

The logo for PCA (Portland Cement Association) features the letters 'PCA' in a bold, sans-serif font. A stylized white swoosh underline is positioned beneath the 'A'. A registered trademark symbol (®) is located to the right of the swoosh.

PCA®

Since 1916

America's Cement Manufacturers™

Summer Cement Outlook

July 2021

Ed Sullivan, SVP & Chief Economist

Introduction

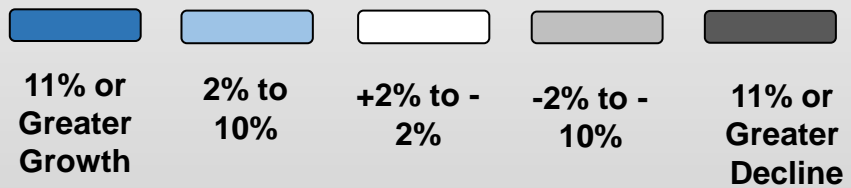
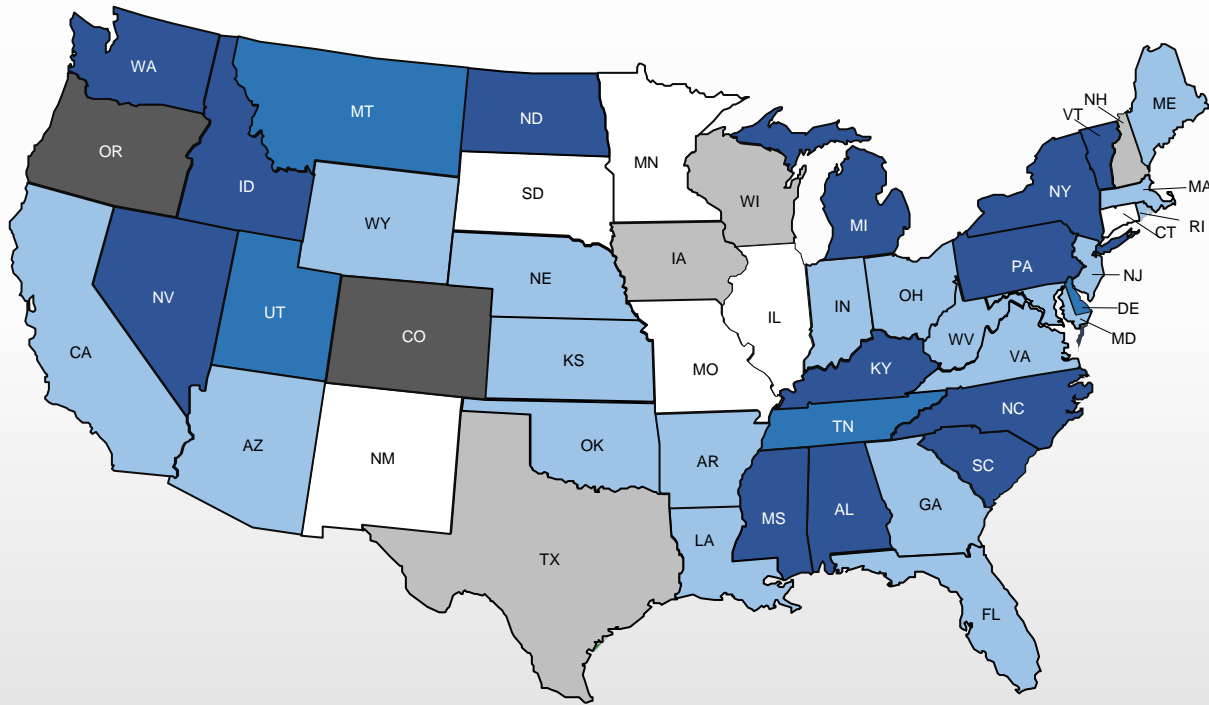
Presentation Focus

1. Economic Setting.
2. Virus Impacts on the Economic Outlook.
3. Supply Side Constraints.
4. Inflation, Federal Reserve Policy & Interest Rates.
5. US Macroeconomic Summary
6. Residential, Nonresidential & Public.
7. New Infrastructure.
8. Cement Outlook Summary

Cement Consumption

Cement Consumption

%, Implied YTD through June 2021



Cement Consumption

Y-O-Y 2021/2020, %



Economic Setting

Economic Performance

RGDP Growth

%, Y-O-Y



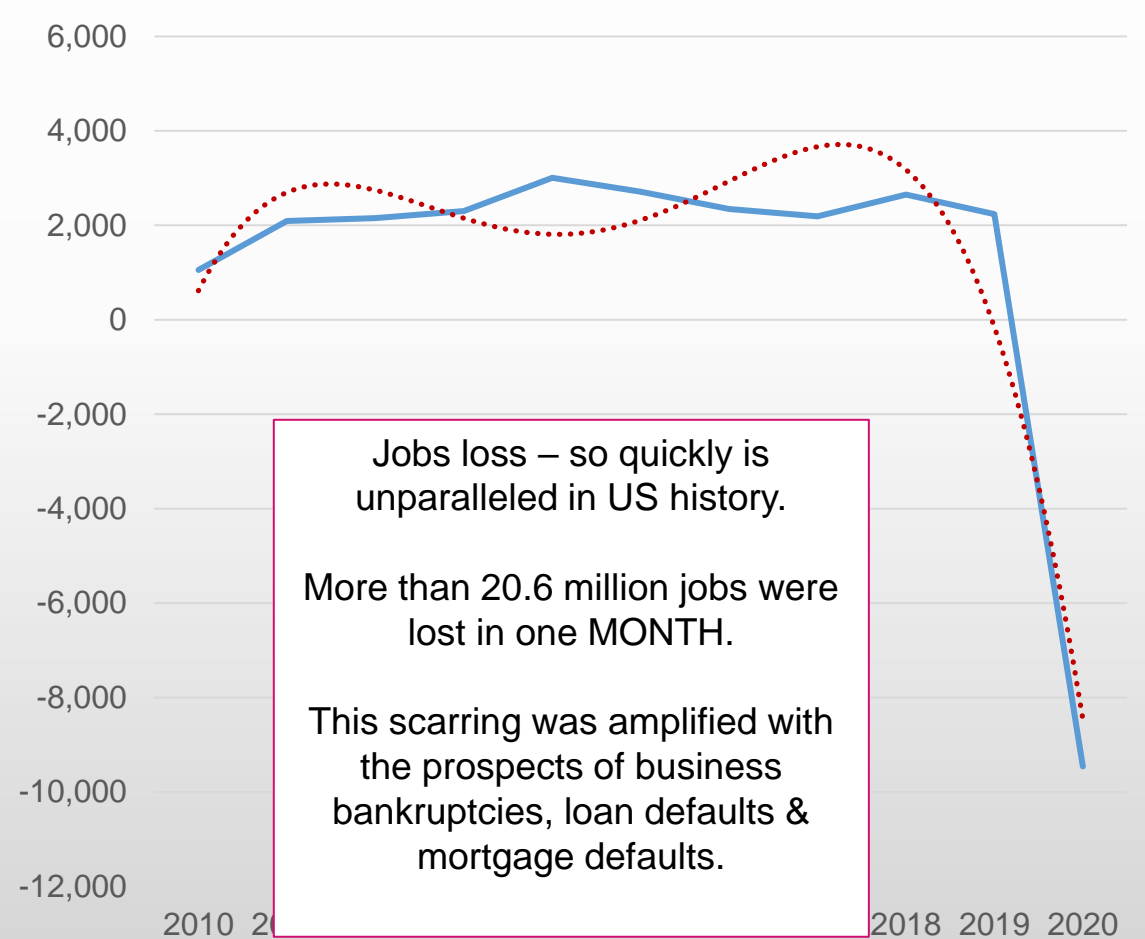
The 2nd Quarter saw Real GDP decline 31%.

2020 GDP Growth: -3.5

Largest decline in GDP Growth since 1946 when economy was transitioning from a war time economy.

Net Job Creation

Thousand Jobs



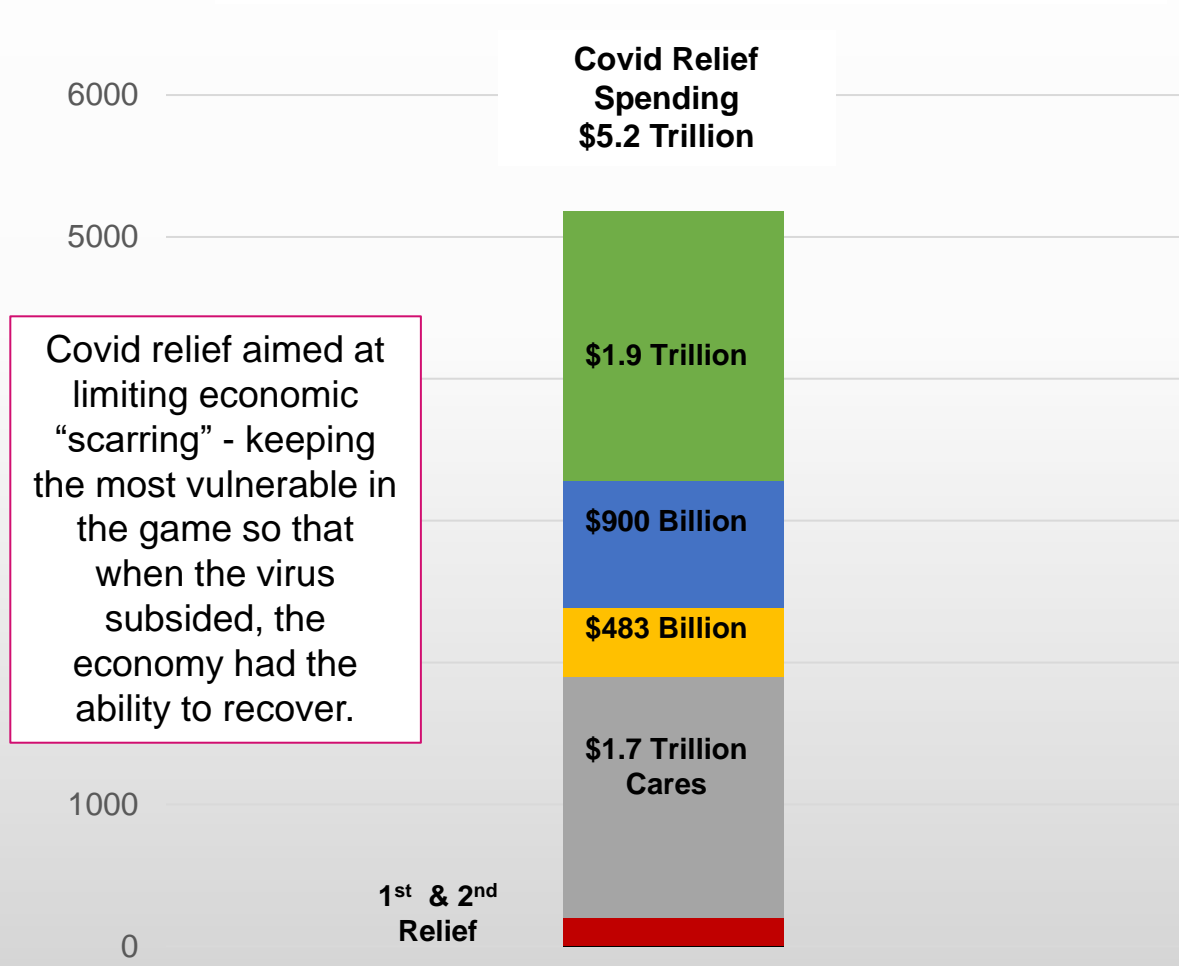
Jobs loss – so quickly is unparalleled in US history.

More than 20.6 million jobs were lost in one MONTH.

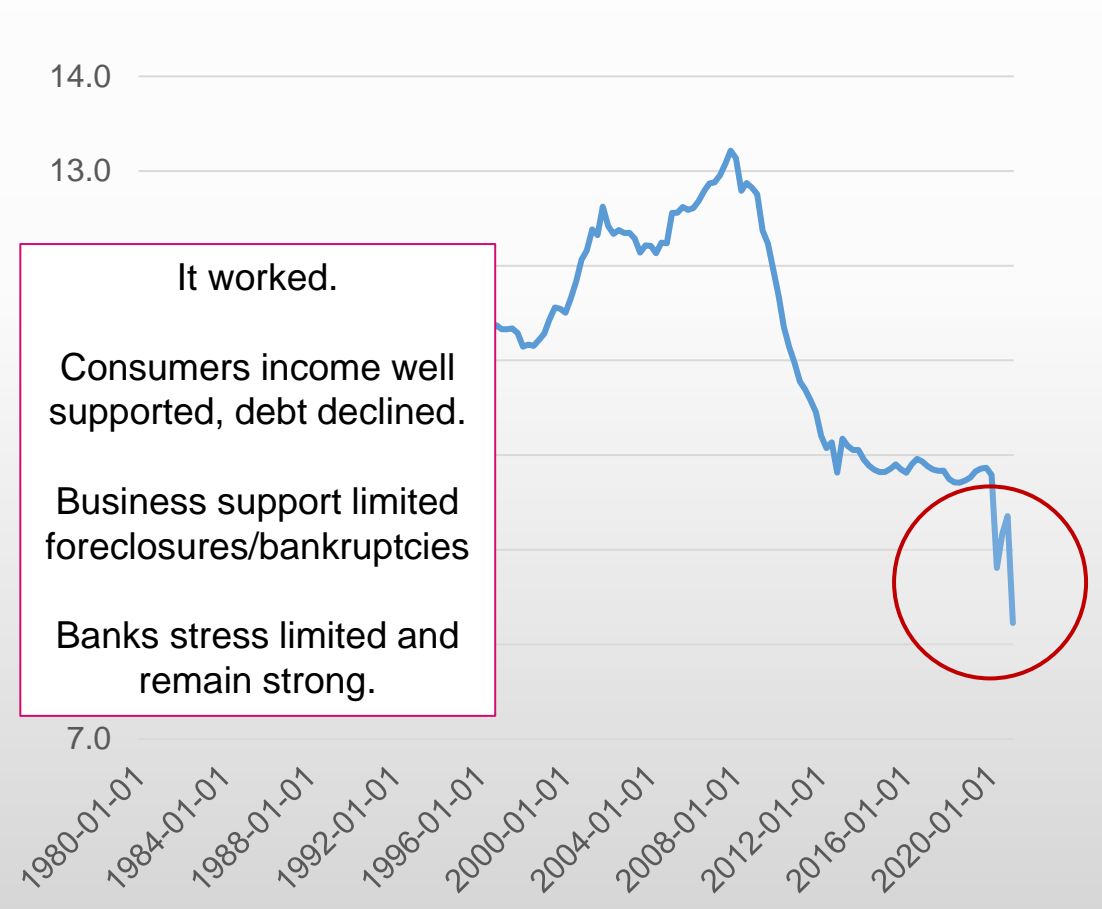
This scarring was amplified with the prospects of business bankruptcies, loan defaults & mortgage defaults.

Federal Government Reaction

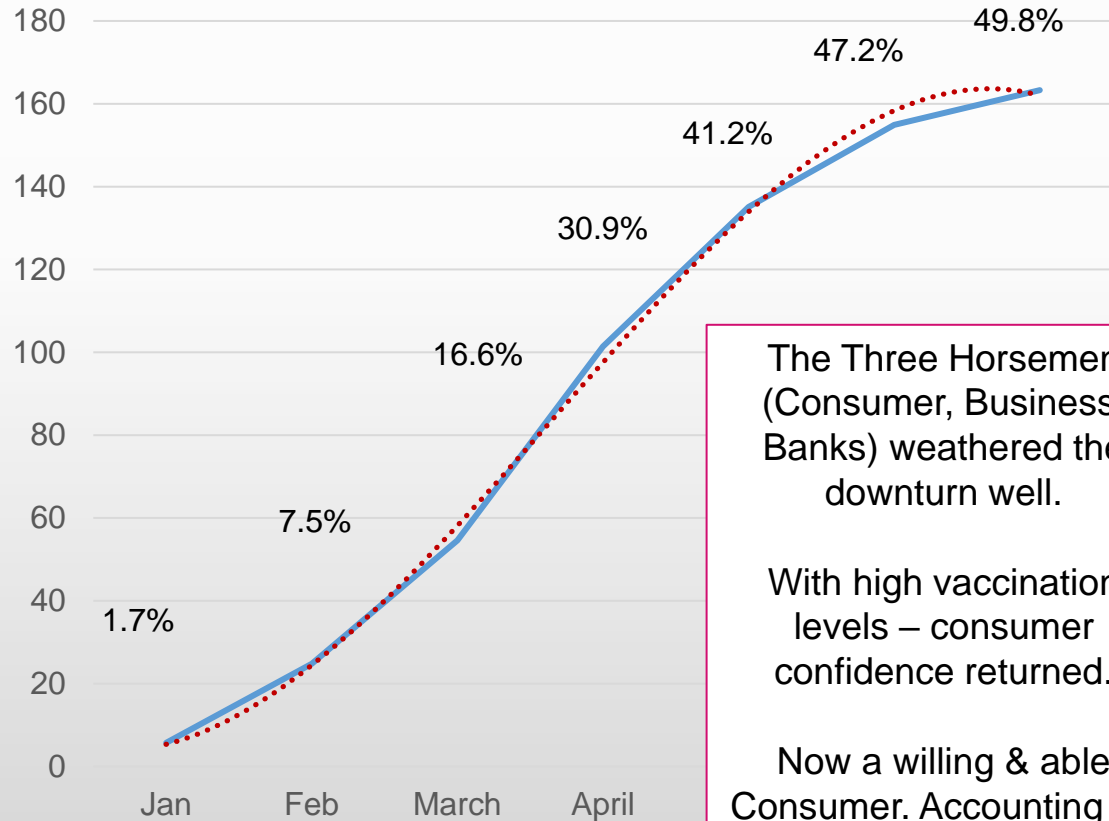
Covid-19 Relief Spending



Household Debt Service % of Disposable Income



Fully Vaccinated Persons (% of Total Population)

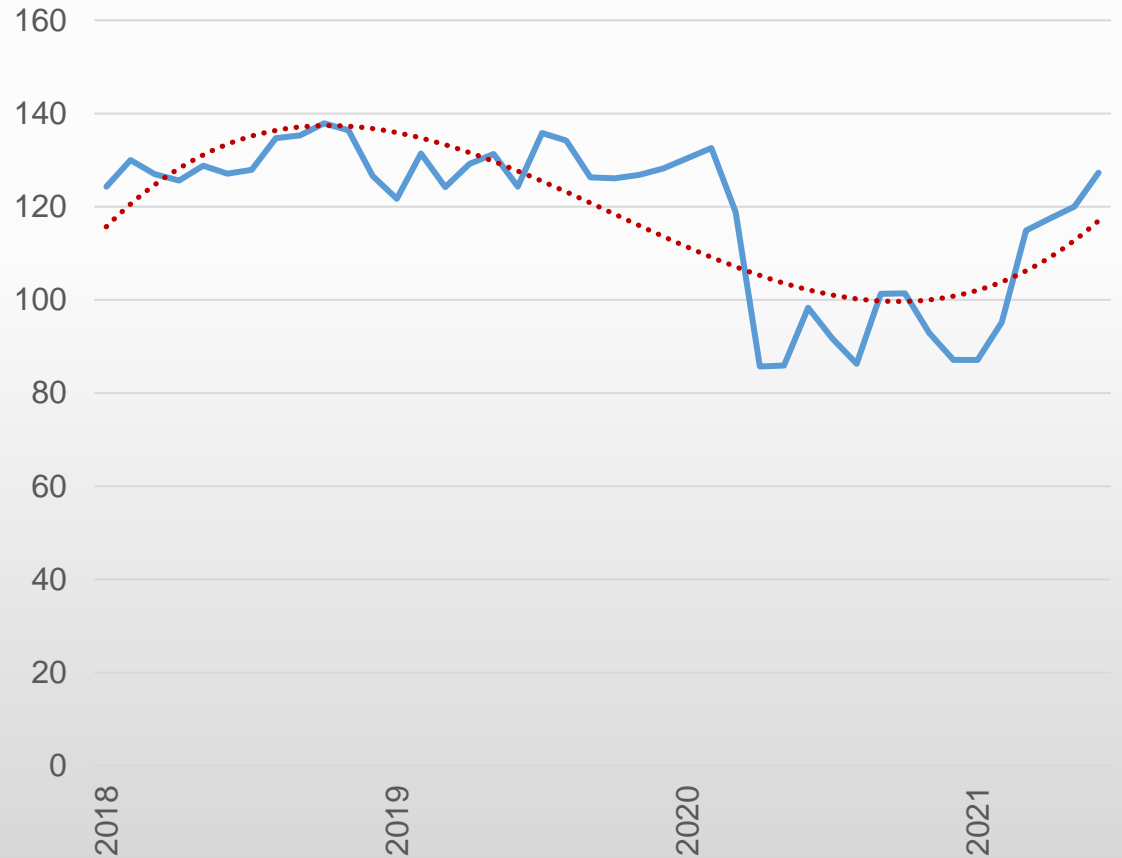


The Three Horsemen (Consumer, Business, Banks) weathered the downturn well.

With high vaccination levels – consumer confidence returned.

Now a willing & able Consumer. Accounting for 2/3rd of GDP.

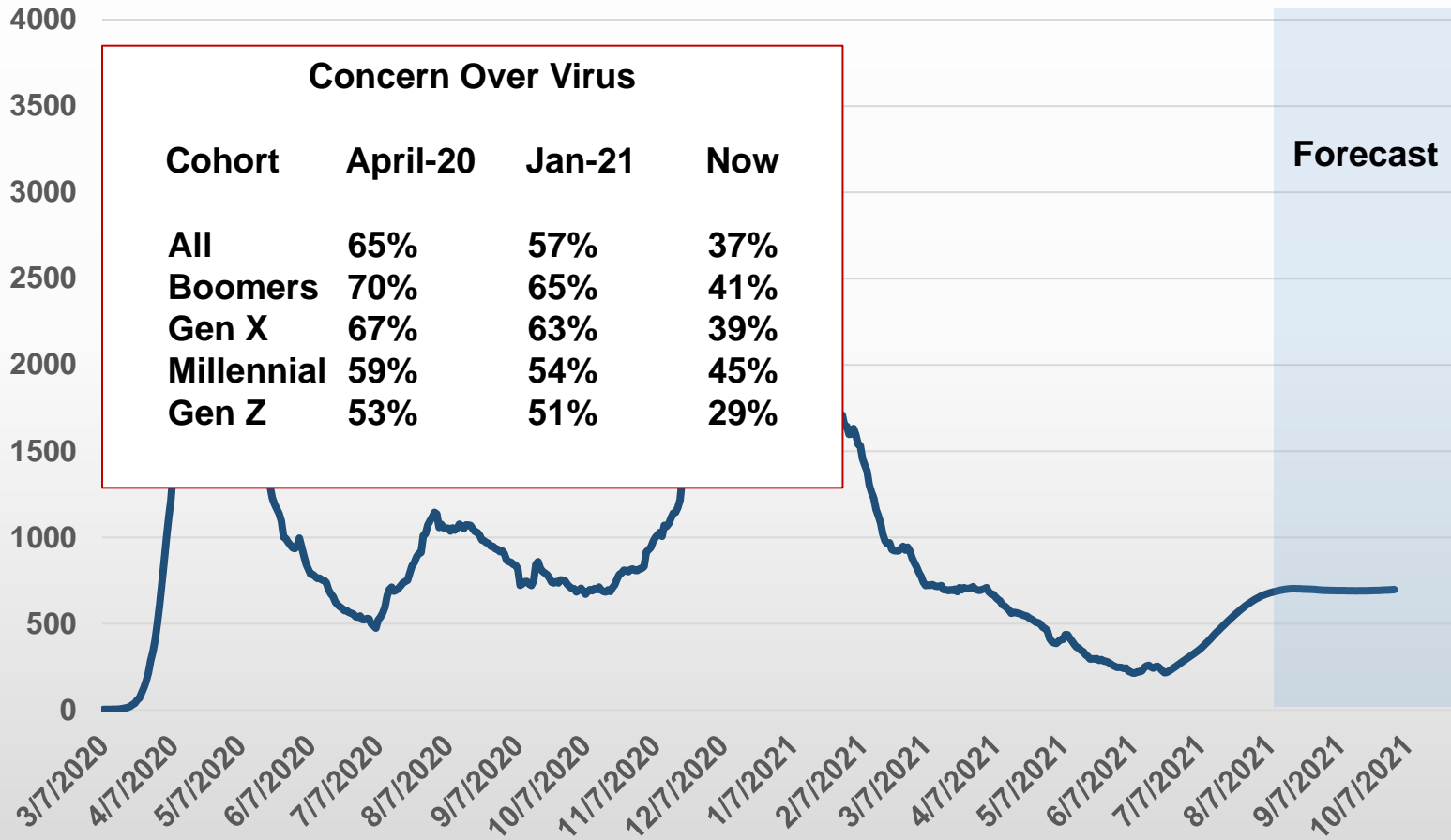
Consumer Sentiment Composite, University of Michigan



Delta Virus Impacts on Economic Activity

Confirmed & Projected COVID Deaths

U.S. Coronavirus Deaths; 7-day moving average; IHME Projections



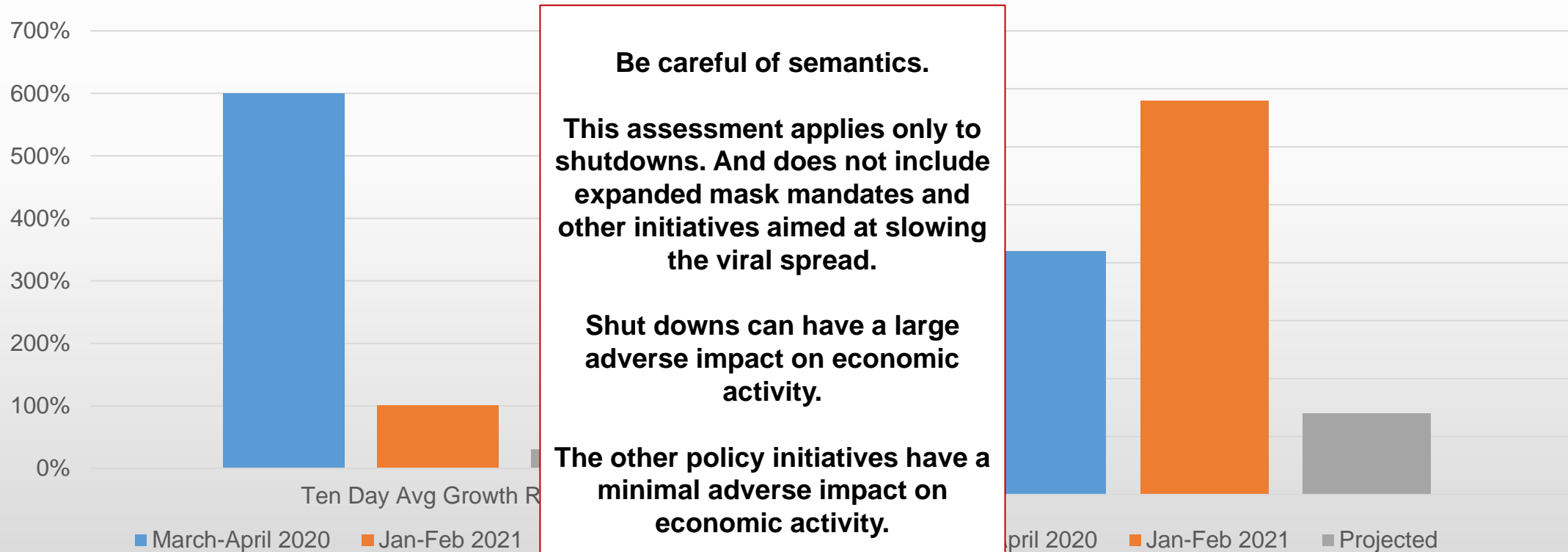
Delta Concerns

- US full vaccination rate 49.7%.
 - Age 75+ = 82.3%
 - Age 65+ = 76.6%
- Beneficial disconnect between infections and deaths
- Death rate on third bump plateau near 720 dpd.
 - Much lower than past peaks: roughly 2,100 (4/20) & 3,400 (1/2021)
 -
- Inoculated control risk. Unvaccinated may be risk takers.
- Impact on economic activity much less than previous peaks

Wide Spread Shutdowns are Unlikely

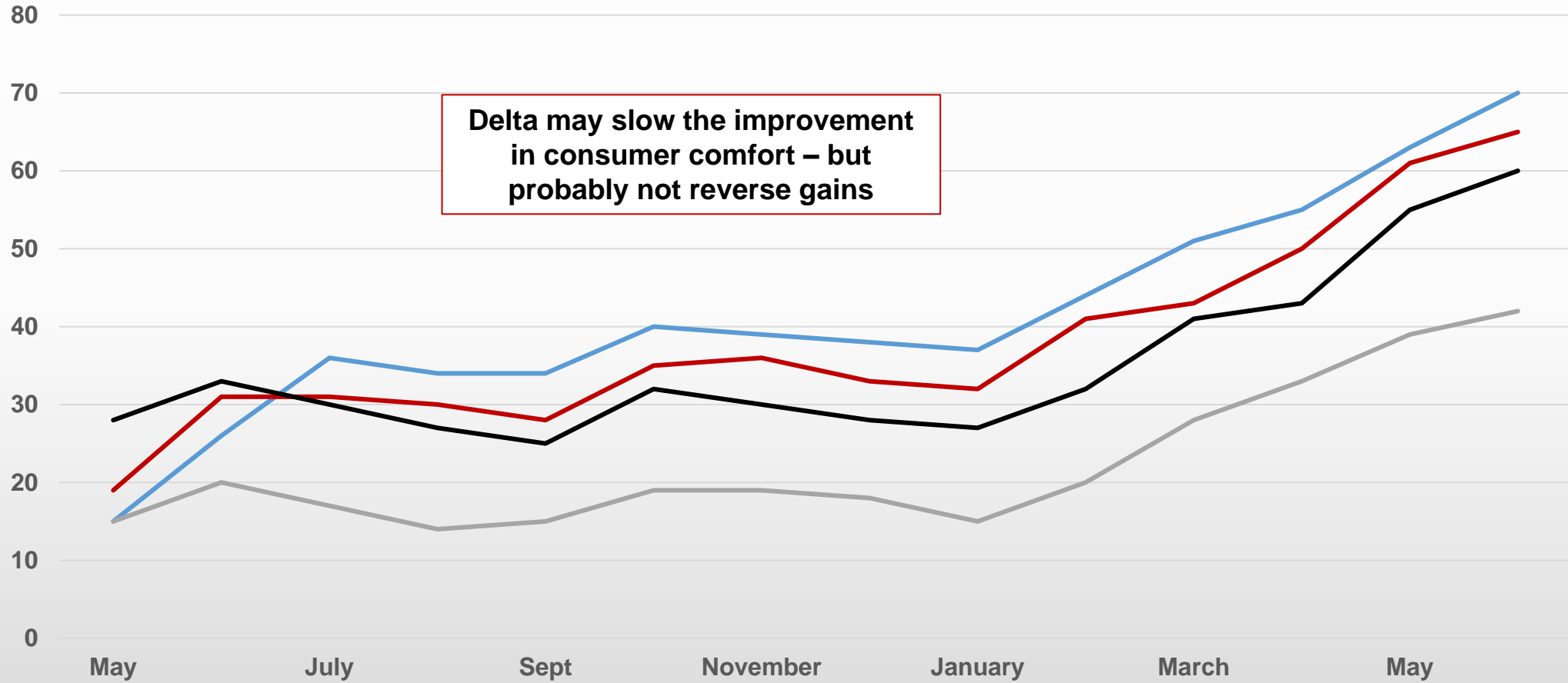
Rate of Daily Death Increase When Shutdowns Materialized
- Total Covid Deaths Rolling 10 Day Average

Level of Daily Death When Shutdowns Materialized
- Total Covid Deaths



Consumer Comfort

Morning Consult, % All Adults



Delta may slow the improvement in consumer comfort – but probably not reverse gains

Public Socializing

Dining Out

Shopping

Travel

Sport/Concert Event

Delta Impacts – Minimal Impacts

- GDP Slightly Slower
 - Slows the full release of pent-up demand
 - Delays the recovery
 - Slower Global activity
- Could marginally Slow the Expansion of Labor Force
 - Extends labor shortages
- Temporary Elevated Inflation Could Run longer
 - Longer these temporary factors remain in play, the higher the potential inflation becomes embedded.
- Fed May Prolong Accommodating Monetary Policy
 - Slower retreat in unemployment vs higher inflation – Fed errs on side of unemployment

Supply Side Constraints

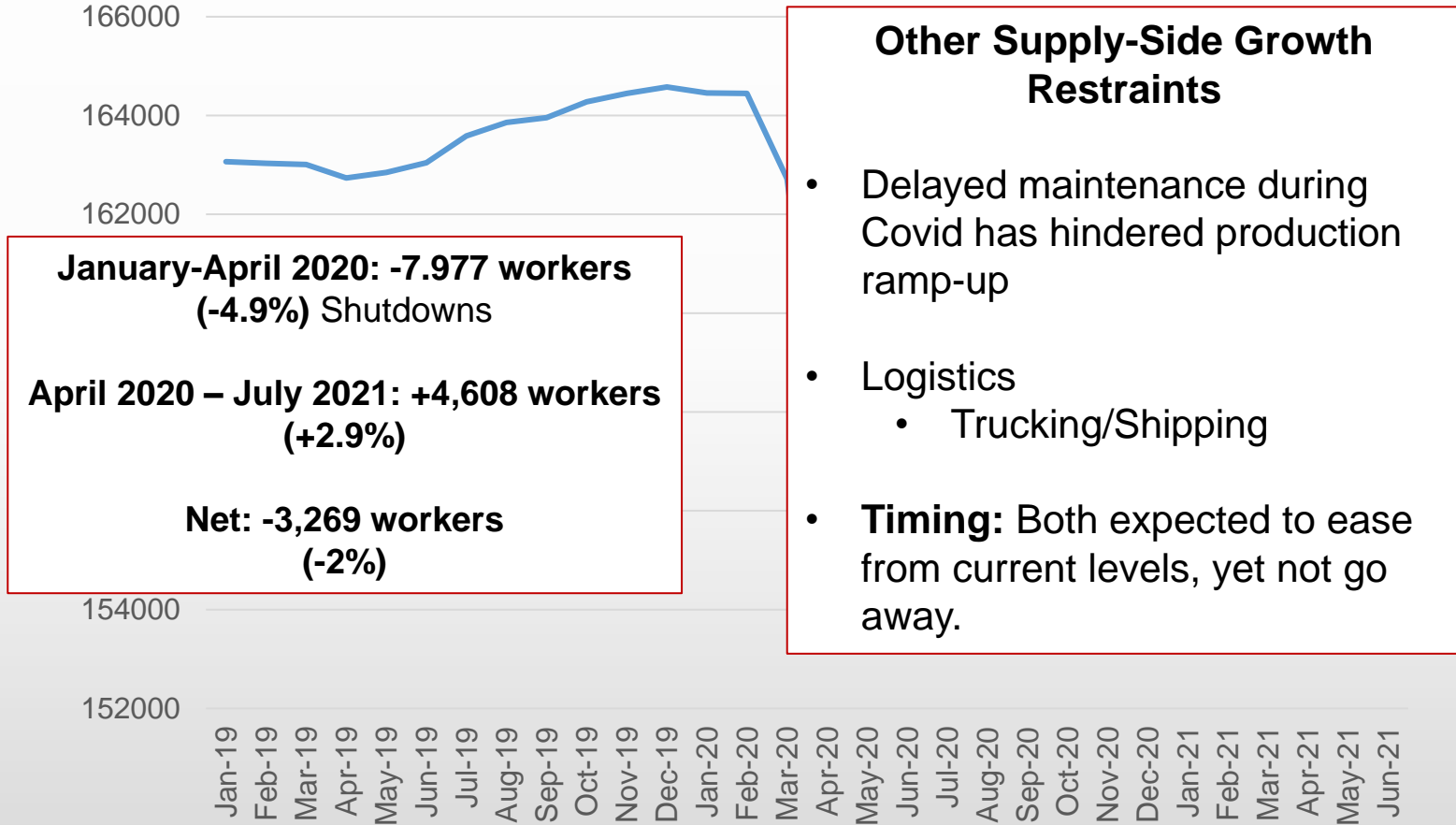
The Economy Struggles to Reawaken

Shortages and supply chain issues characterize the nation's ability to meet strengthening demand, impacting everything from computer chips to lumber to restaurant services. The reasons are typically :

- Strong demand
- Production cutbacks and delayed maintenance during Covid,
- Weather conditions that led to a disruption of production,
- Underbuild of inventories
- Logistic hinderances on the roads, waterways and rails
- Labor force constraints & Worker shortages.

Labor Force Growth Restraints

Household Survey, Willing & Able to Work



Labor Force Recovery Hinderances

- Health concerns due to Covid
- Child care
- Heightened unemployment & Covid relief benefits

Labor Shortages Relief

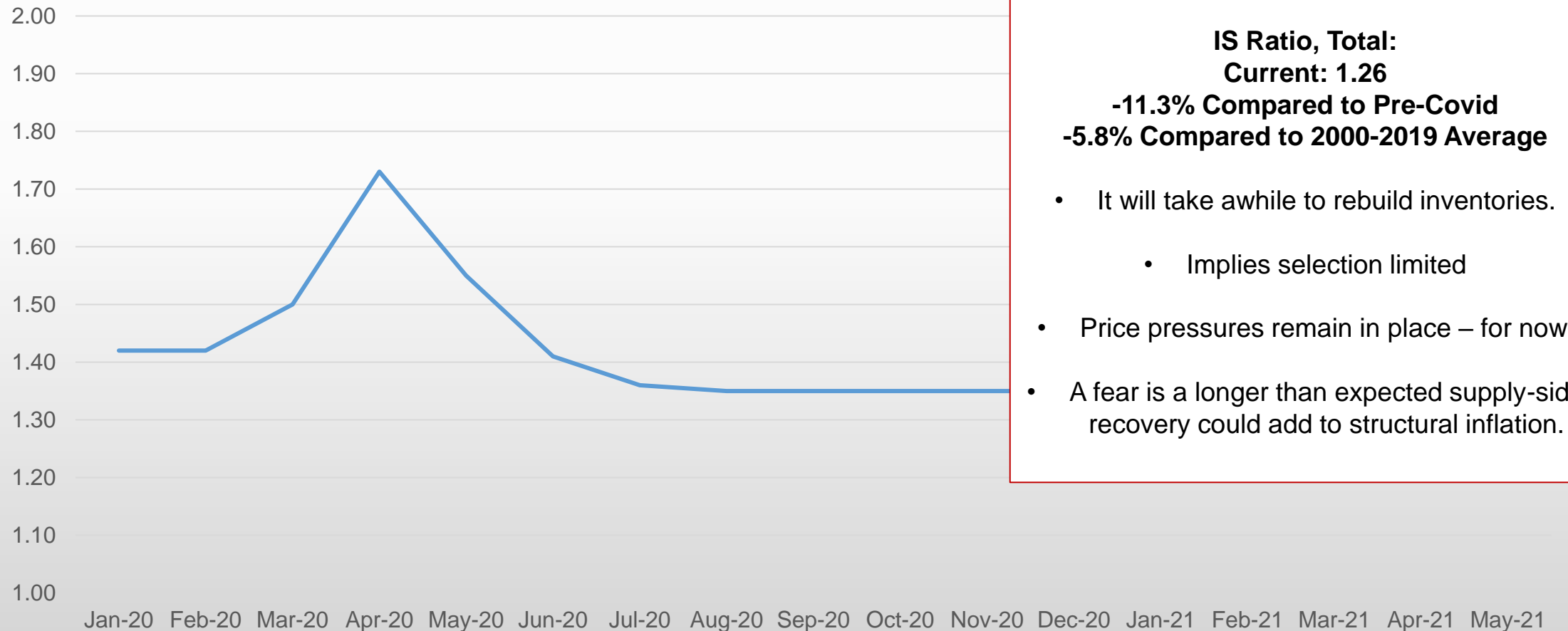
- Covid fear subsides/vaccinations increase.
- Schools reopen
- Unemployment & covid relief benefits disappear.

Timing of Relief

- Improvement expected to materialize in 4Q.
- Transitory inflation and production disruptions ease and largely disappear 2Q 2022.

Inventories Remain Lean

Inventory-to-Sales Ratio



IS Ratio, Total:
Current: 1.26
-11.3% Compared to Pre-Covid
-5.8% Compared to 2000-2019 Average

- It will take awhile to rebuild inventories.
 - Implies selection limited
- Price pressures remain in place – for now.
- A fear is a longer than expected supply-side recovery could add to structural inflation.

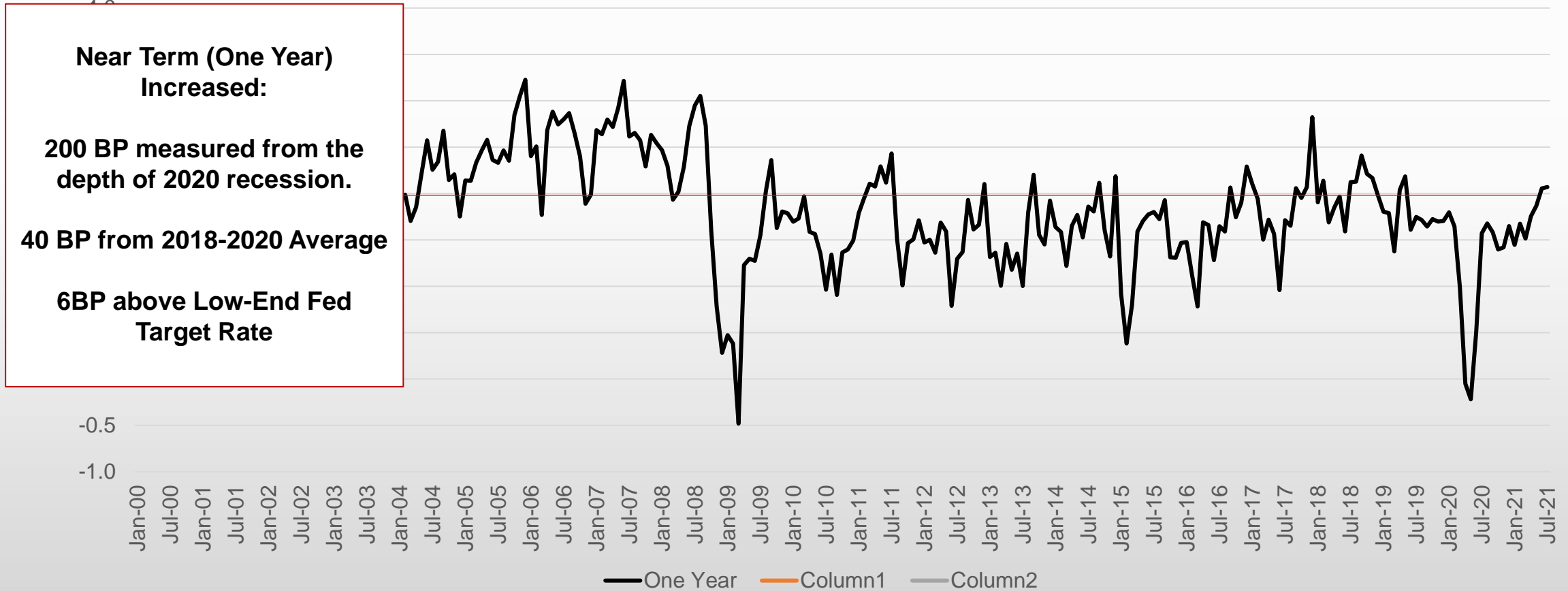
Cement is Not Immune to these Economy Wide Supply-Side Hinderances

- 28 states have reported market tightness.
 - Other states are teetering
- Underbuild of inventory is the crux of the problem
 - Strong demand
 - Covid-related production disruptions
- Logistic hinderances have slowed the flow of product to market
 - Trucking & waterborne
- Tightness is a unique period and temporary
 - Common amongst many industries reawakening from Covid
 - Expected to persist through 4Q

Inflation Assessment & Federal Reserve Assumptions

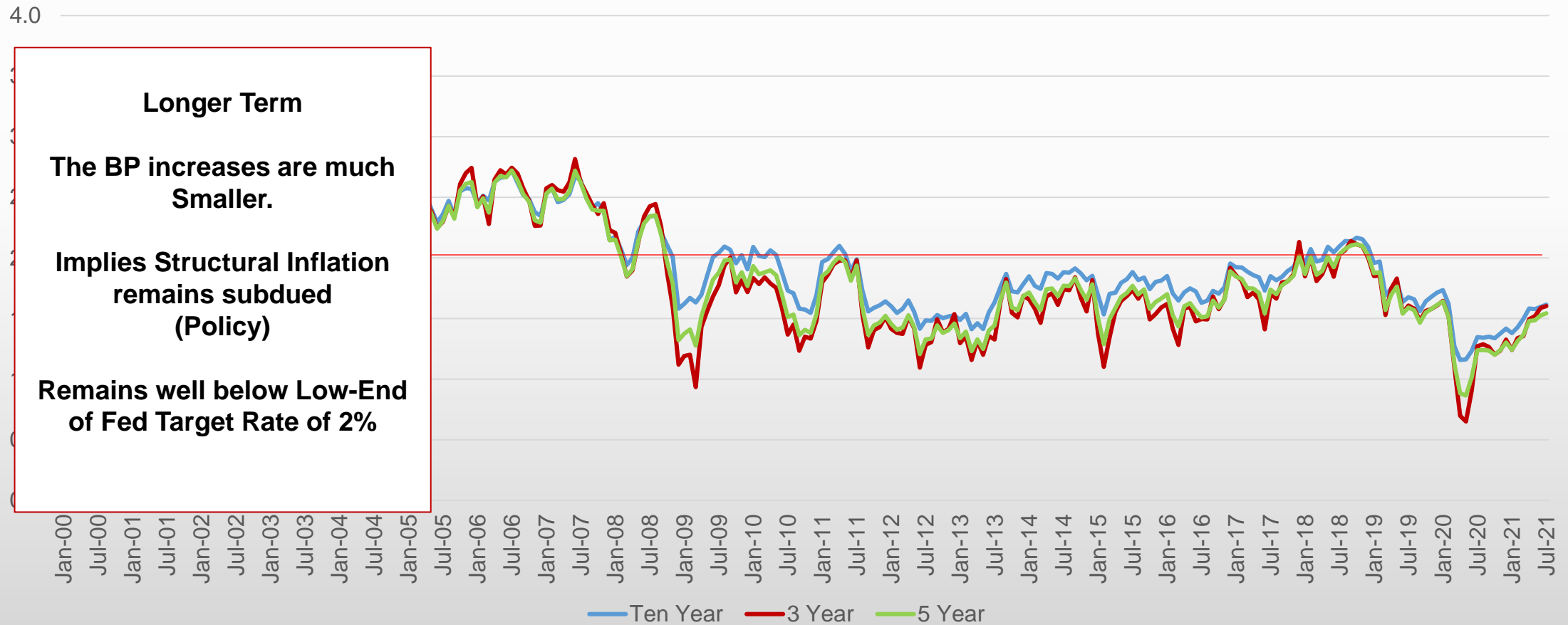
Inflation Expectations

- Annual Percent Change



Inflation Expectations

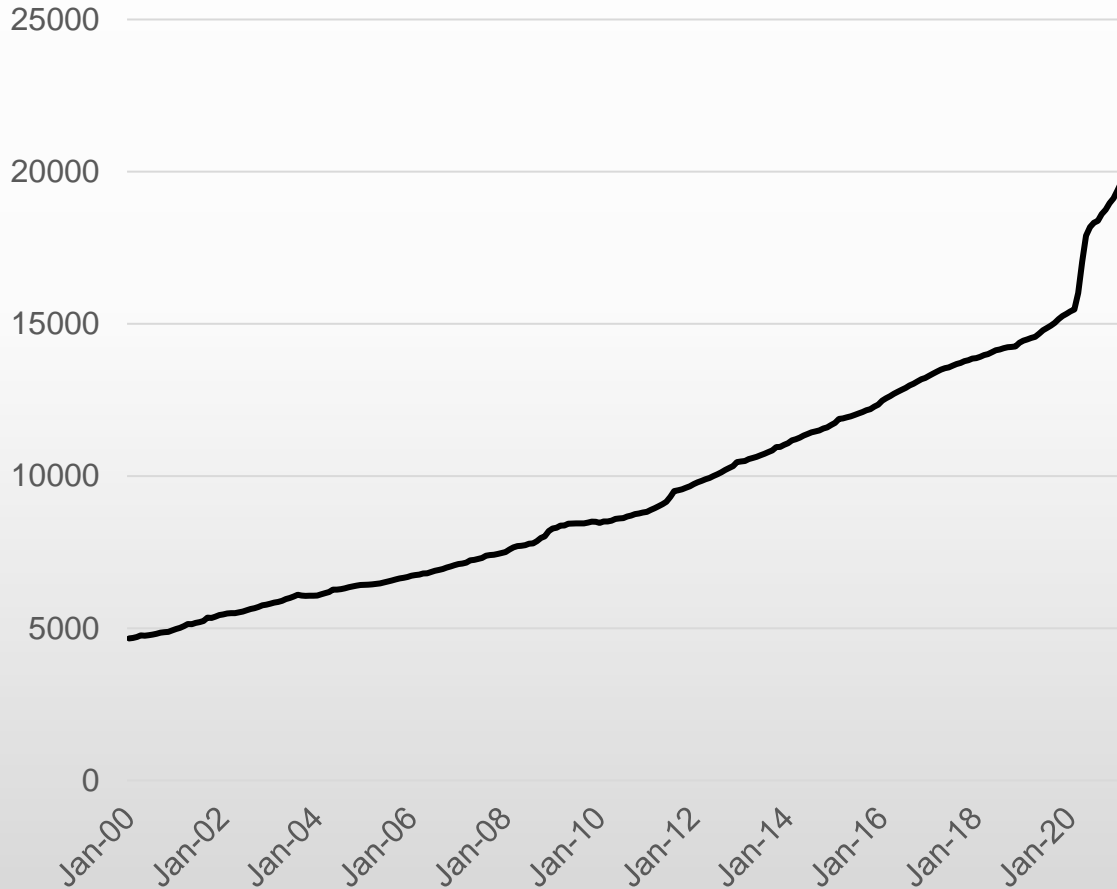
- Annual Percent Change



Monetary Policy

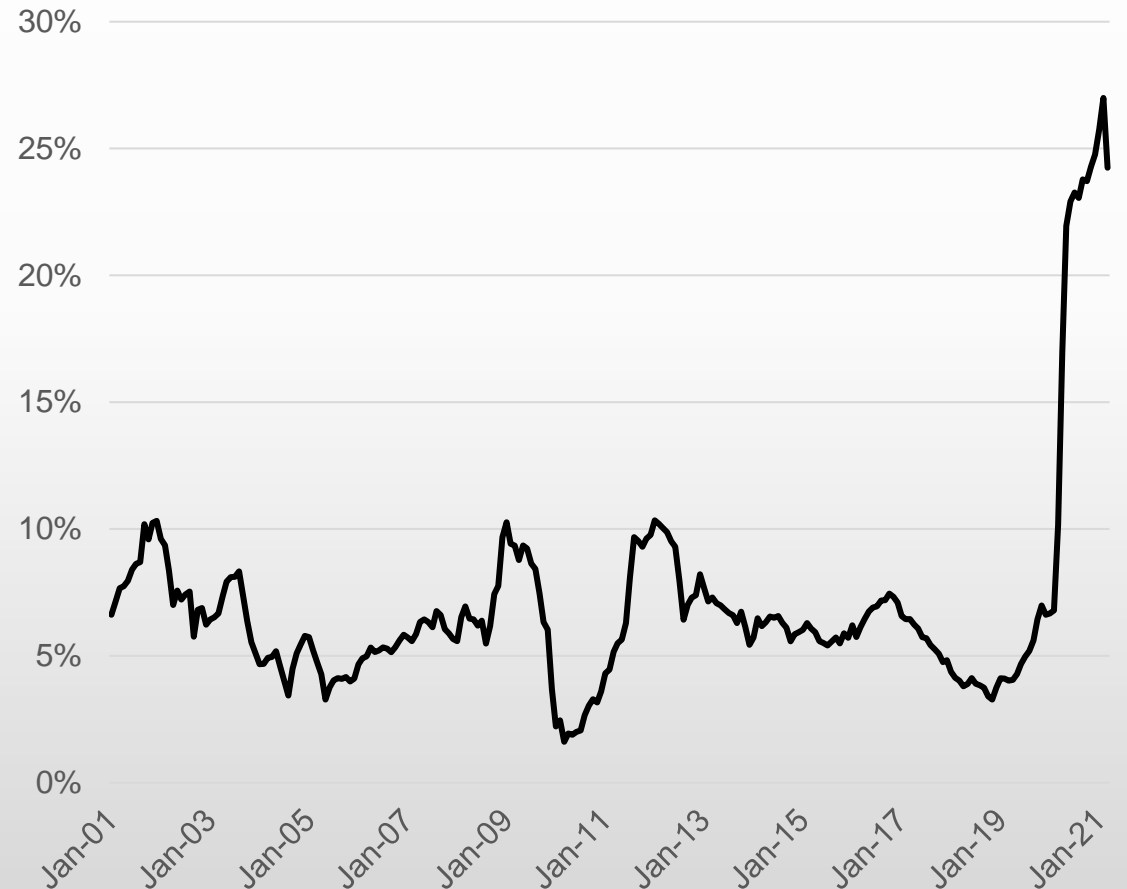
M2 Money Supply

Cash, Demand Deposits, Savings, Money Market, Mutual Funds, MBS, Time Deposits

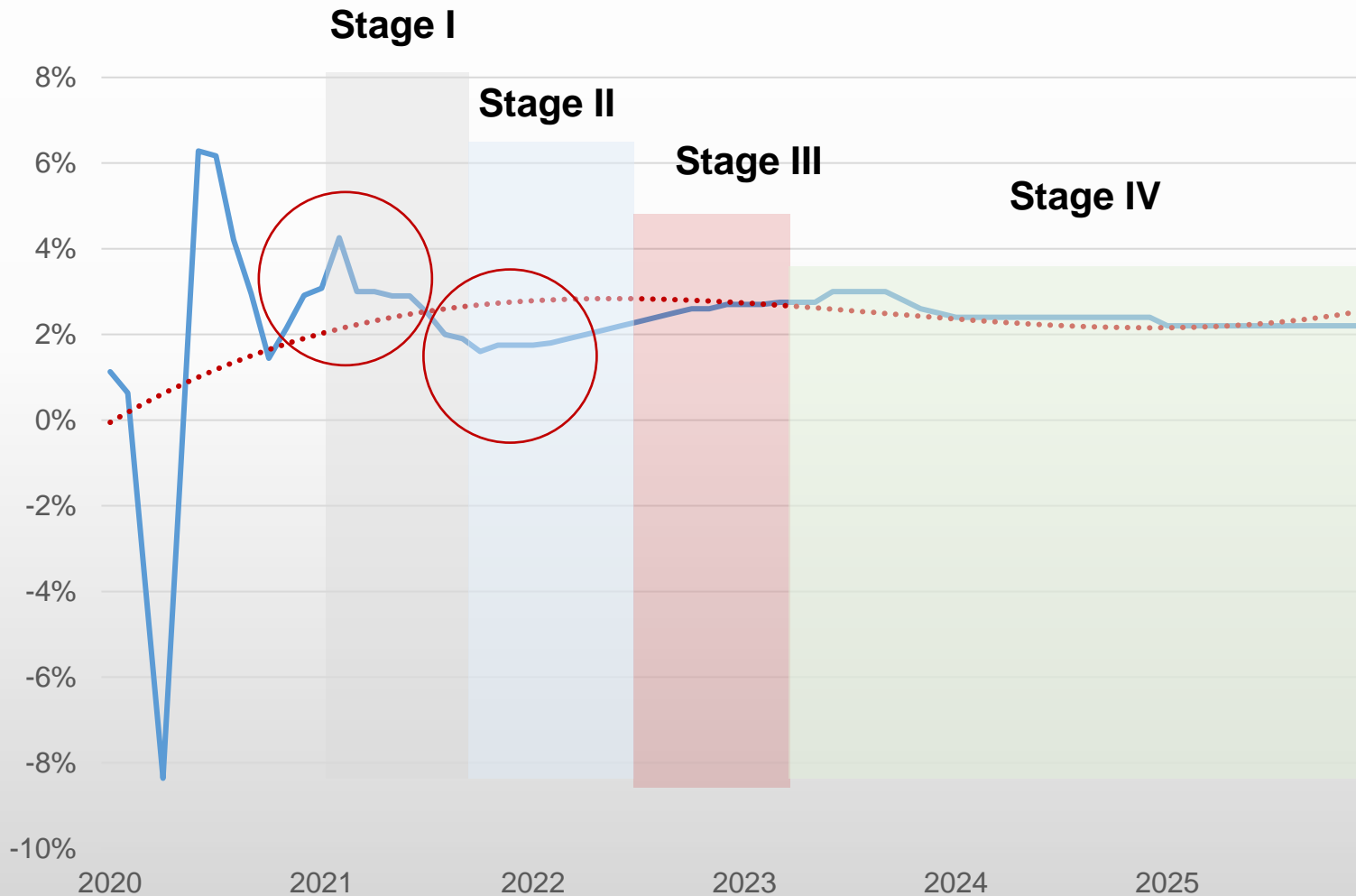


M2 Money Supply % Change

Annual Percent Change



Inflation Rate Scenario, %



Stage I

- Covid supply disruptions, increased demand create product specific shortages.
- Transitory not Structural

Stage II

- Covid supply disruptions ease somewhat.
- Slackness that characterizes productive side of economy slowly recedes.
- Inflation plateaus/eases.

Stage III

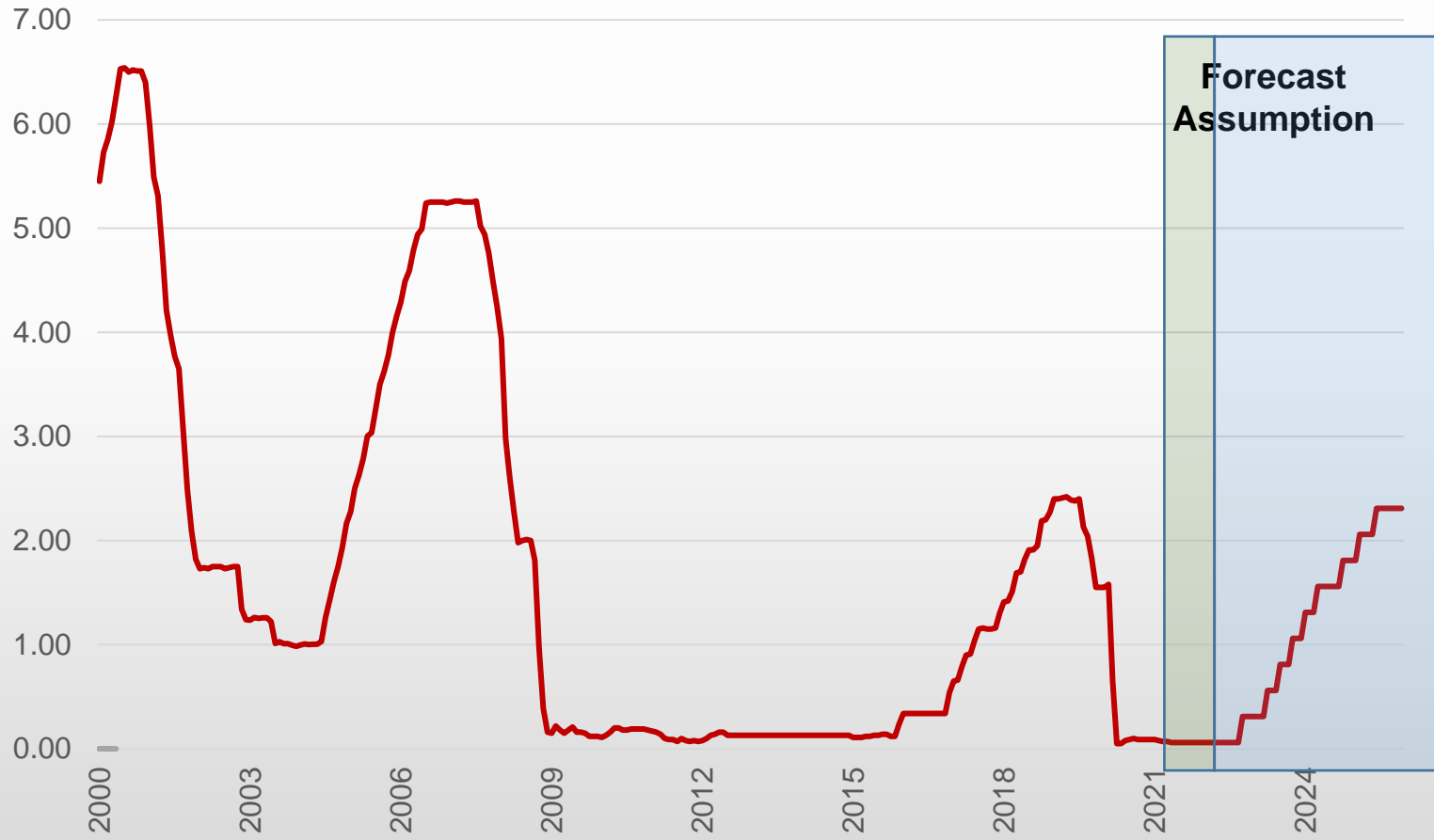
- Economy regains footing. Slackness disappears. Unemployment drifts below 5%.
- Inflation increases beyond Fed target Rate.

Stage IV

- Fed reacts. Timidly at first. Inflation continues. Fed reacts more decisively.
- Fed Target Rate achieved 2024 & beyond.

Monetary Policy

Fed Funds Rate



Dual Mandate :Stable labor markets (low unemployment), stable prices (low inflation).

Likely error on side of employment – slow retreat from accommodative MP.

Federal Reserve: Begin orderly selling (“tapering”) its \$8.3 trillion in Bonds 4Q 2021/1Q 2022.

Federal Funds Rate: Fed begins rate hikes mid-Q4 2022. Consistent with recently released Fed Survey (October 2022)

Rate increases are small. Assume 25 basis point increases.

Rate hikes: 1 = 2022, 4=2023, 4=2024, 2=2025

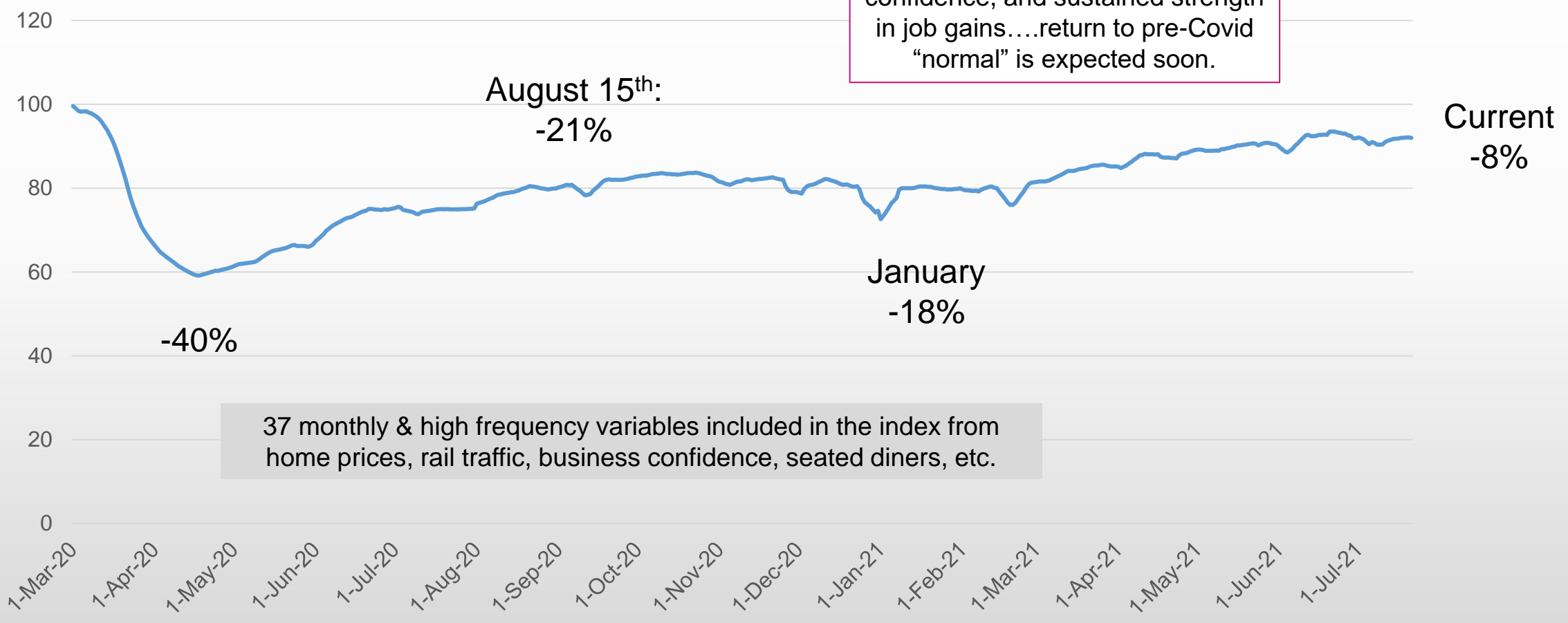
Economic Activity Summary

Back to Normal Index

Moody's-CNN Survey 100=March 1st 2020

Back to Normal

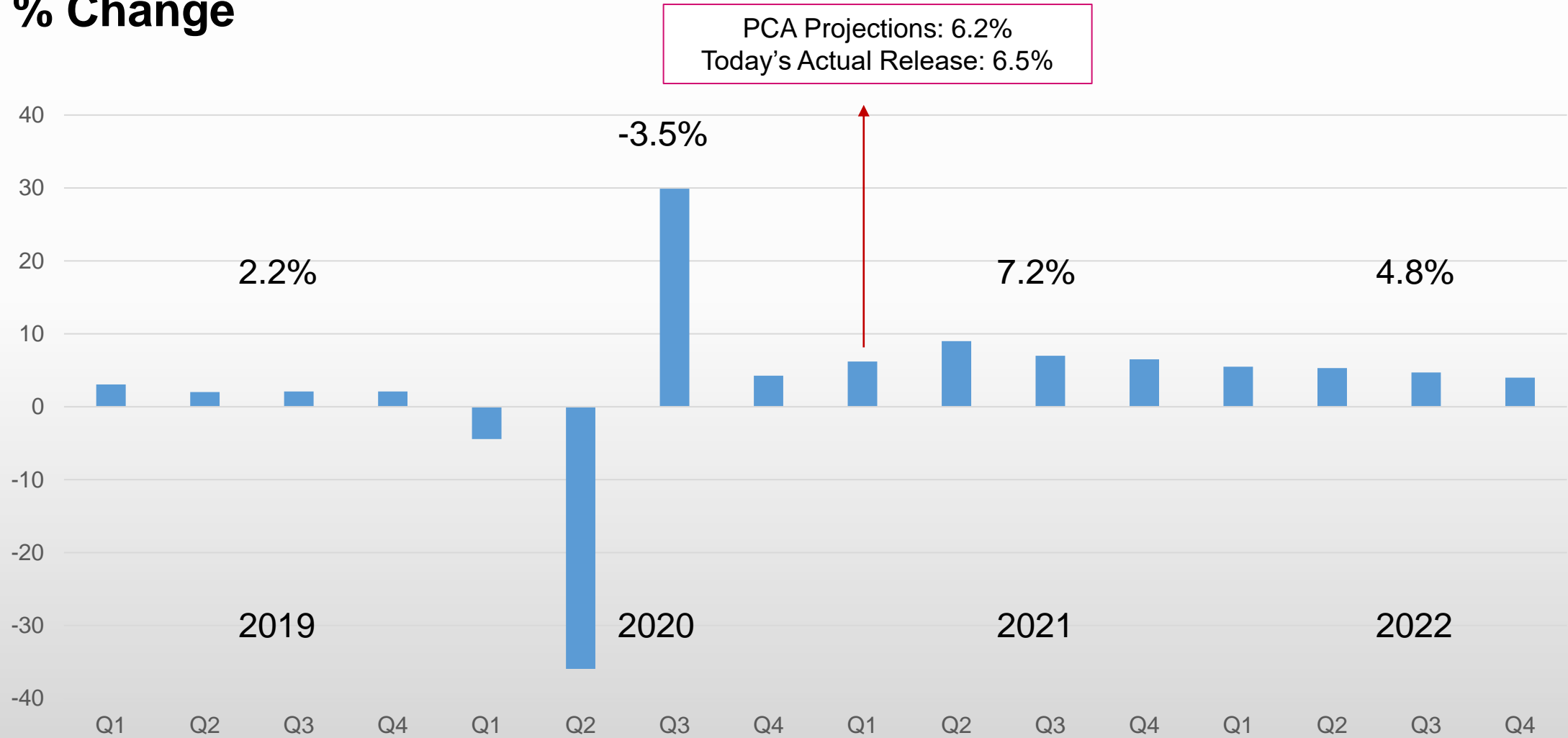
With continued progress in vaccinations, growing consumer confidence, and sustained strength in job gains....return to pre-Covid "normal" is expected soon.



37 monthly & high frequency variables included in the index from home prices, rail traffic, business confidence, seated diners, etc.

GDP Outlook

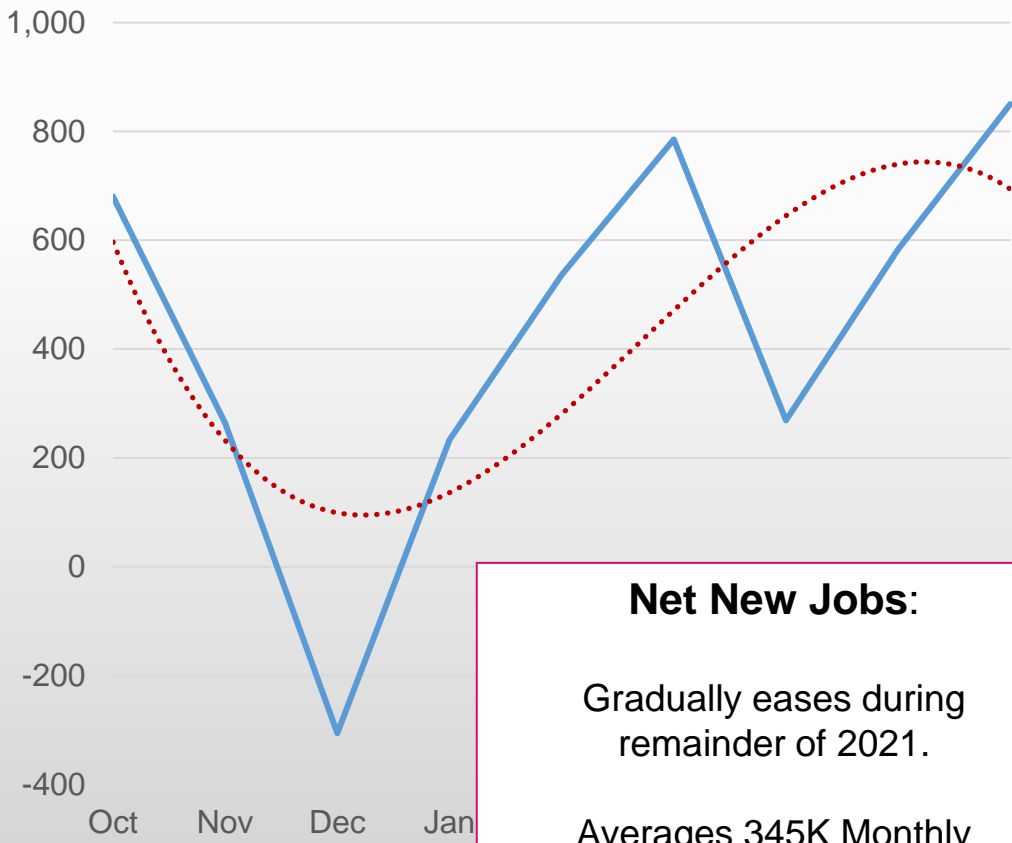
% Change



Economic Performance

Net Monthly Job Gains

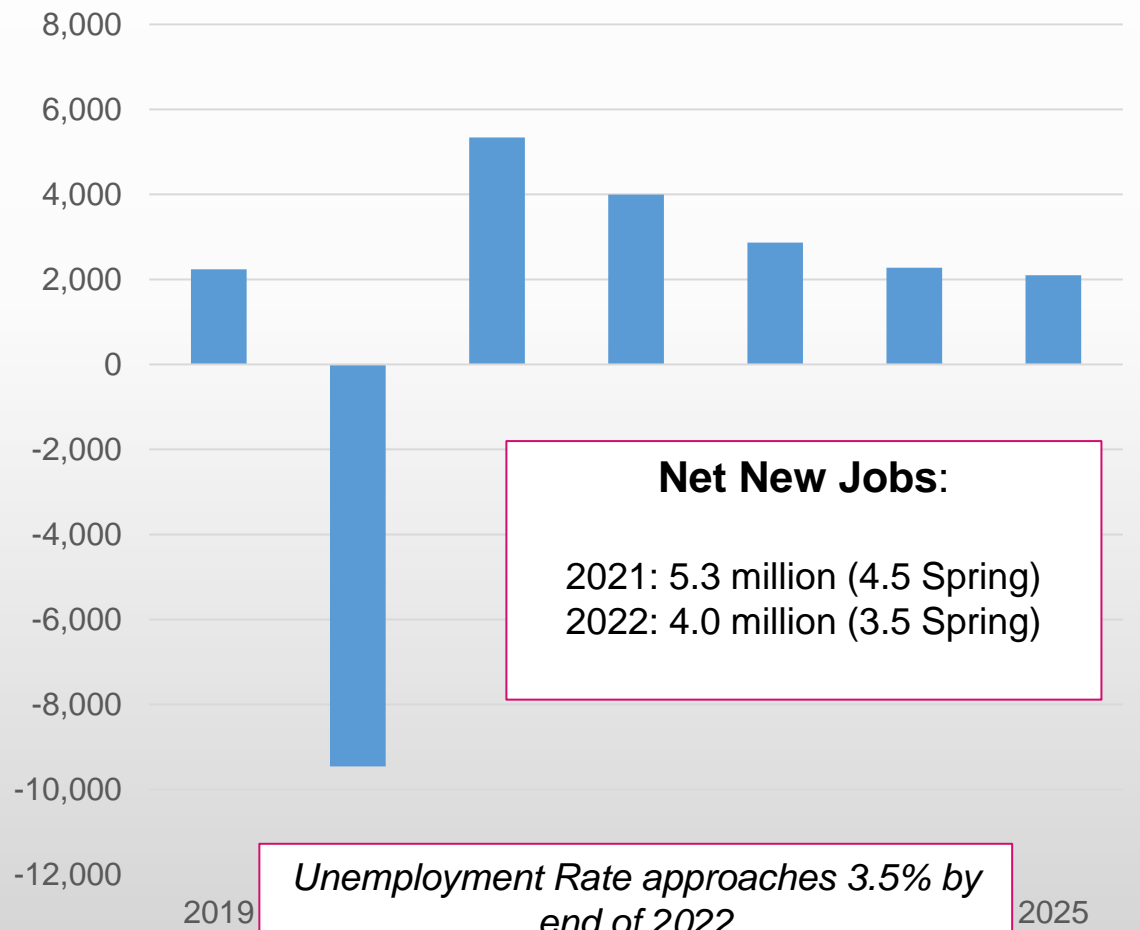
Net Thousands



Net New Jobs:
Gradually eases during remainder of 2021.
Averages 345K Monthly

Net Job Creation

Thousand Jobs



Net New Jobs:
2021: 5.3 million (4.5 Spring)
2022: 4.0 million (3.5 Spring)

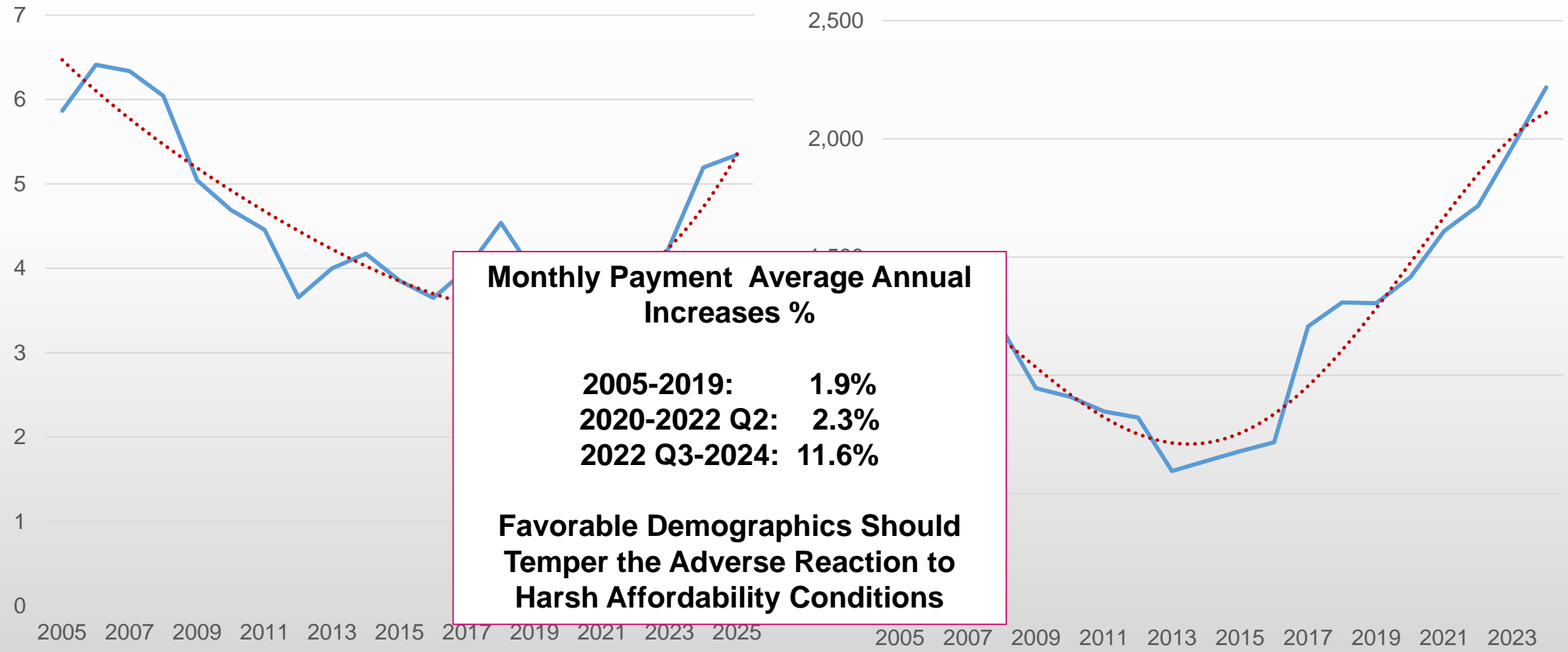
Unemployment Rate approaches 3.5% by end of 2022

Construction Sector Assessments

Residential Cement Consumption

Mortgage Interest Rates
Conventional, 30 Year, %

Average SF Monthly Payment



Monthly Payment Average Annual Increases %

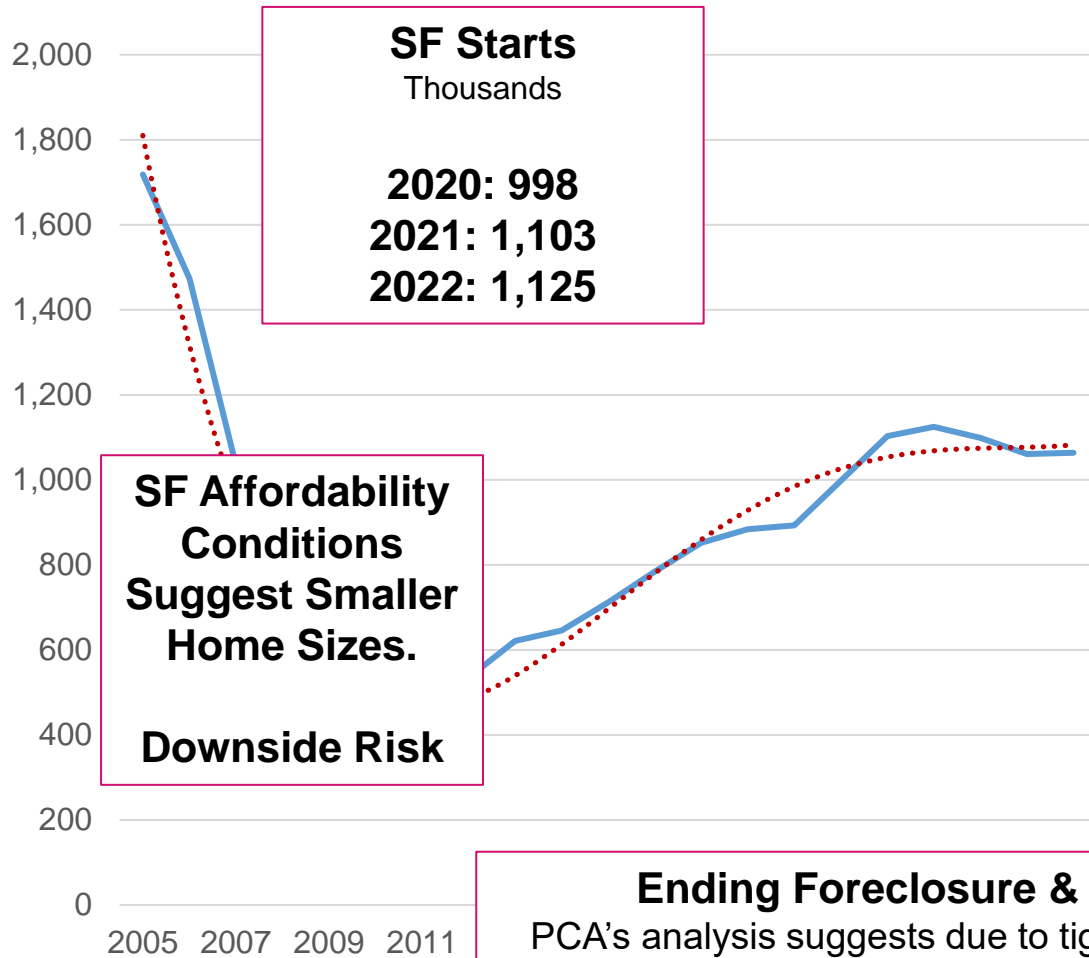
2005-2019: 1.9%
2020-2022 Q2: 2.3%
2022 Q3-2024: 11.6%

Favorable Demographics Should Temper the Adverse Reaction to Harsh Affordability Conditions

Housing Starts Outlook

SF Starts

Thousands



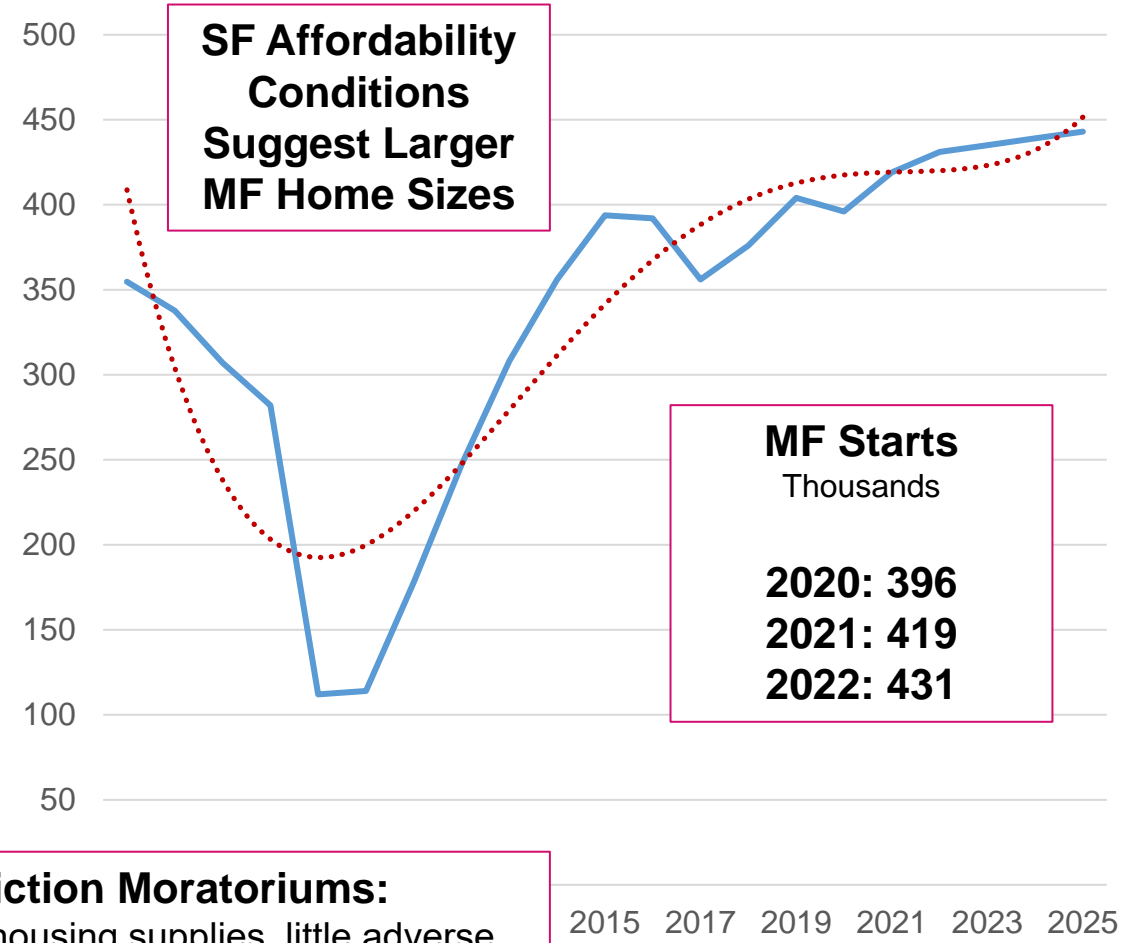
SF Affordability Conditions Suggest Smaller Home Sizes. Downside Risk

SF Starts
Thousands
2020: 998
2021: 1,103
2022: 1,125

Ending Foreclosure & Eviction Moratoriums:
PCA's analysis suggests due to tight housing supplies, little adverse impact will be suffered by either single and multifamily construction.

MF Starts

Thousands



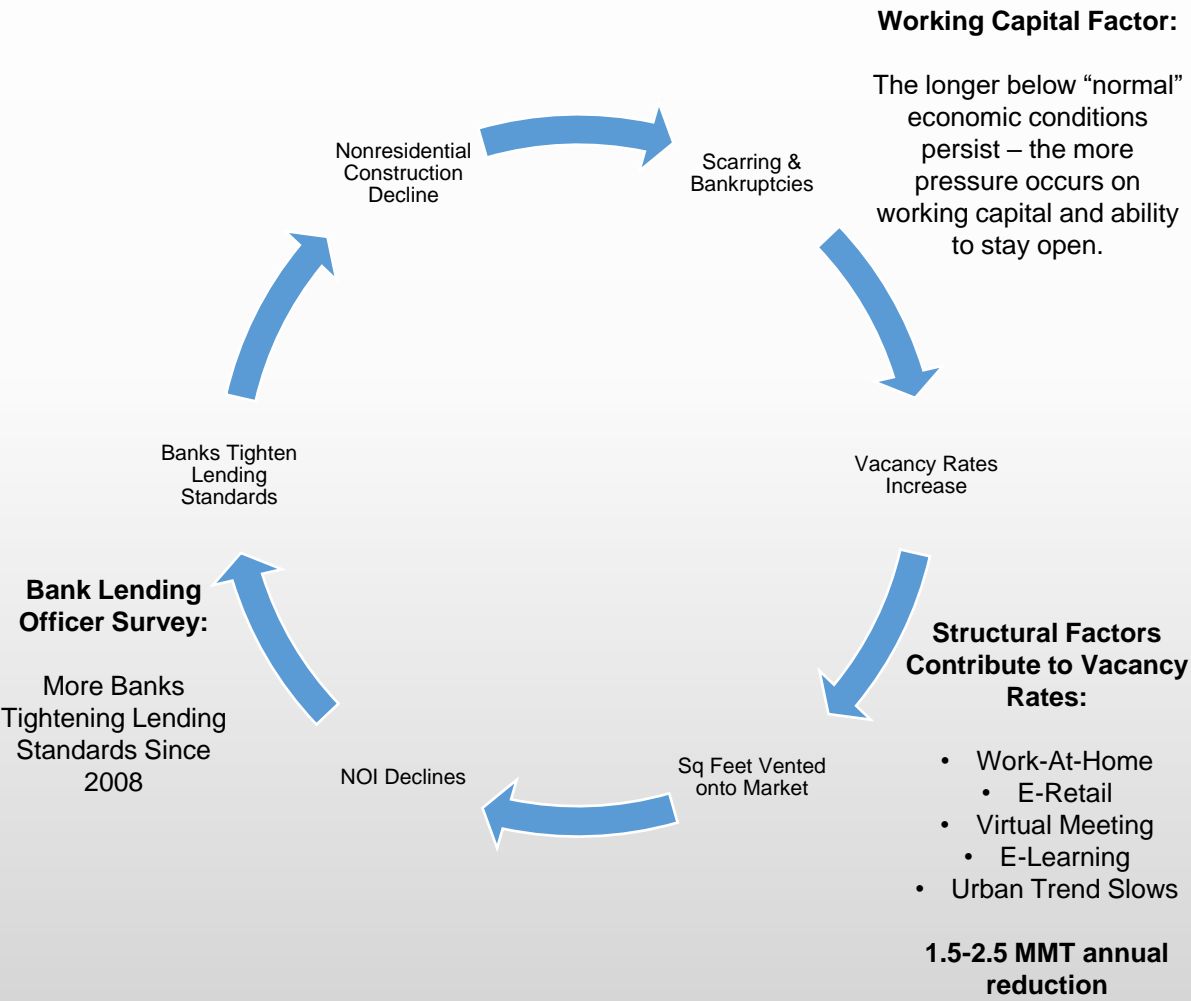
SF Affordability Conditions Suggest Larger MF Home Sizes

MF Starts
Thousands
2020: 396
2021: 419
2022: 431

2015 2017 2019 2021 2023 2025

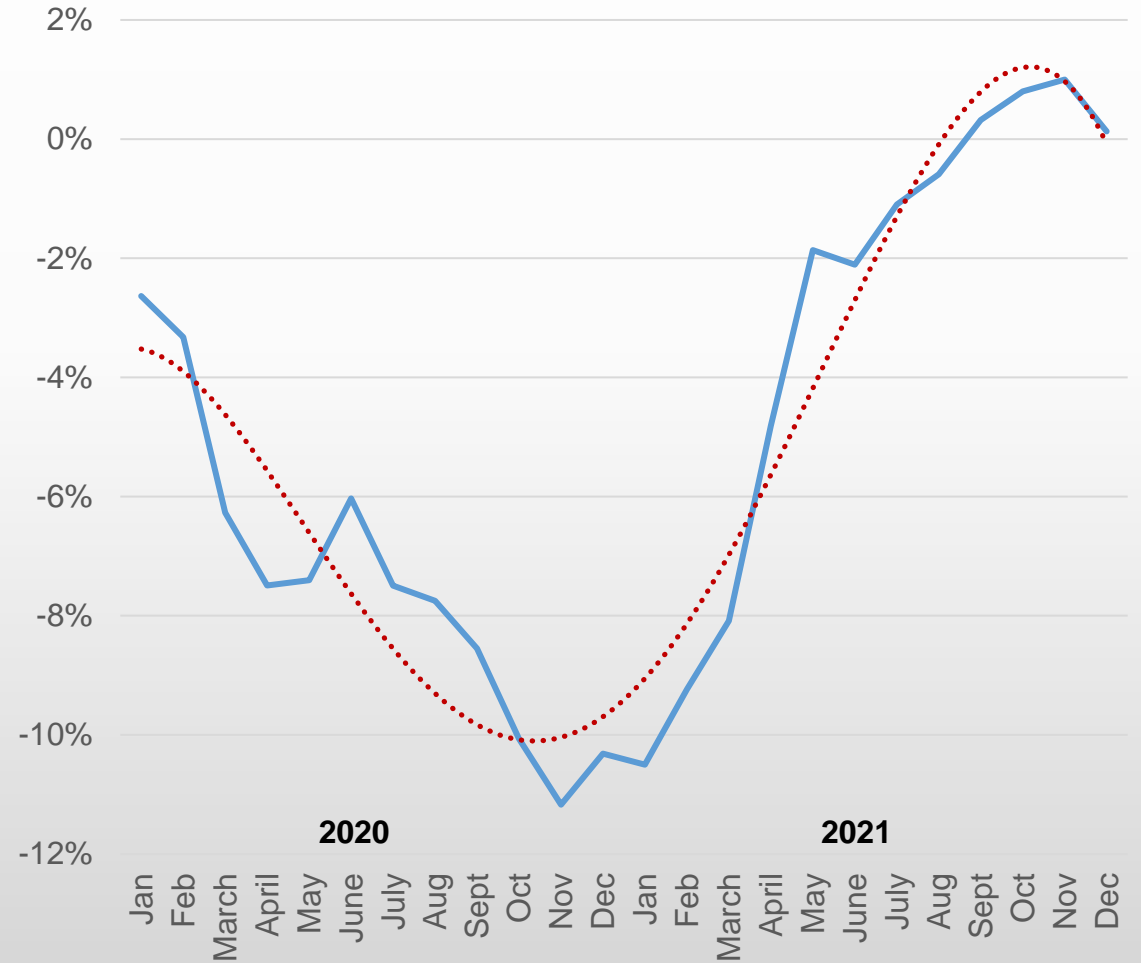
Nonresidential Projection

Nonresidential Recovery Process



Nonresidential Construction

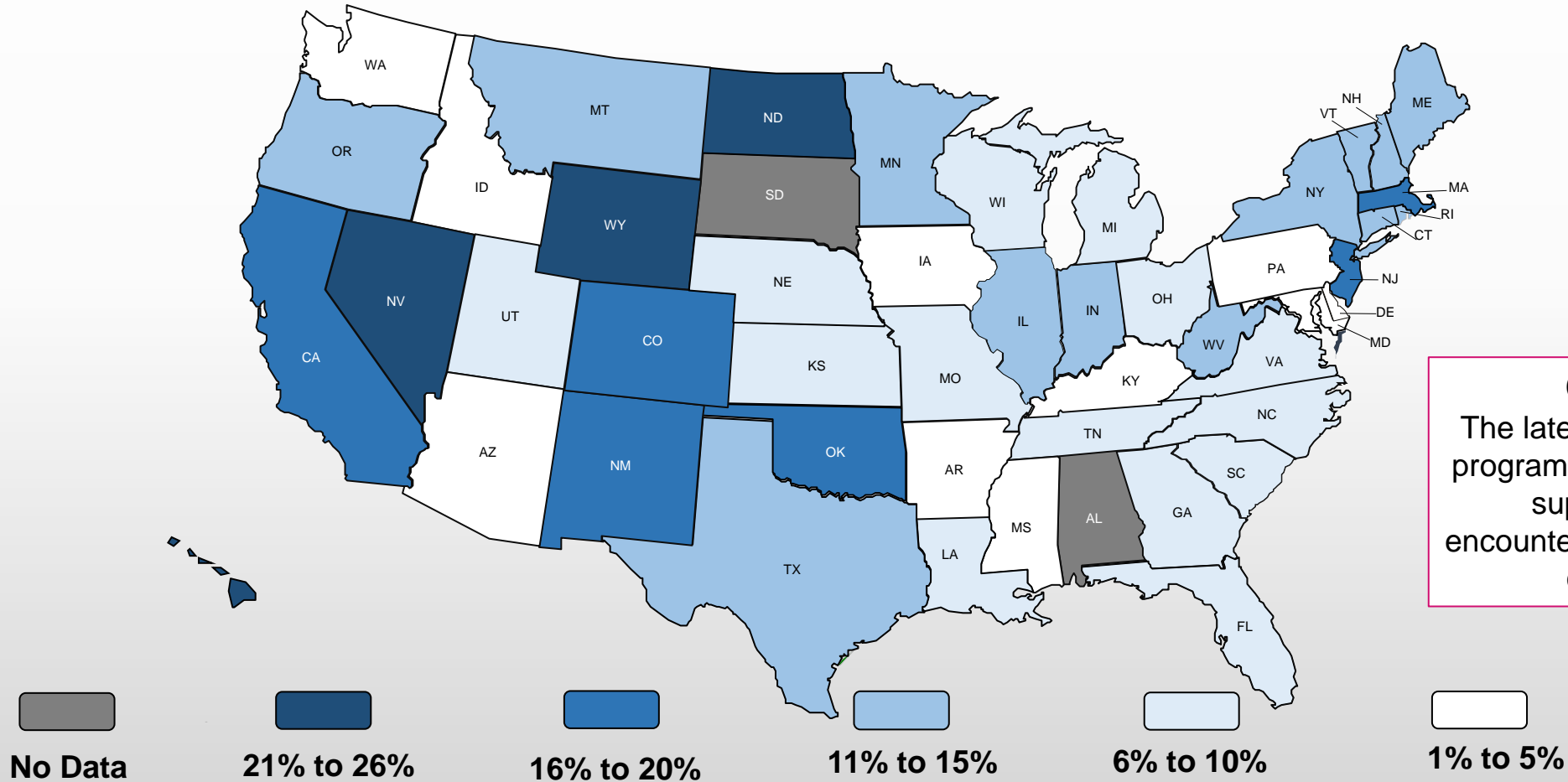
Real PIP, Y-O-Y Change



Public Projection

State Funding – FY2021

Percent Declines in General Fund Tax Revenues from Pre-COVID Levels



Covid Relief:
The latest Federal Covid Relief program included \$350 Billion to support fiscal duress encountered by states, countries, cities and tribes

Estimated Aid Sent to States

\$Billions

Alaska	\$ 0.89	Kentucky	\$ 2.26	4.02
Alabama	\$ 2.12	Louisiana	\$ 3.12	5.58
Arkansas	\$ 1.55	Massachusetts	\$ 5.38	1.84
Arizona	\$ 4.46	Maryland	\$ 3.77	2.69
California	\$ 28.31	Maine	\$ 1.08	8.08
Colorado	\$ 3.99	Michigan	\$ 4.98	1.15
Connecticut	\$ 2.97	Minnesota	\$ 2.76	2.58
District Of Columbia	\$ 1.07	Missouri	\$ 2.67	0.74
Delaware	\$ 0.99	Mississippi	\$ 1.86	3.32
Florida	\$ 8.47	Montana	\$ 0.85	16.37
Georgia	\$ 4.78	North Carolina	\$ 5.43	1.33
Hawaii	\$ 1.61	North Dakota	\$ 0.80	4.26
Iowa	\$ 1.45	Nebraska	\$ 1.04	0.67
Idaho	\$ 1.01	New Hampshire	\$ 0.95	4.28
Illinois	\$ 8.33	New Jersey	\$ 6.25	2.44
Indiana	\$ 2.84	New Mexico	\$ 1.88	1.35
Kansas	\$ 1.36	Nevada	\$ 2.56	0.75

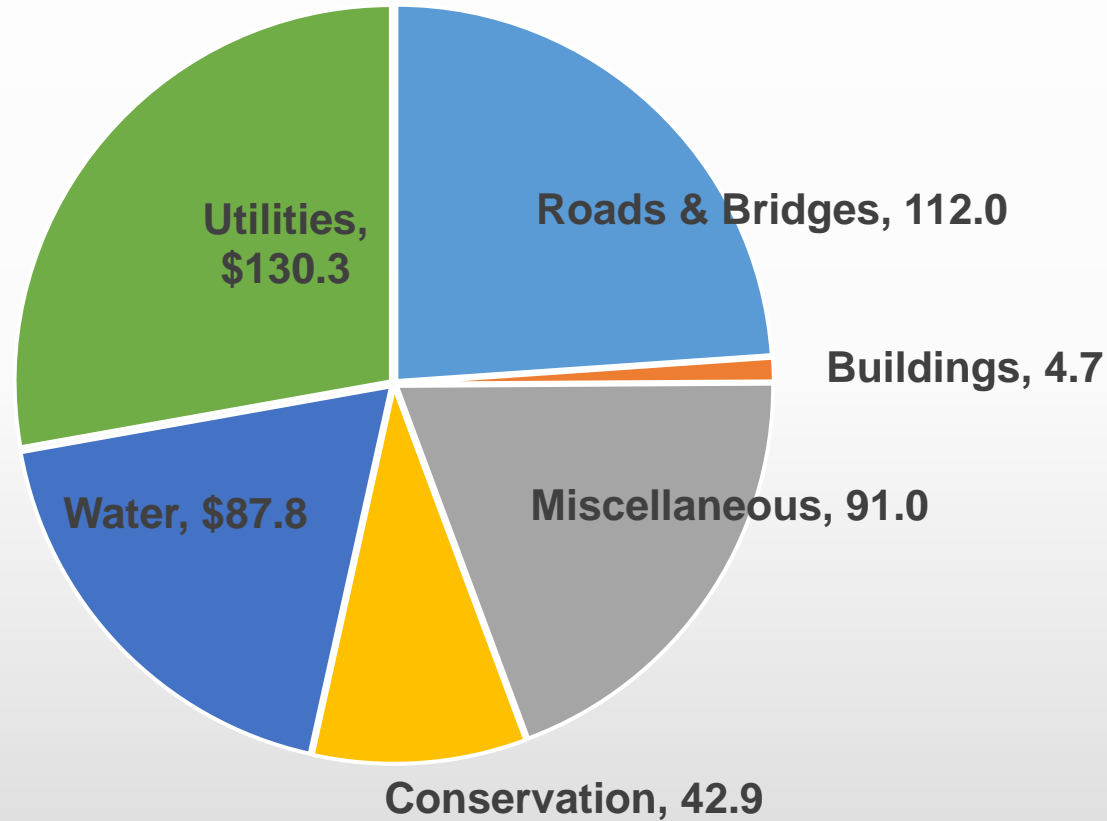
The legislation says the funds are to be distributed based on each states' share of total unemployed Americans.

Top 6 Cement Consuming States = \$80 billion

State Funding Picture for Construction Impaired by Reduced VMT & Gas Tax Revenues.
May represent a longer term drag if work from home practices & EV usage become embedded.

Infrastructure Assumption

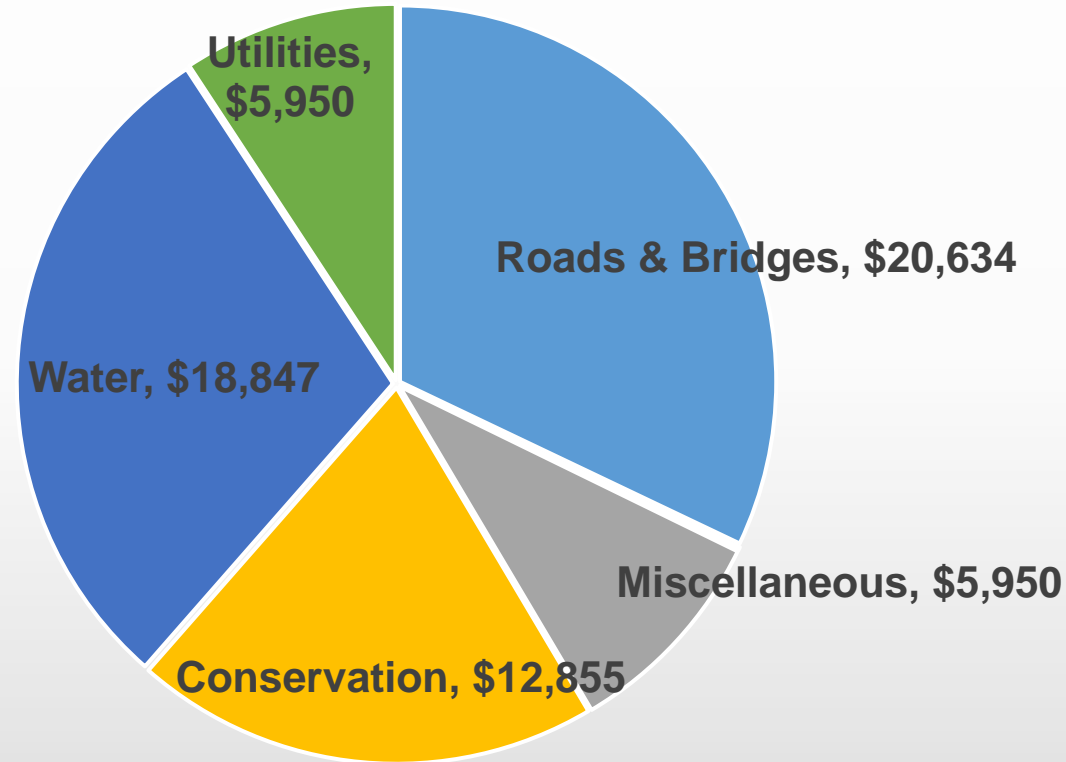
Infrastructure Investment \$ Estimates



Infrastructure Scenario: Spending

\$579 Billion New Spending

Infrastructure Cement Consumption



Key Points to Consider

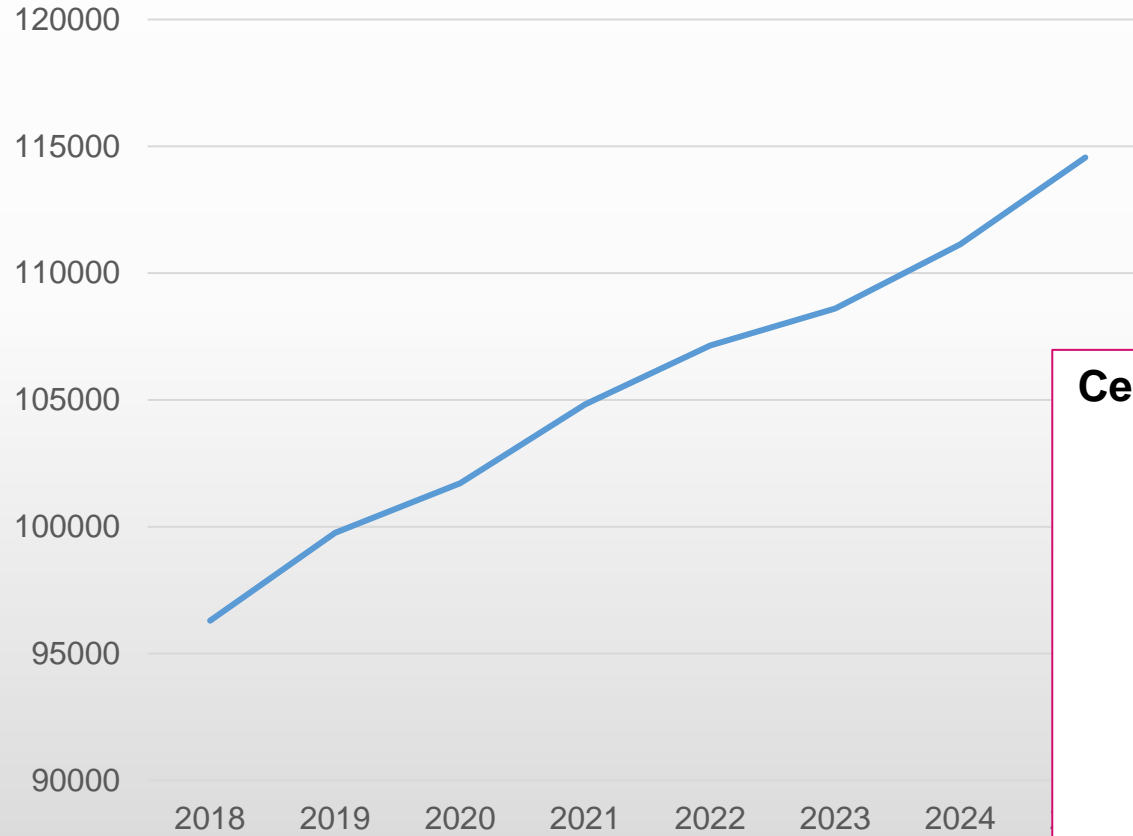
- After Congressional Passage: There Will Be a Wait for Pouring to Begin.
- Allocations vs Spending considerations may disappoint some.
- State spending offsets (Upside Risk)
- **This analysis serves as a placeholder for an infrastructure program. Estimates must be refined.**
- **Upside Risk to these projections exist. That risk increases in 2024, and further in 2025.**

Cement Outlook Summary

Summary

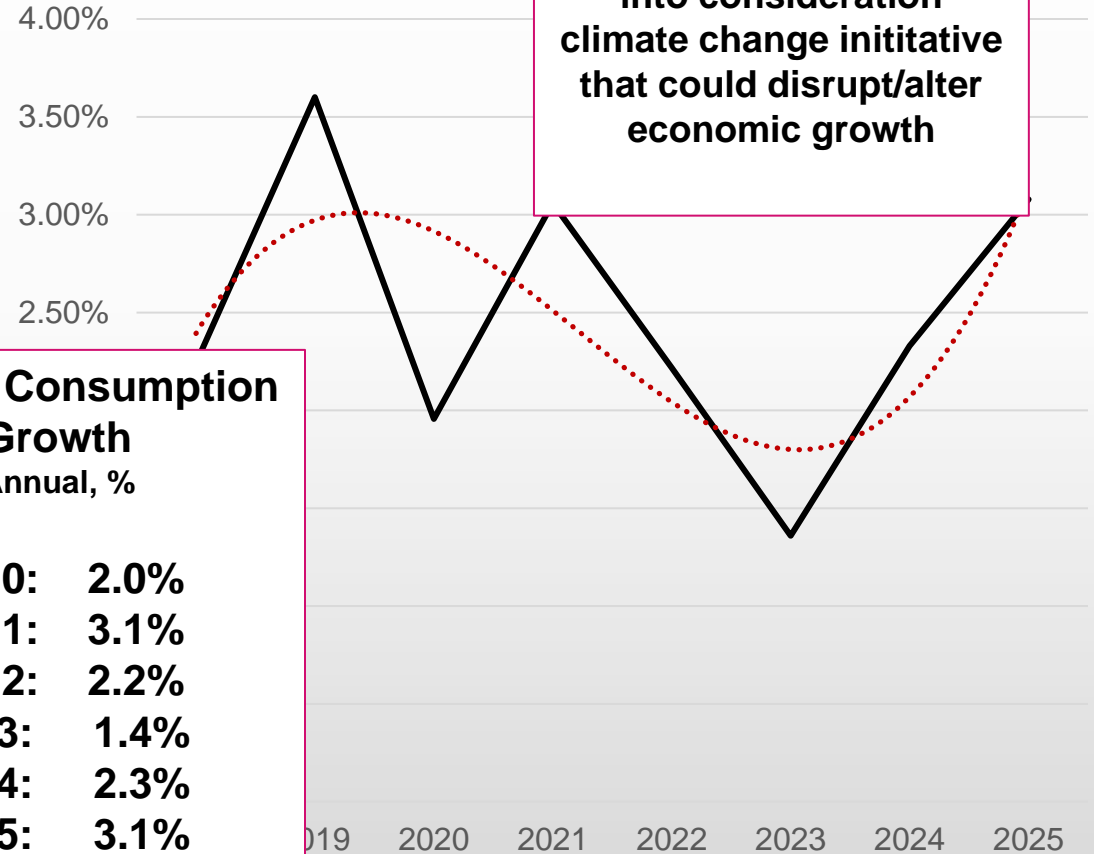
Total Cement Consumption

Metric Tons



Cement Consumption Y-O-Y % Change

Y-O-Y % Change



Cement Consumption Growth Annual, %

2020:	2.0%
2021:	3.1%
2022:	2.2%
2023:	1.4%
2024:	2.3%
2025:	3.1%



Macroeconomic Summary does not take into consideration climate change initiative that could disrupt/alter economic growth



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