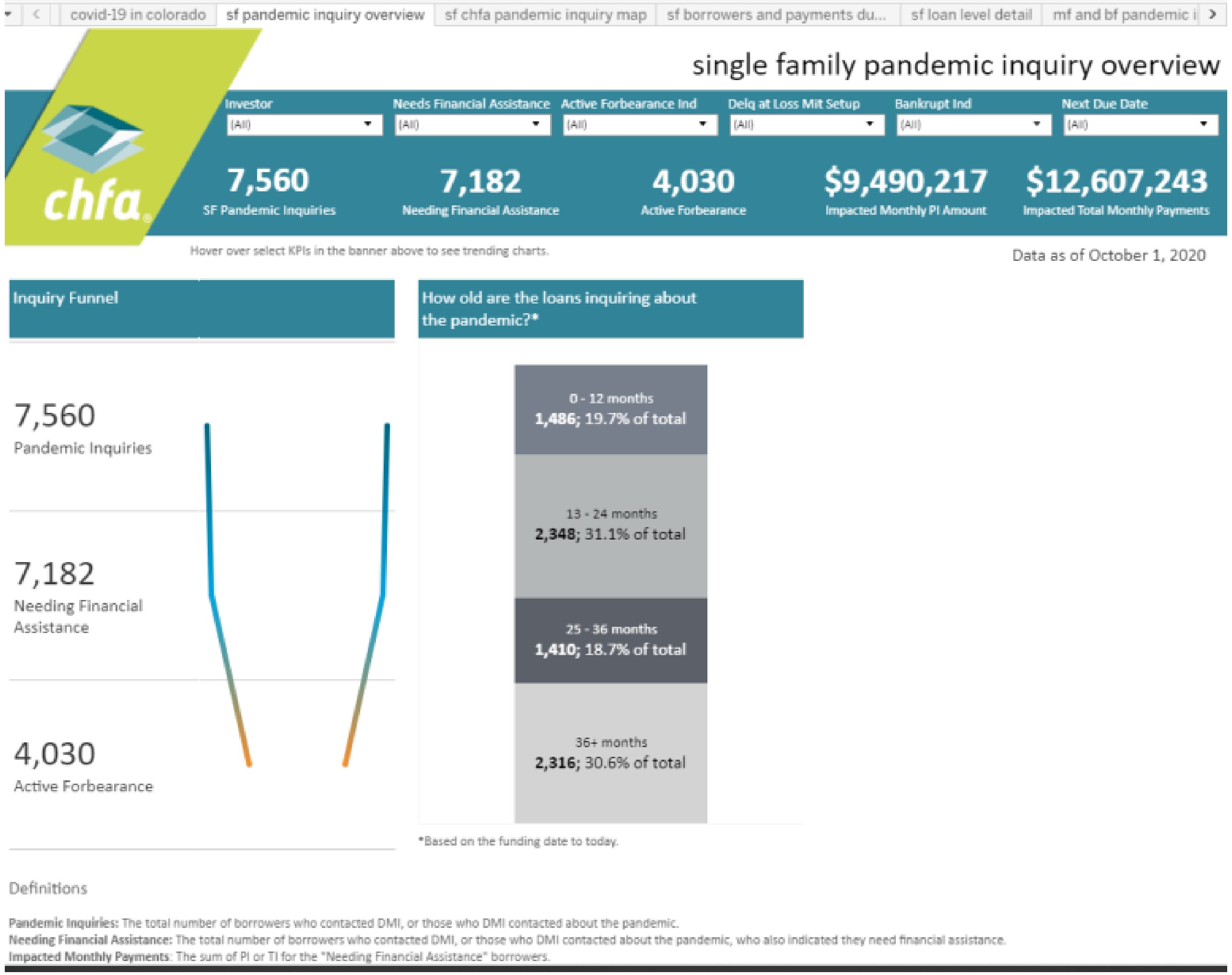
March 2020

- **“triage” analytics**
- **Timeliness vs. precision**
- **High frequency data**
- **“Dark data”***

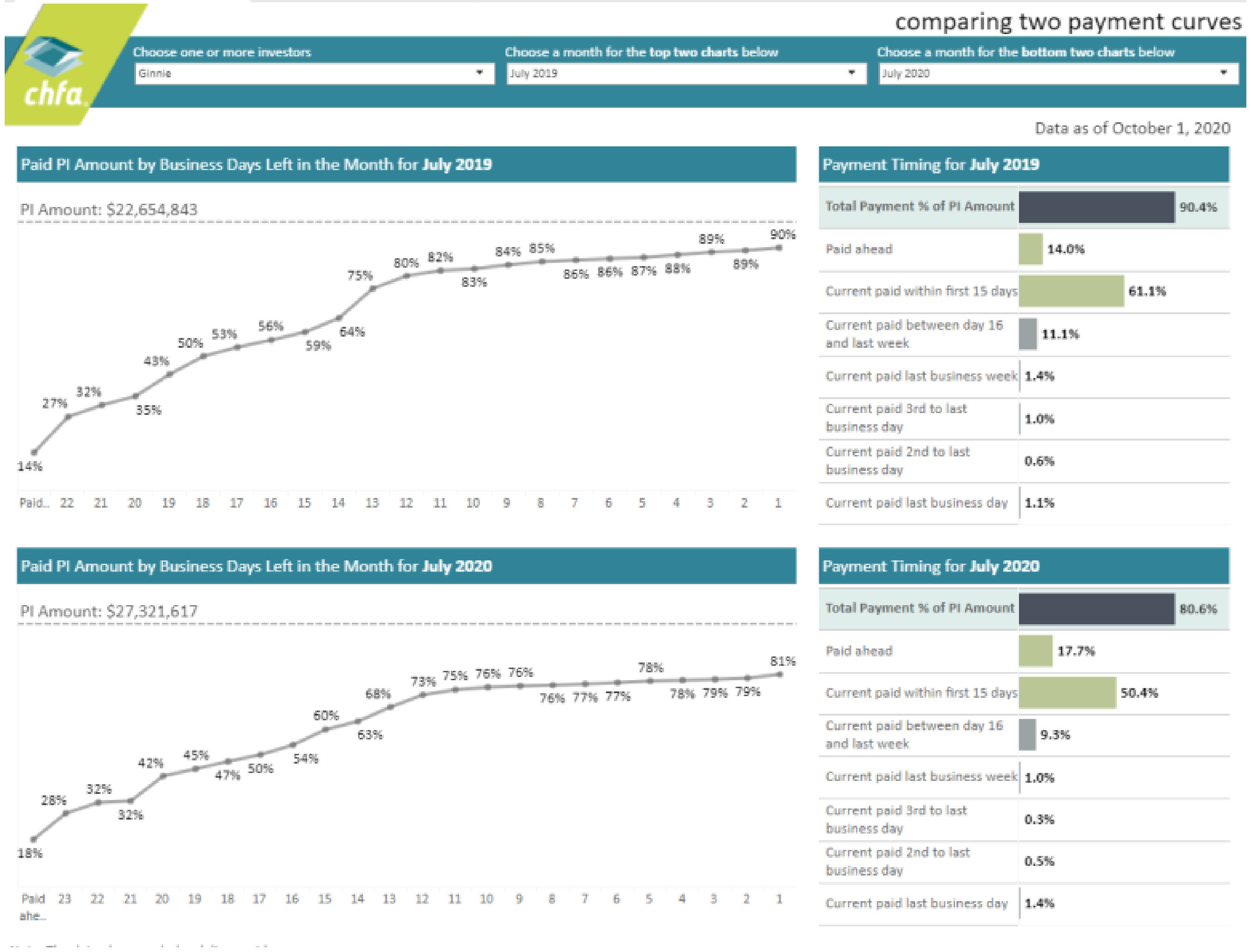
- How long will single family production remain stalled?
- How many multifamily properties will need assistance?
- How many single family borrowers will need forbearance?
- What are our liquidity needs for delinquent loans?
- Are our operational needs covered?
- What will be the impact to hedging costs?
- What is the impact on our servicing valuation?
- What will be the impact of increased servicing costs to our 2020 profitability?
- How will increased loan modifications impact mortgage prepayment speed?
- How are our partners/vendors faring?

****Dark Data: Why What You Don’t Know Matters by David J Hand, Feb 2020***

Example dashboard



High frequency data comparison



Internal data

- Daily/monthly mortgage payments
- Loss mitigation (forbearance) requests
  - In forbearance and paying anyway
- Employment of
  - Occupations at loan origination (particularly with loans under 36 months old)
  - Number of occupants with jobs
- Loan production: Loan reservations and cancellations
- Multifamily resident data
  - Residents with subsidy
  - Retired residents with retirement income
- Historic data
  - How did regions/segments perform during recessions or localized natural disasters?

2020 hindsight

March 2020

- “triage” analytics
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- “Dark data”*

April 2020

- **Increased data requests**
- **External data partnerships**
- **Credit availability**
- **Liquidity projections**

External/partner data

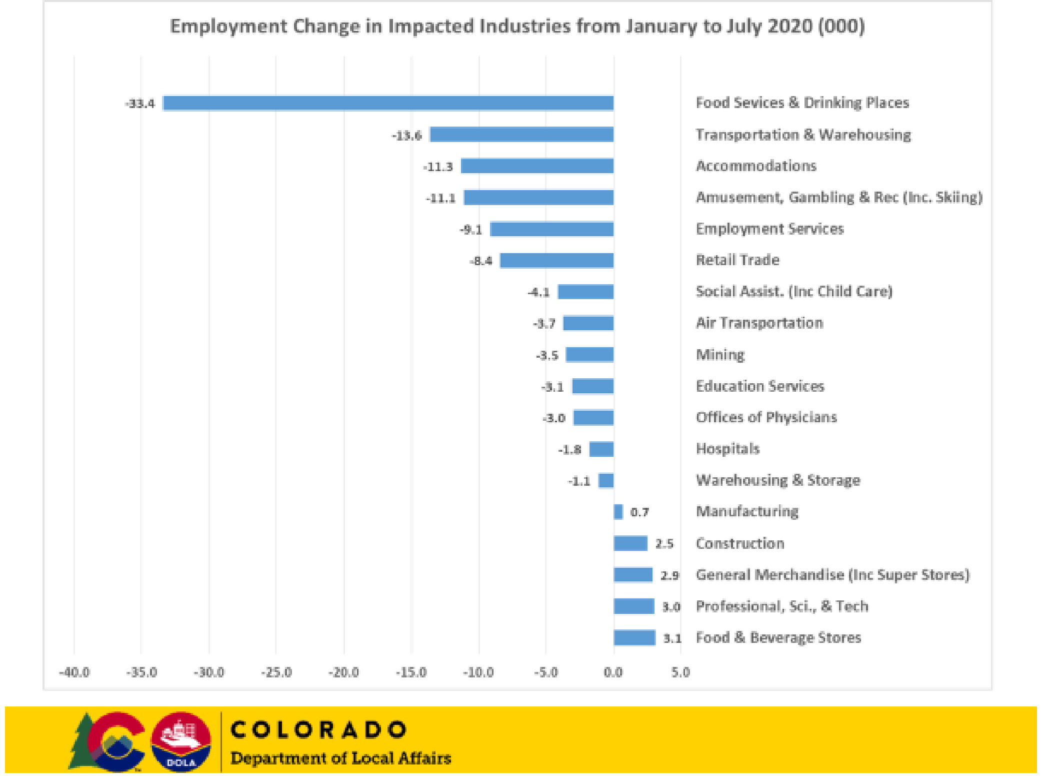
- Other state agencies/non-profits (State demographer, CO Agency Collaborative, Colorado Department of Labor and Employment)
- NCSHA
- Partners (lenders, property management, consultants, real estate professionals housing authorities)
- Census Pulse
- Other states (HFAs and mortgage market)
- MBA forbearance data and weekly calls
- Local economists

2020 hindsight

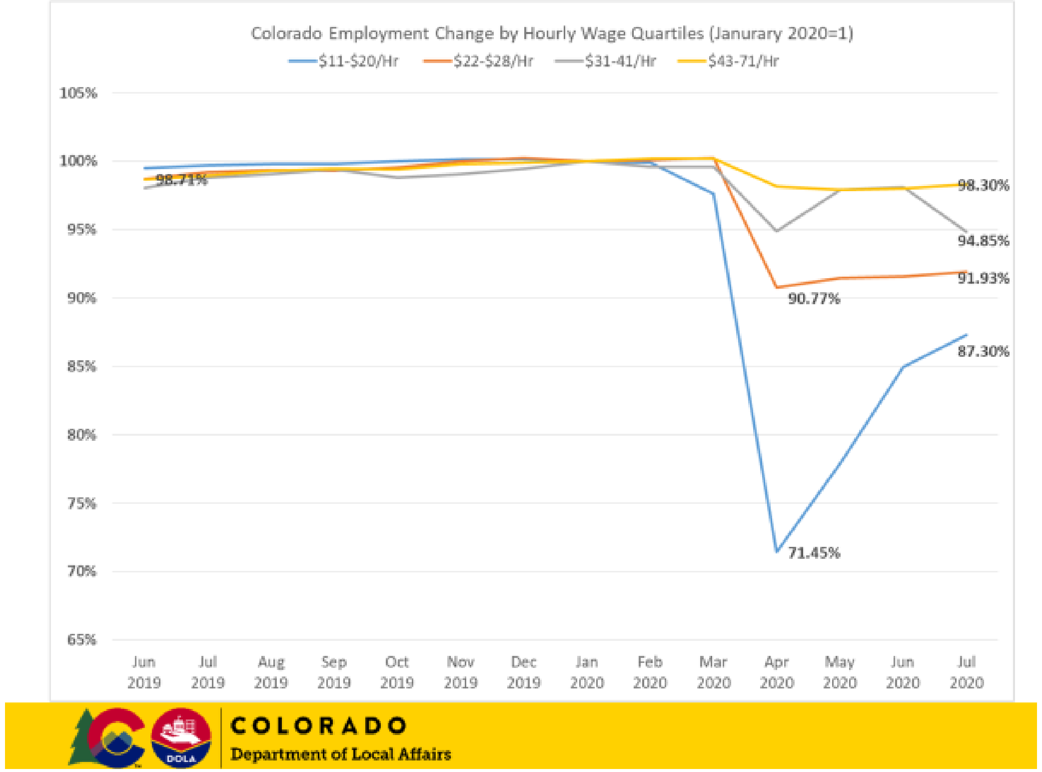
March 2020	April 2020	May-July 2020
• “triage” analytics • Timeliness vs. precision • High frequency data • “Dark data”*	• Increased data requests • External data partnerships • Credit availability • Liquidity projections	• **Data cadence in place** • **Consumer sentiment vs behavior** • **Segmented recovery** • **“Long game”: liquidity**

Understanding Covid Impact

employment change



wage impacts



2020 hindsight

March 2020

- “triage” analytics
- Timeliness vs. precision
- High frequency data
- “Dark data”*

April 2020

- Increased data requests
- External data partnerships
- Credit availability
- Liquidity projections

May-July 2020

- Data cadence in place
- Consumer sentiment vs behavior
- Segmented recovery
- “Long game”: liquidity

August 2020 - ?

- **Borrowers coming out of forbearance**
- **Estimating the evictions “cliff”**
- **Second wave?**

High frequency data

- Internal
  - Mortgage payments collected - % compared to total
  - Rents collected - % compared to total
  - % of portfolio requesting forbearance by investor
  - % of portfolio requesting to be removed from ACH payment
  - % of “unable to contact borrower” calls
  - Mortgage reservations
  - Mortgage cancellations
  - Loans funded

Poll

- How well are you able to access your agency's high frequency internal data for data analysis?

- Have the access and staff needed to perform analysis for critical high frequency data
- Have the access and staff needed to perform analysis for a few important high frequency data, and need access to more internal data
- Have access to some or most high frequency data, but do not have internal staff needed to perform analysis

- Do not have access needed to perform analysis

2020 hindsight

- Collaborate internally with business units
- Leverage internal data, especially high frequency data
- Be(come) the data expert of your own customer data: from understanding to expertise
  - Definitions are important
  - Understand how you are different from your state or peer group data: unemployment data, delinquency data, bond performance data and be able to communicate that difference
- Collaborate with external partners
  - partners have high frequency data too – don’t duplicate
  - How is your business impacted by your external partners? (lenders, FHLB, liquidity)
- How well do we measure economic resiliency locally?

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Frank Nothaft, CoreLogic

NCSHA

COVID-19 Effects on Credit Risk

- COVID-19 causes jump in mortgage credit risk
  - Job loss triggers delinquency
  - Home price declines trigger distressed (REO or short) sale
  - HPI Forecast: U.S. slows to 0.2% (through August 2021), 27 states with price drop
  - Project 4-fold increase in serious delinquency and distressed sales by early 2022

Delinquency-Foreclosure Timelines

Double trigger: income loss can cause delinquency, equity loss can lead to distressed sale

Loan is Current → Loan is Delinquent → Foreclosure or short sale if home equity is negative

Income Loss (Unemployment, Illness, Death)

Home Price Decline

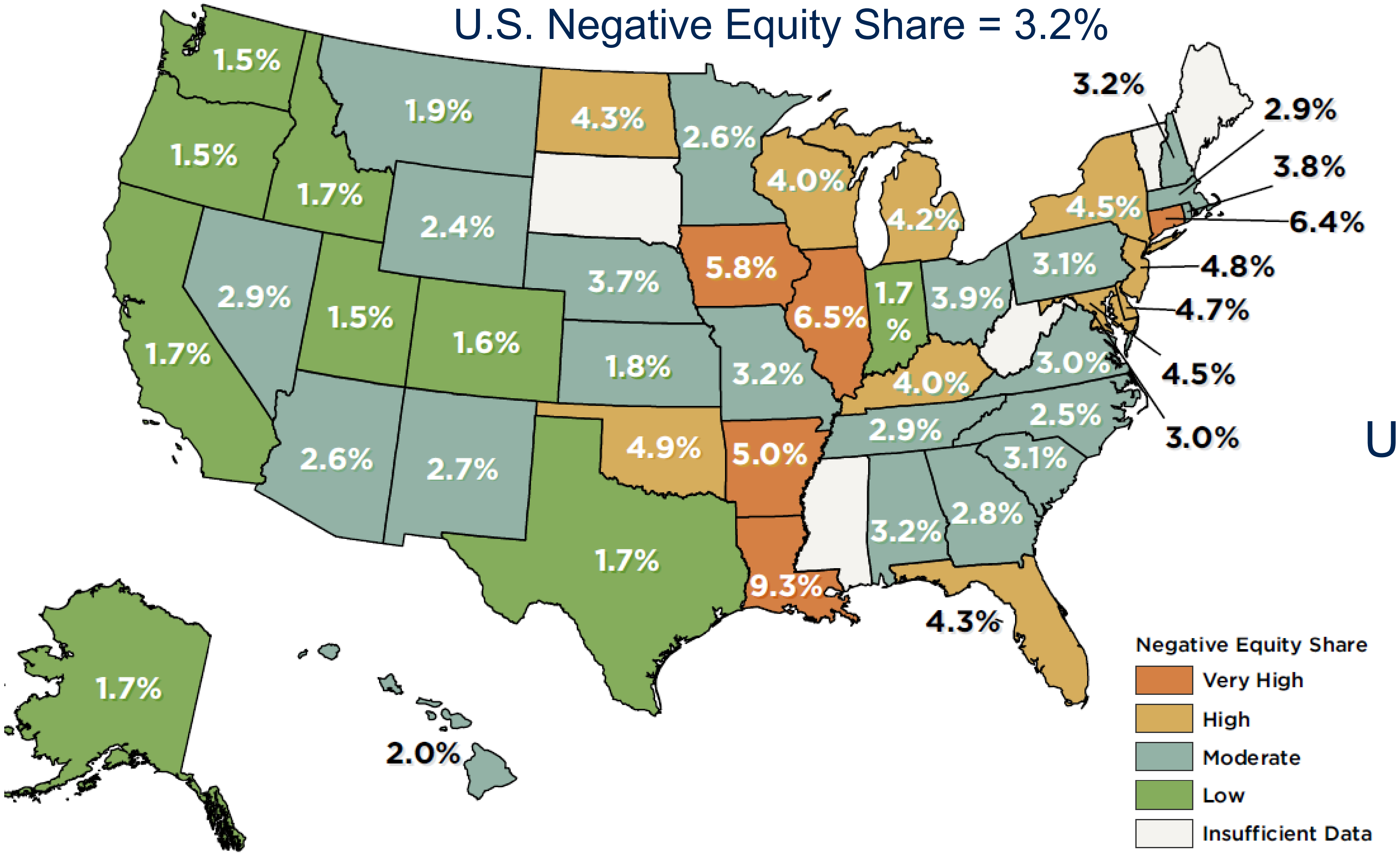
<u>From Last Payment Made to Foreclosure Sale</u>:
11 months (GA, MN, MS)
4 to 5 years (NY, NJ)

Source: CoreLogic, Freddie Mac (Single-Family Seller/Servicer Guide, Exhibit 83, State Foreclosure Timelines)

Job Loss & Home-Price Dip Spark Delinquencies

Income loss and lack of home equity add to risk of foreclosure or short sale

U.S. Negative Equity Share = 3.2%



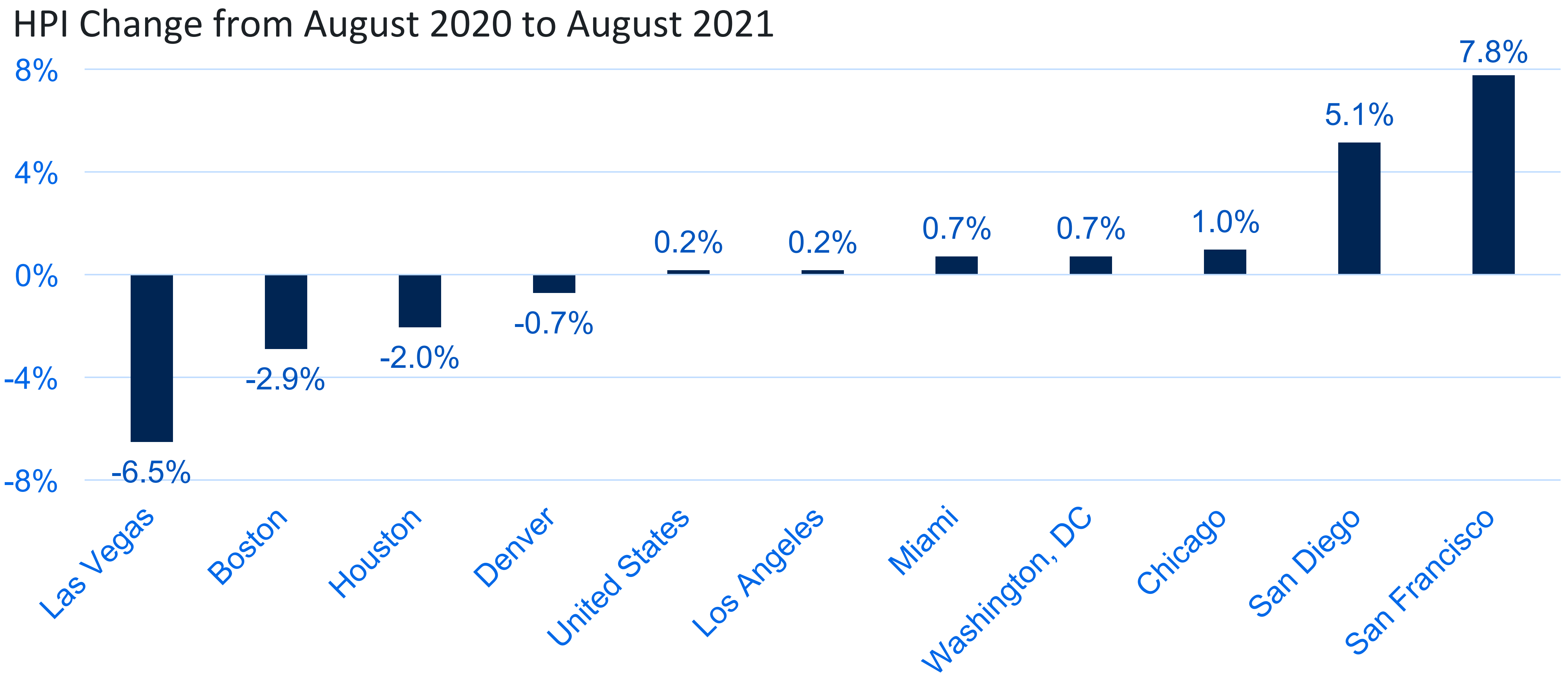
Nevada

Unemployment Rate (Aug.)	1-year HPI Forecast
13.2%	-5.1%

Source: CoreLogic Home Equity Report 2020Q2 (September 21, 2020) and HPI Forecast August 2020-to-August 2021 (October 6, 2020); U.S. Bureau of Labor Statistics (August 2020 state unemployment rate)

HPI Forecast Affected by Economic Recovery

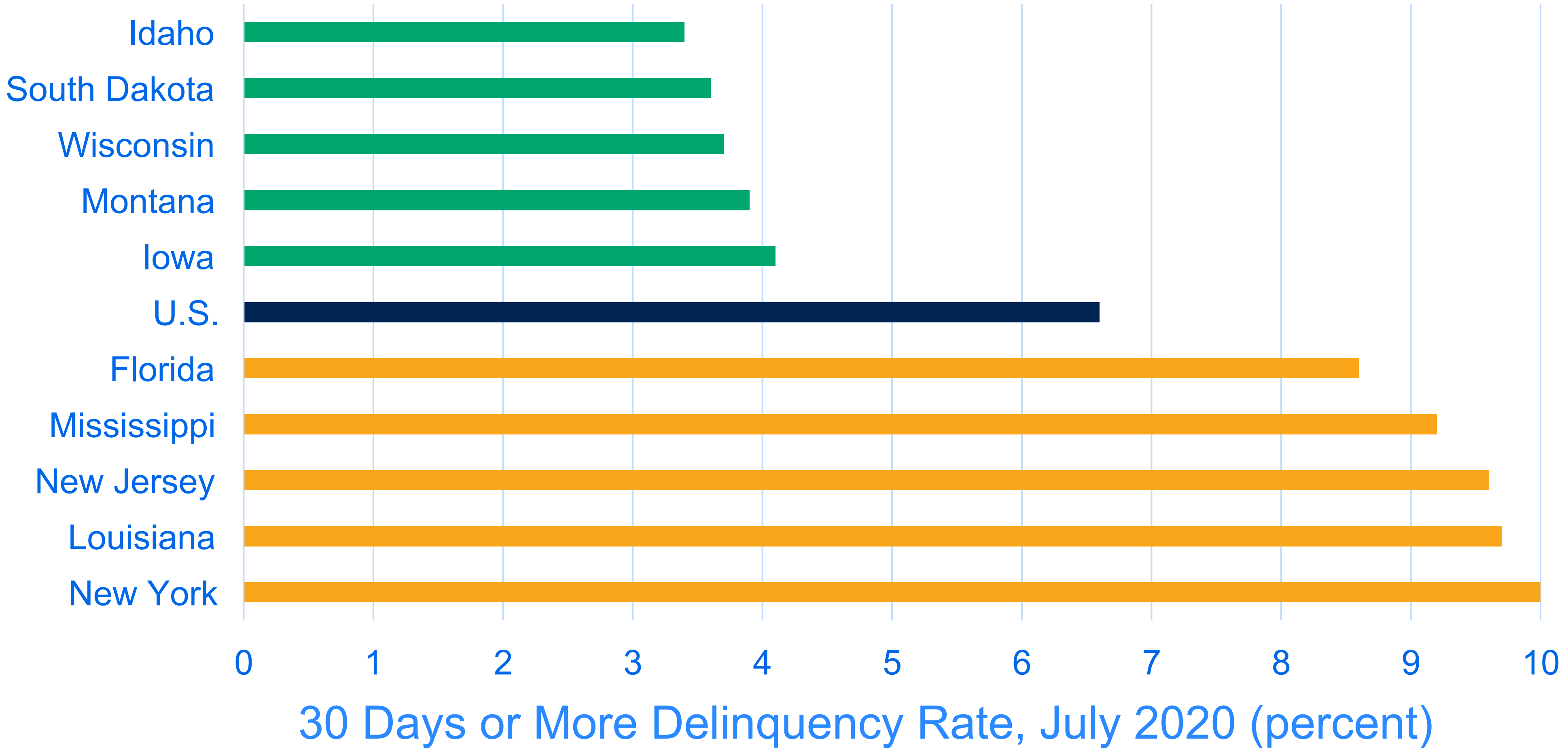
Las Vegas metro has largest 1-year decline forecast among large metros



Source: CoreLogic Home Price Forecast, release October 6, 2020

Lowest/Highest Late-Payment Rate by State

Early COVID-19 hotspots, Business/Tourism destinations have highest delinquency rates in July

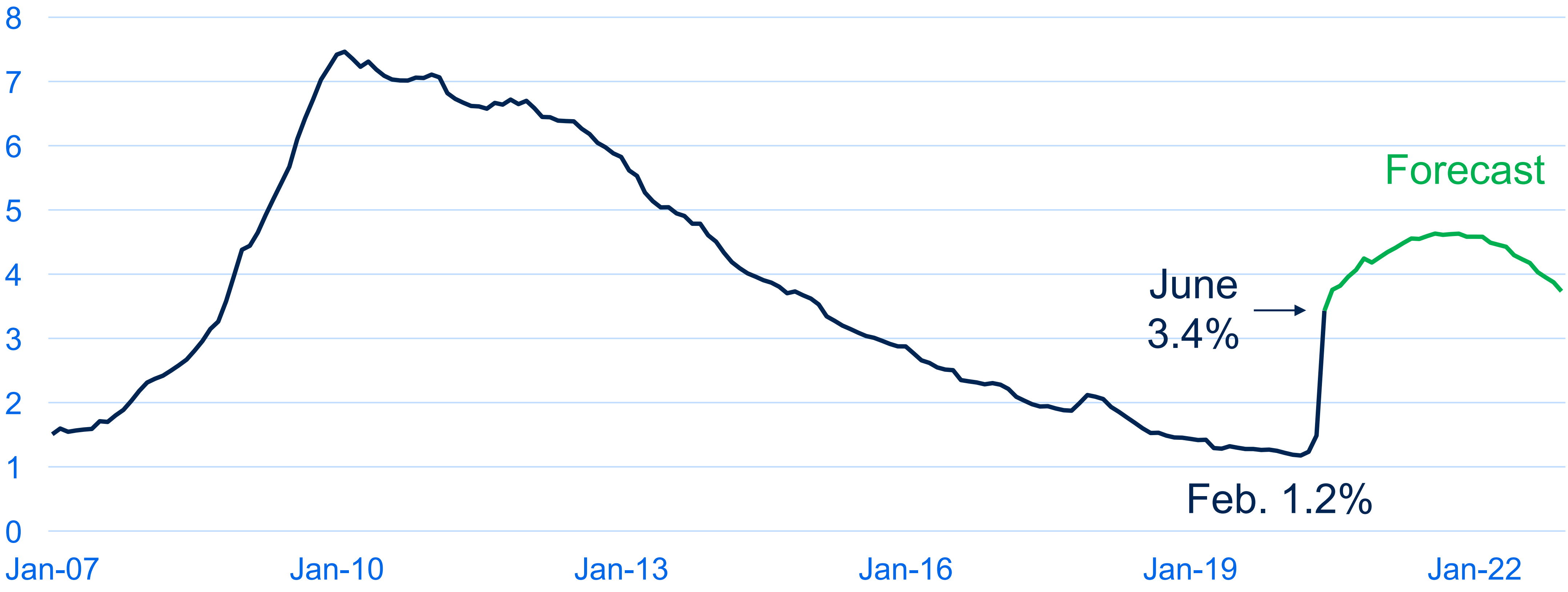


Source: CoreLogic Loan Performance Insights for July 2020

Serious Delinquency May Rise 4x from Feb. 2020 to Nov. 2021

At least 2 million homeowners in serious delinquency by yearend 2021 in Forecast

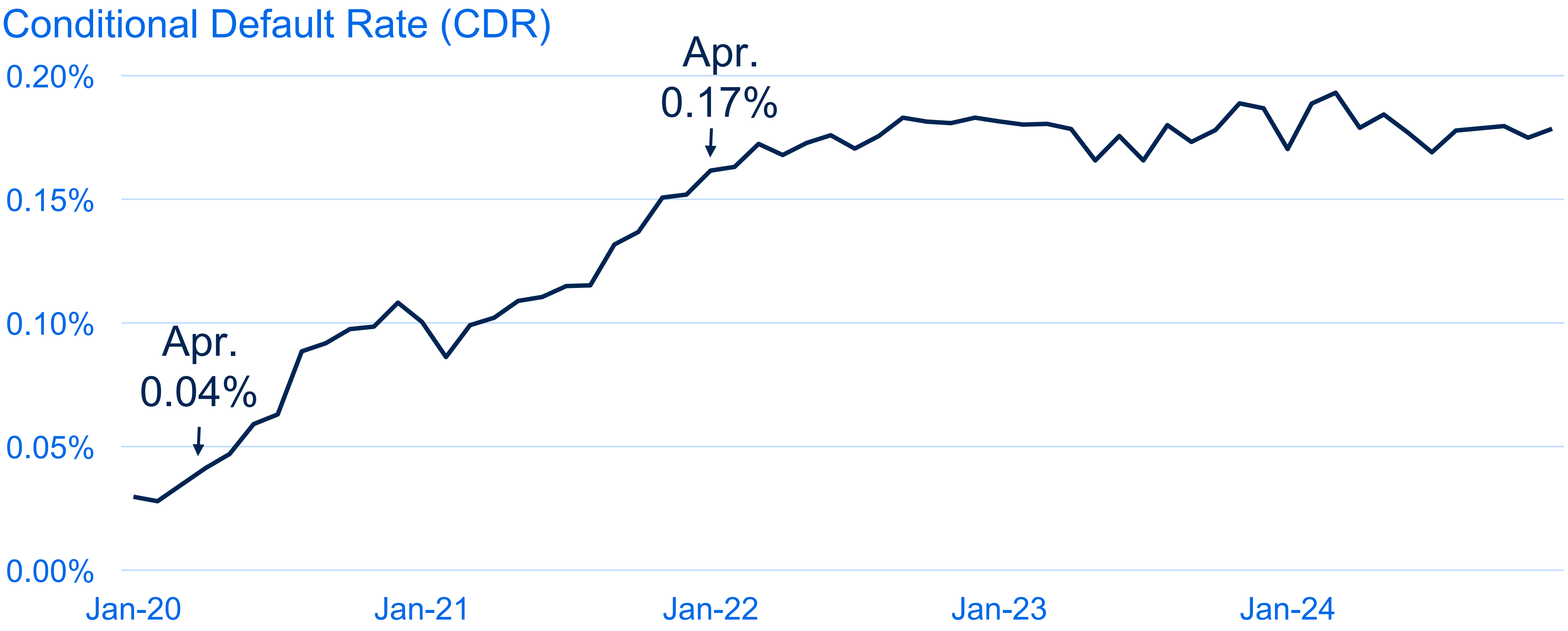
Serious Delinquency Rate (Percent of Active Loans)



Source: CoreLogic TrueStandings Servicing, HPI Forecast and serious delinquency forecast; IHS Markit (August 2020 unemployment rate forecast); serious delinquency is at least 90 days delinquent or in foreclosure proceedings

Conventional Conforming Distressed Sales

Projected CDR rises 4x from April 2020 to April 2022



Source: CoreLogic Credit Risk Agency model (conventional conforming 2013-2016 originations), default is REO liquidation or short sale; scenarios: unemployment rate peaks 2020Q2 (15.2%), reverts to CBO natural rate (4.2%) in long run; CoreLogic HPI Forecast released May 5, 2020

COVID-19 Effects on Credit Risk

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Where to find more information

Look for regular updates to our housing forecast, commentary and data at

http://www.corelogic.com/blog

@CoreLogicInc

@DrFrankNothaft

The views, opinions, forecasts and estimates herein are those of the CoreLogic Office of the Chief Economist, are subject to change without notice and do not necessarily reflect the position of CoreLogic or its management. The Office of the Chief Economist makes every effort to provide accurate and reliable information, however, it does not guarantee accuracy, completeness, timeliness or suitability for any particular purpose.

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Jonathan M. Cabral, AICP
Interim Director of Planning, Research, & Evaluation
CHFA (Connecticut)

NCSHA

Conflicting Reports

- Early in the Pandemic (Spring):
  - The data supported what we expected
    - Home sales volume down
    - CHFA first-time homebuyer lending down
    - Low inventory of homes for sale
- Anecdotal Conflicting Stories
  - Feedback from realtors about homes being sold within days (even hours) of listing
  - Homes selling for above asking price!
  - Lots of cash offers
  - Increased demand from people moving out of NYC

Data Catches Up to the Stories

- A Spring without a Housing Market
- Rebound in home sales volume beginning in late-May
- Home sales prices on the rise
  - Increase in demand… probably
  - Low inventory… likely
- Jump in cash offers
- Connecticut goes from being an “Outbound” state to an “Inbound” state
- From the Big Apple to the Nutmeg State

Cash was King… for a While

Source: Connecticut Housing Finance Authority, Warren Group

Connecticut… The Right NYC Suburb?

- West Hartford, CT listed as a "right suburb" in the *New York Times* article "Leaving New York: How to Choose the Right Suburb" (August 7, 2020)
- According to the article, West Hartford has a walkable center and isn't too far from NYC. It also is highlighted as having a "relatively low cost of real estate, even with Connecticut's high property tax."
- Median home price in West Hartford is $309,900!
- Real estate costs are relative

From An Outbound to Inbound State

United Van Lines

Top Inbound States for COVID-Impacted Moves

% of moves from state where COVID was a contributing factor	
Vermont	30.0%
North Dakota	28.6%
Connecticut	20.0%
Montana	17.1%
Michigan	16.8%
Arkansas	15.8%
Oregon	14.4%
Massachusetts	13.9%
Ohio	13.8%
Utah	13.2%

Source: UniGroup (Parent Company of United Van Lines) Customer COVID Study U.S. Dot No. 077940

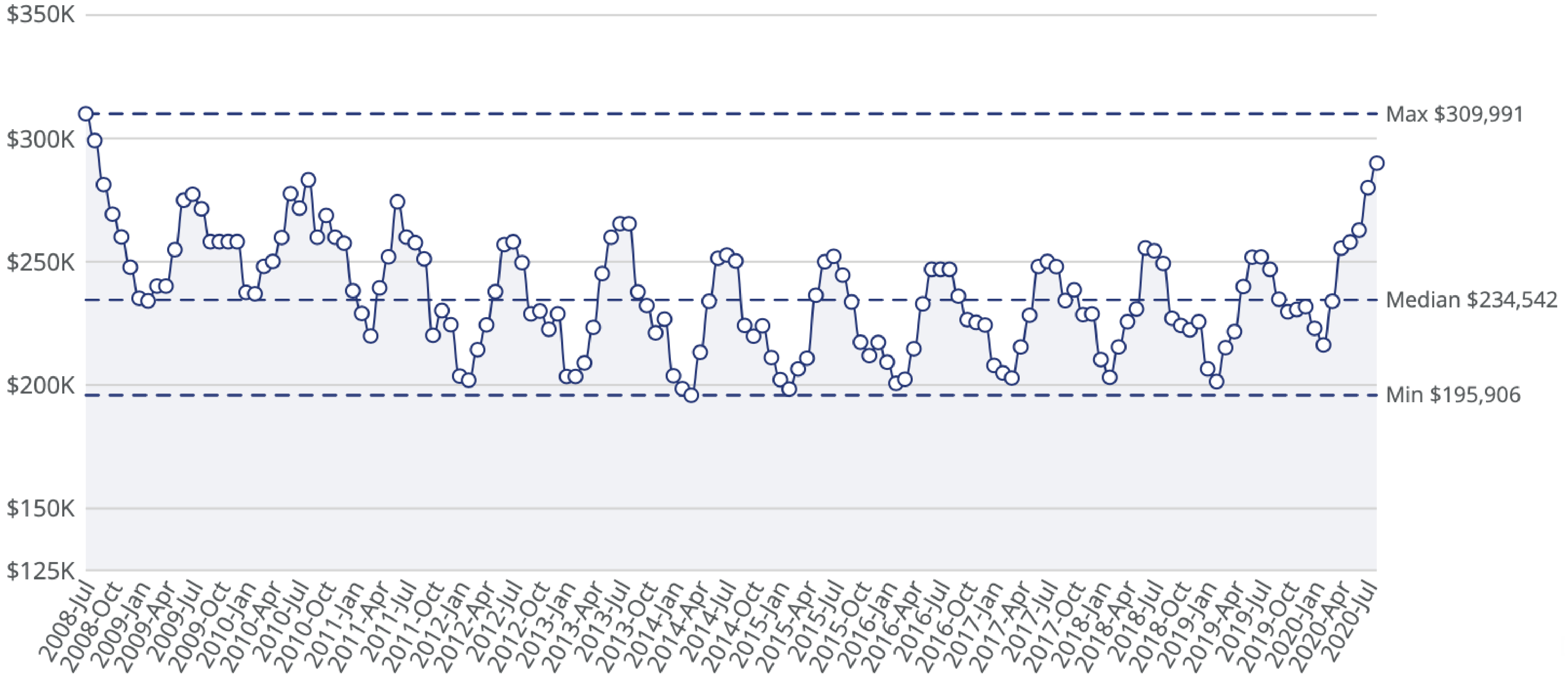
United Van Lines

Top Outbound States for COVID-Impacted Moves

% of moves from state where COVID was a contributing factor	
Washington, D.C.	37.5%
New York	16.0%
Nevada	15.7%
Oregon	14.5%
Delaware	14.3%
California	14.1%
Minnesota	13.6%
Massachusetts	13.3%
Florida	13.1%
Washington	12.3%

Source: UniGroup (Parent Company of United Van Lines) Customer COVID Study U.S. Dot No. 077940

Median Residential Sales Price - CT



Source: Connecticut Housing Finance Authority – CT Monthly Housing Dashboards, Warren Group (inflation adjusted to 2020 dollars)

The Tale of Two Housing Markets

- It was the Best of Times:
  - Single family home sales rebound during the summer
  - Home sales prices start increase post-COVID shutdown
  - August home sale volume higher in 2020 vs 2019

- It was the Worst of Times:
  - CHFA first-time homebuyer volume significantly down
  - Inventory of homes for sale is low
  - Demand for rental assistance high
  - Retail commercial space in our mixed-use properties…?

Retail Commercial Space

- CHFA had historically financed mixed-use projects
- Transit-Oriented Development a recent focus
- Unclear how damaging the pandemic will be on properties in CHFA's portfolio that contain retail commercial space
- Using third-party data such as CoStar
- Statewide landlord survey
- Outreach from CHFA asset management to property owners/managers of mixed-use properties in the portfolio

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Data Challenges and Opportunities in Unprecedented Times

Neil Steinkamp | STOUT

NCSHA

Stout’s Analysis of Potential Rent Shortfall

- Goal: estimate (1) the number of renter households and individual renters in the U.S. likely unable to pay rent and at risk of eviction; (2) current accumulated rent shortfall; (3) the number of renter households and individual renters in the U.S. who could experience an eviction filing by January 2021; and (4) rent shortfall that may accumulate by January 2021
- Approach: analyze data from the bi-weekly Household Pulse Survey supplemented with American Community Survey data and research, information and dialogue from other sources

Findings

- Between 9.7 million and 14.2 million renter households in the US may be unable to pay rent and at risk of eviction
  - Approximately 23.3 million to 34.0 million individual renters
- Renter households have already accumulated between $12.2 billion and $16.7 billion of shortfall in their owed rent
- By January 2021, rent shortfall could be between $25.1 billion and $34.3 billion, and up to 8.4 million renter households could experience an eviction filing
  - Approximately 20.1 million individual renters

COVID-19 Data Environment

- Developing directional estimates to inform dialogue recognizing unprecedent economic and cultural impact
- Leveraging available data for dialogue and iterative discussion
- Understanding the value of high-frequency data when circumstances are changing rapidly
- Combining quantitative data and qualitative information
  - Data + Lived Experiences + Stakeholder Engagement = More fulsome understandings, analyses and dialogue