

The logo for PCA (Portland Cement Association) features the letters 'PCA' in a bold, white, sans-serif font. A white swoosh underline starts under the 'A' and extends to the right, ending with a registered trademark symbol (®).

PCA®

Since 1916

America's Cement Manufacturers™

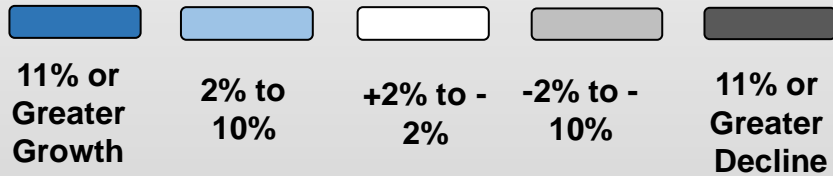
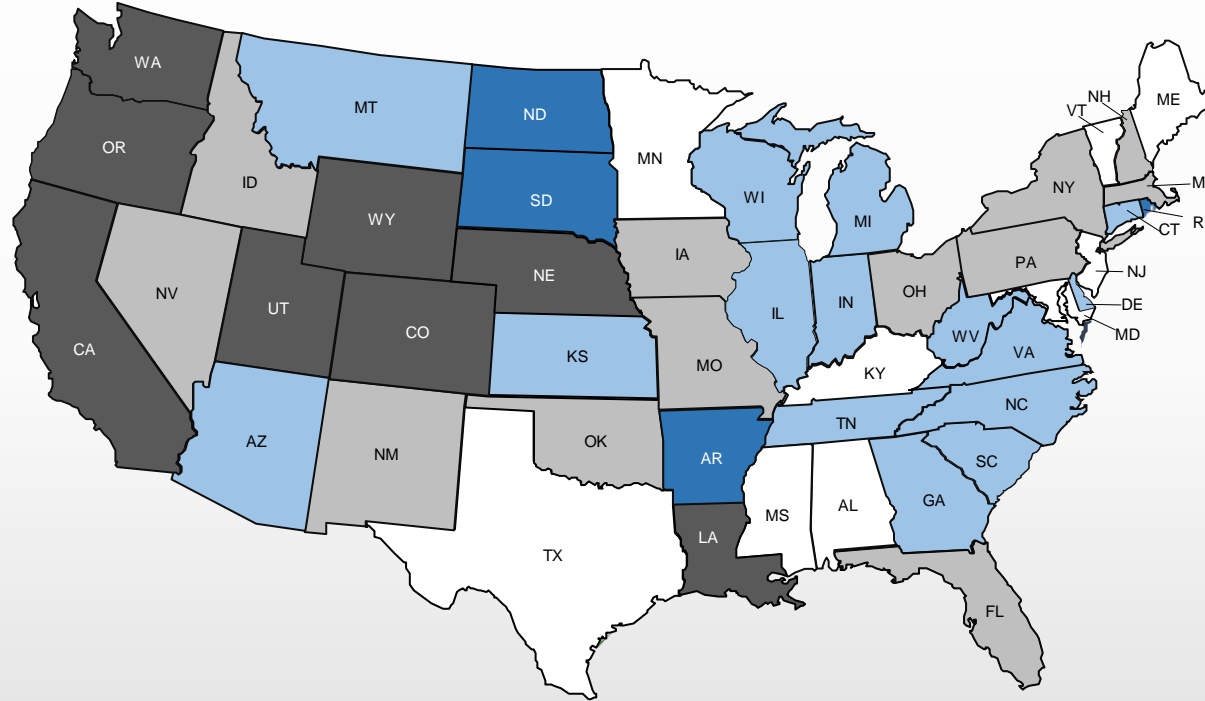
US Cement Outlook

October 2023

PCA/Concrete Works

Cement Consumption

%, Implied YTD through August 2023



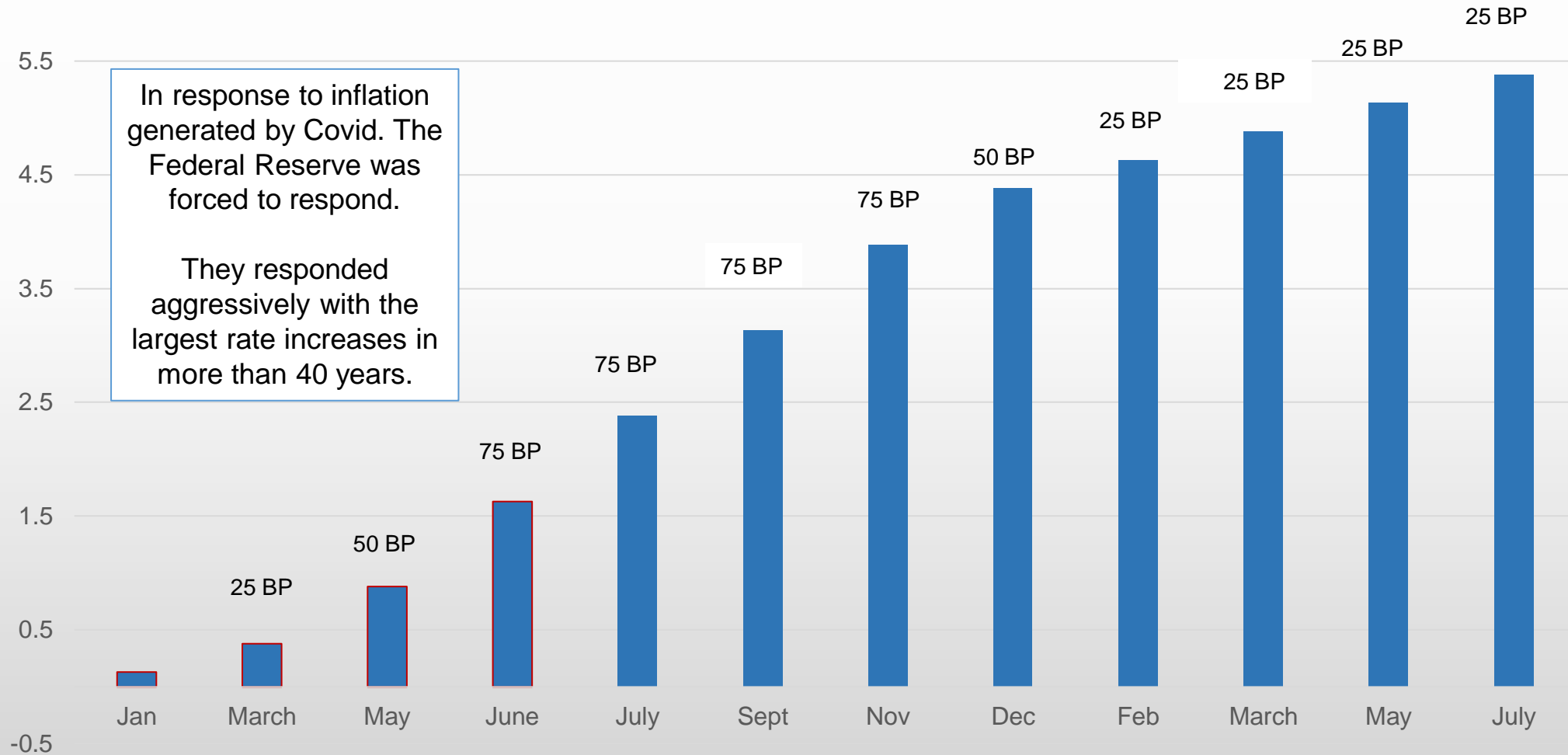
Growth Rates by Region YTD - August

East North Central	3.5%
East South Central	2.8%
South Atlantic	0.2%
New England	-1.0%
West South Central	-1.6%
West North Central	-1.9%
Middle Atlantic	-3.1%
Mountain	-7.3%
Pacific	-15.0%
United States	-3.2%

General Economic Context

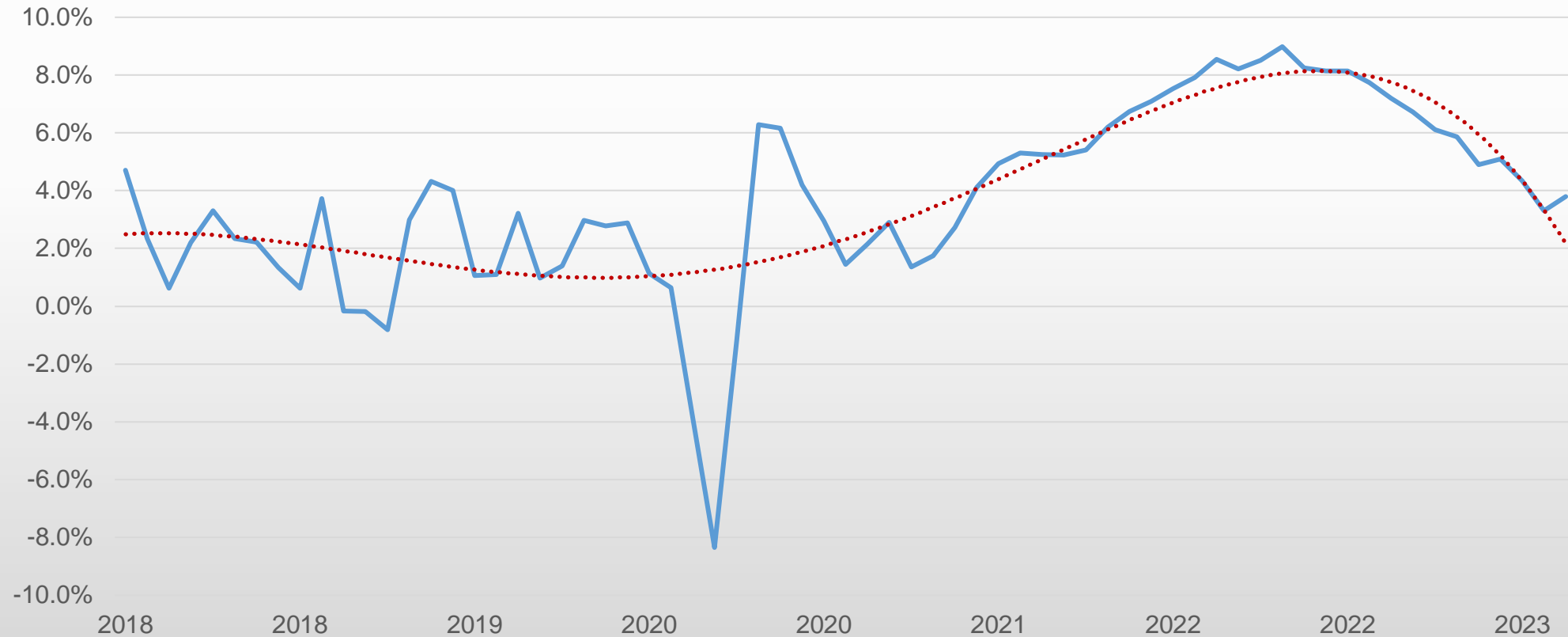
Federal Reserve Responded to Elevated Inflation

Fed Funds Rate



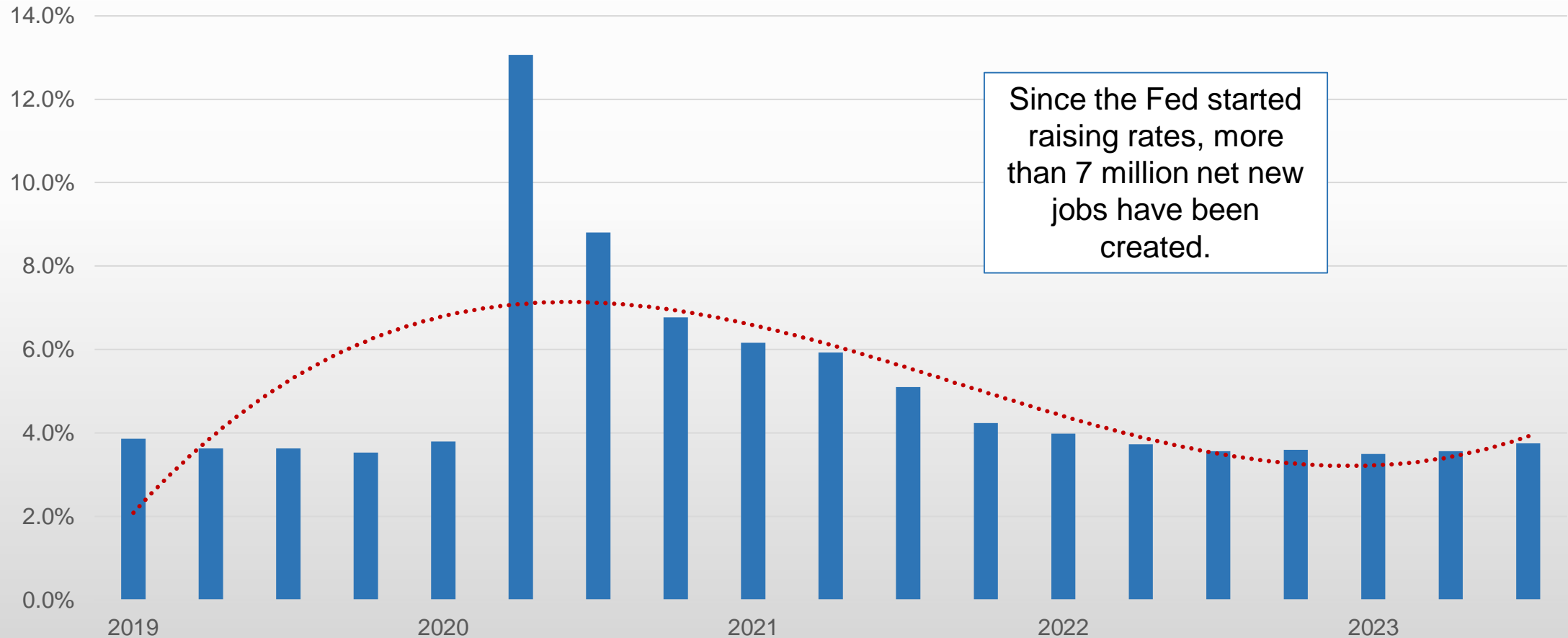
Inflation Has Improved...

Consumer Price Index
- BLS



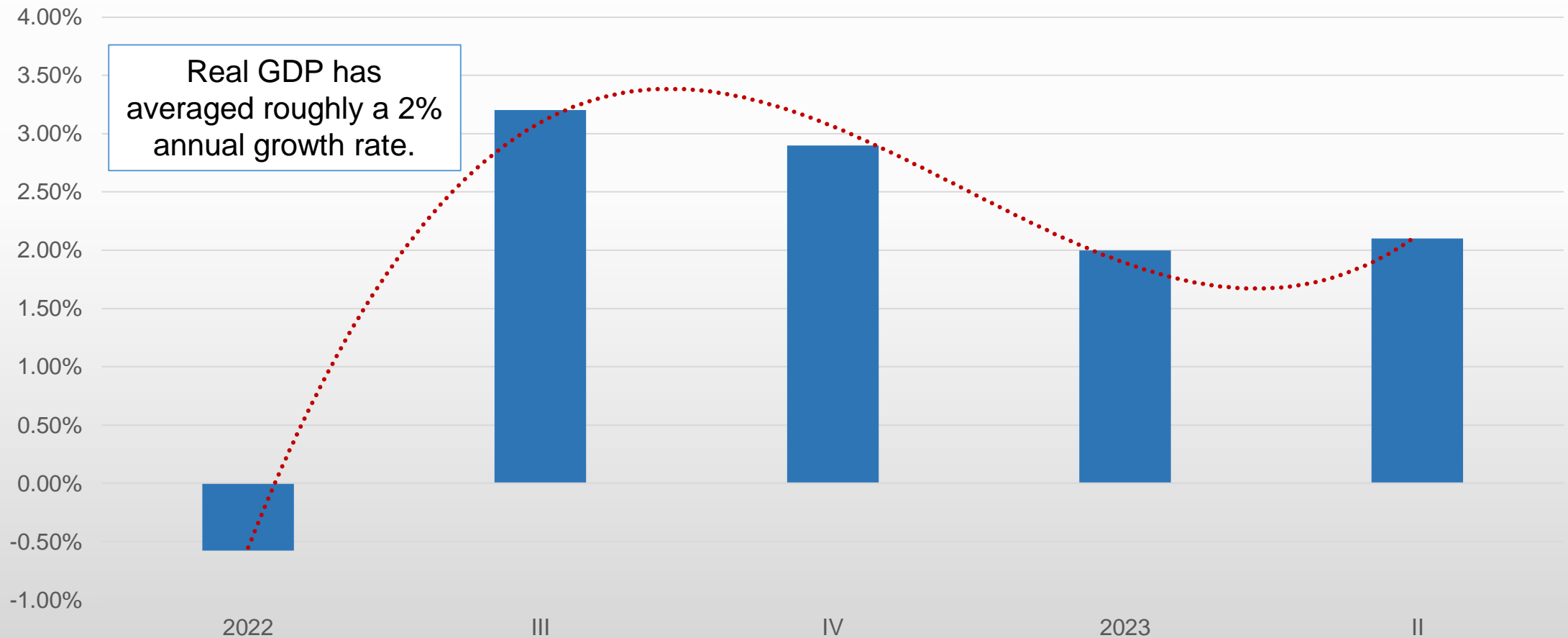
And Yet.... Labor Markets Have Remained Strong

Unemployment Rate



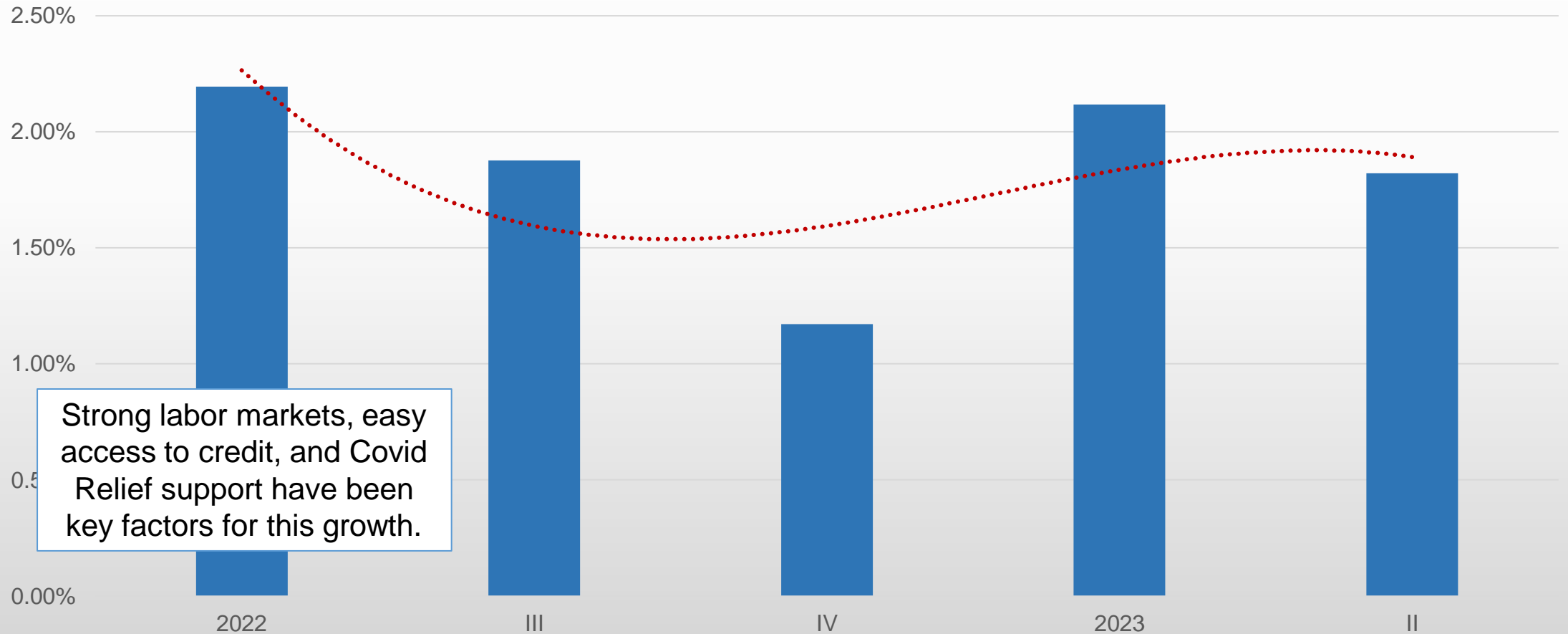
Economic Growth Has Not Been Shaken...

Annual Y-O-Y Growth Rate



Consumer Spending Has Been the Key Source of Strength...

Annual Y-O-Y Growth Rate



But...Headwinds Lie Ahead

Macroeconomic Headwinds

Assessed

Student Loan
Hiatus Ends

Lagged Impact
of FF Increases

Sunset of Covid
Relief Programs

Savings Cushion
Depleted

Credit
Tightening

Transitory

Spike In Oil
Prices

UAW Strike
Impacts

Government
Shutdown

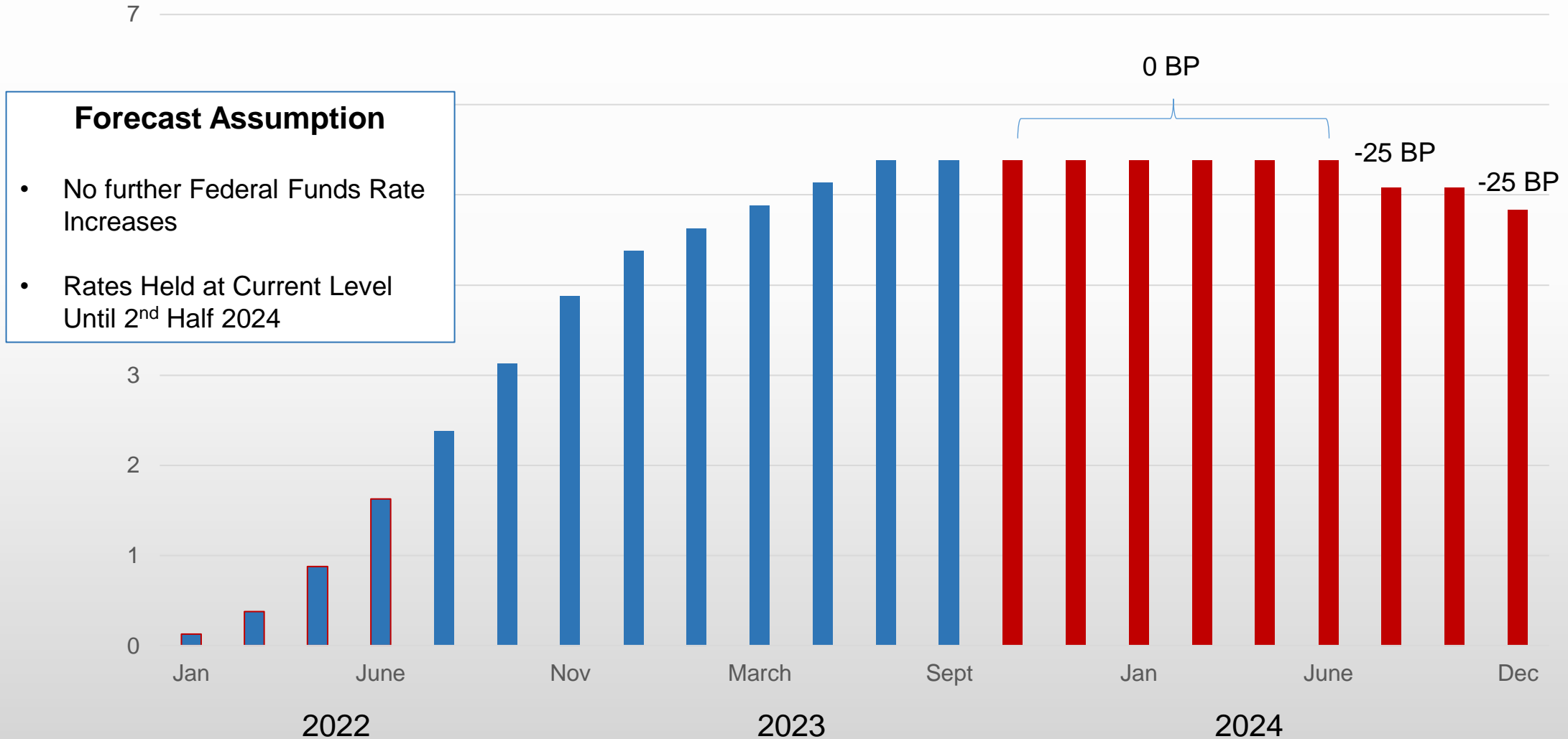
These areas could represent forecast risks to the extent they persist and are not assessed.

Sustained oil prices and potential reduction in US Government credit rating are viewed as largest risks.

Monetary Policy Leans Against Economic Growth Throughout Forecast Horizon

Federal Reserve's Federal Funds Outlook

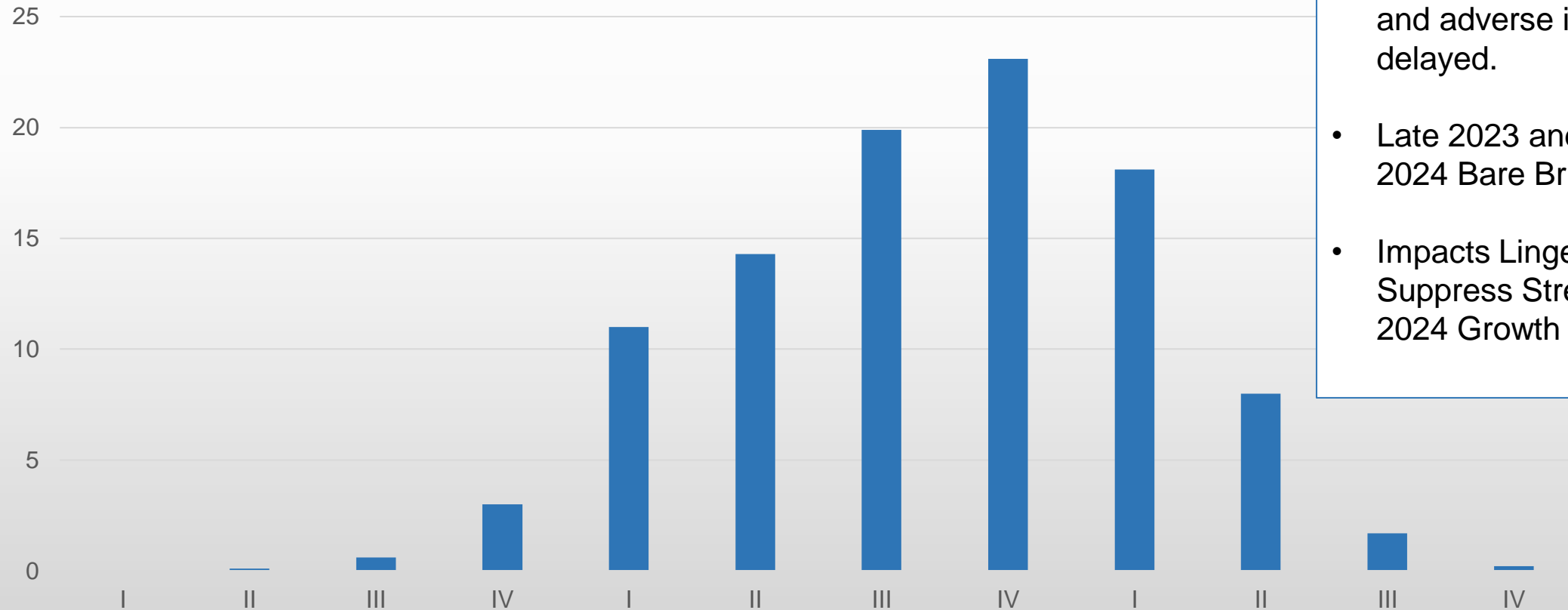
Fed Funds Rate



Monetary Policy: Lag Structure Revisited Skew

- In-Place & Projected Additional Actions

Percent of Total
Policy Actions

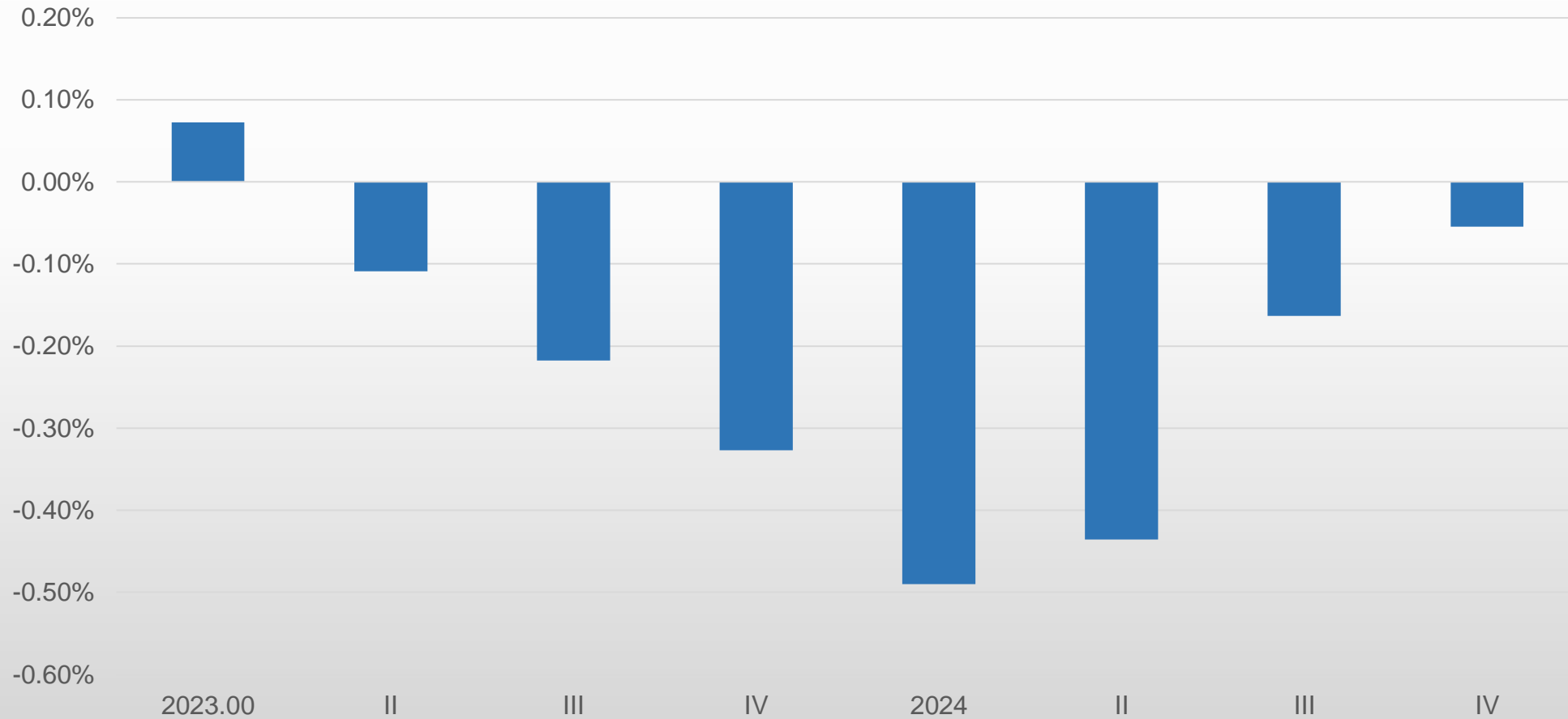


What it Means

- Suggests longer lags and adverse impacts delayed.
- Late 2023 and Early 2024 Bare Brunt
- Impacts Linger and Suppress Strength of 2024 Growth Recovery

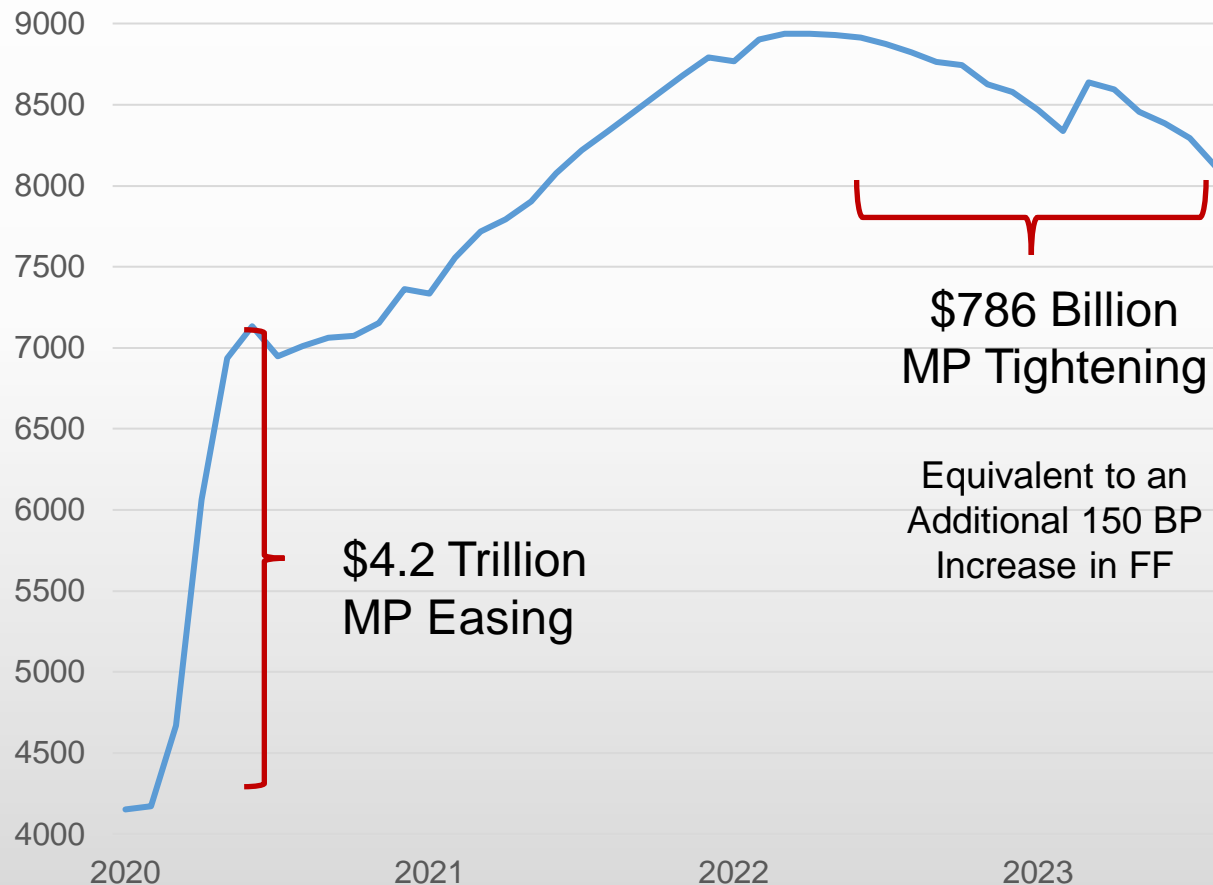
What This Means.....

Rate Increases Quarterly Impact on GDP



Monetary Policy: It's More than Federal Funds Rate

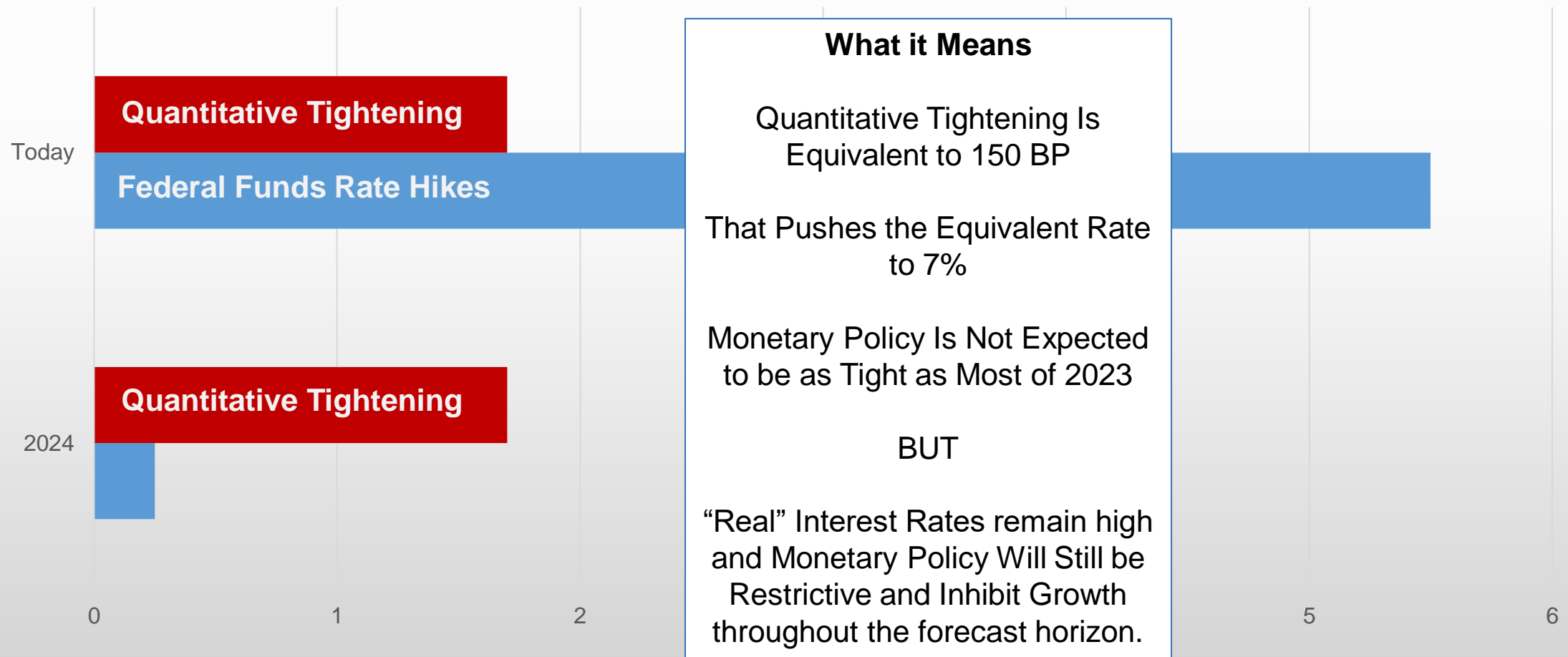
Federal Reserve Assets



Quantitative Monetary Policy (Q)

- Changes in the Interest Rates as a result of manipulating the purchase & sale of financial assets.
- Buy Assets – Results in lower interest rates
- Sell/Retire Assets – Results in higher interest rates
- Assets : (T-Bills & Mortgage Backed Securities)

Monetary Policy Still Tightens Even If The Fed Stops Raising the FF Rate

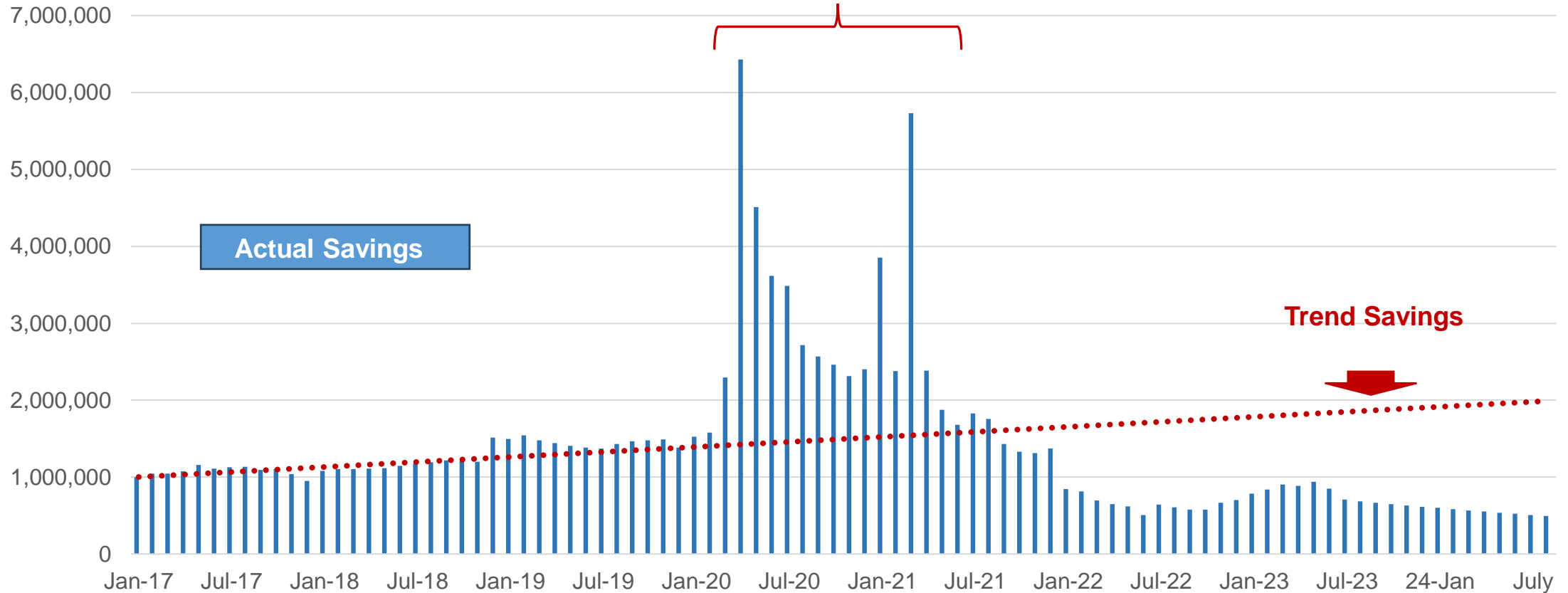


Consumers Strength Will Be Challenged

Net Private Savings

Trillion \$

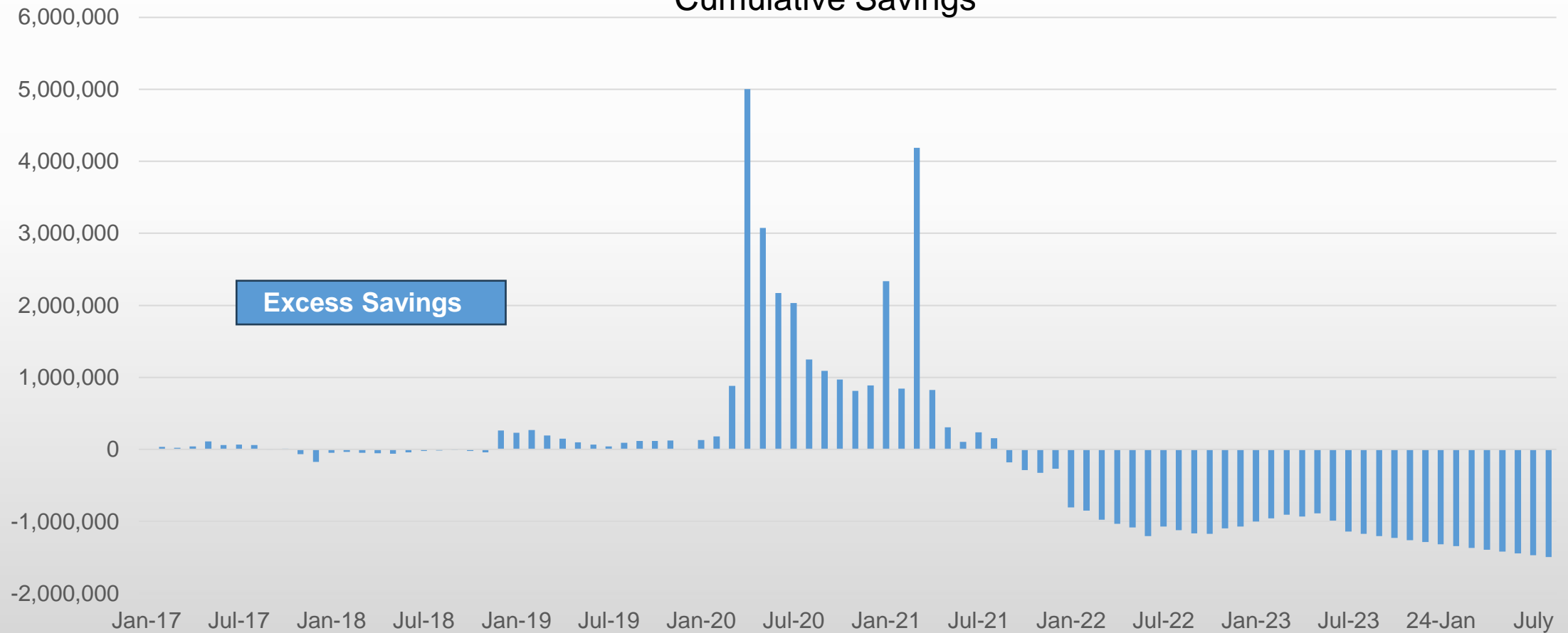
More than \$5 trillion in covid relief spending and stay-at-home lifestyle resulted in dramatic increase in savings



Excess Savings

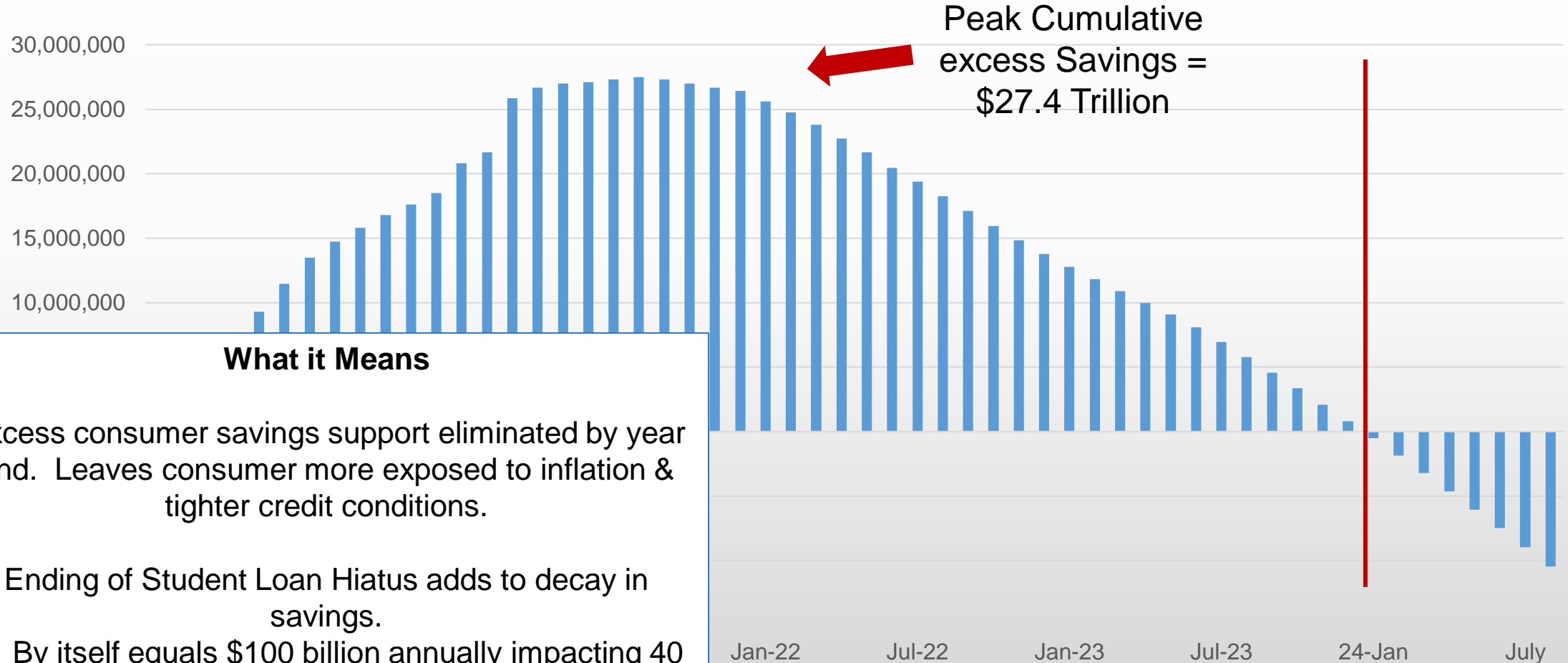
Trillion \$

Each Month Adds to
Cumulative Savings



Cumulative Excess Savings

Million \$



What it Means

Excess consumer savings support eliminated by year end. Leaves consumer more exposed to inflation & tighter credit conditions.

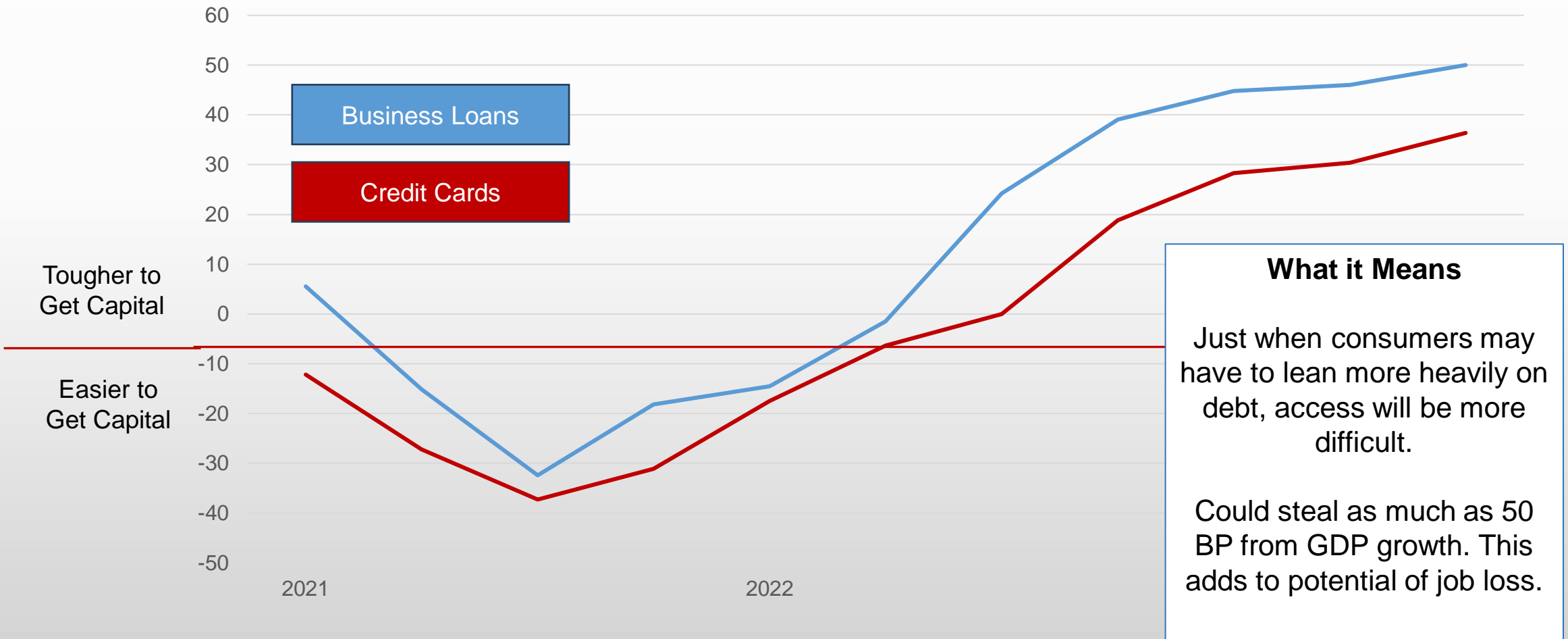
Ending of Student Loan Hiatus adds to decay in savings.

- By itself equals \$100 billion annually impacting 40 million borrowers.

Credit Conditions Are Tightening

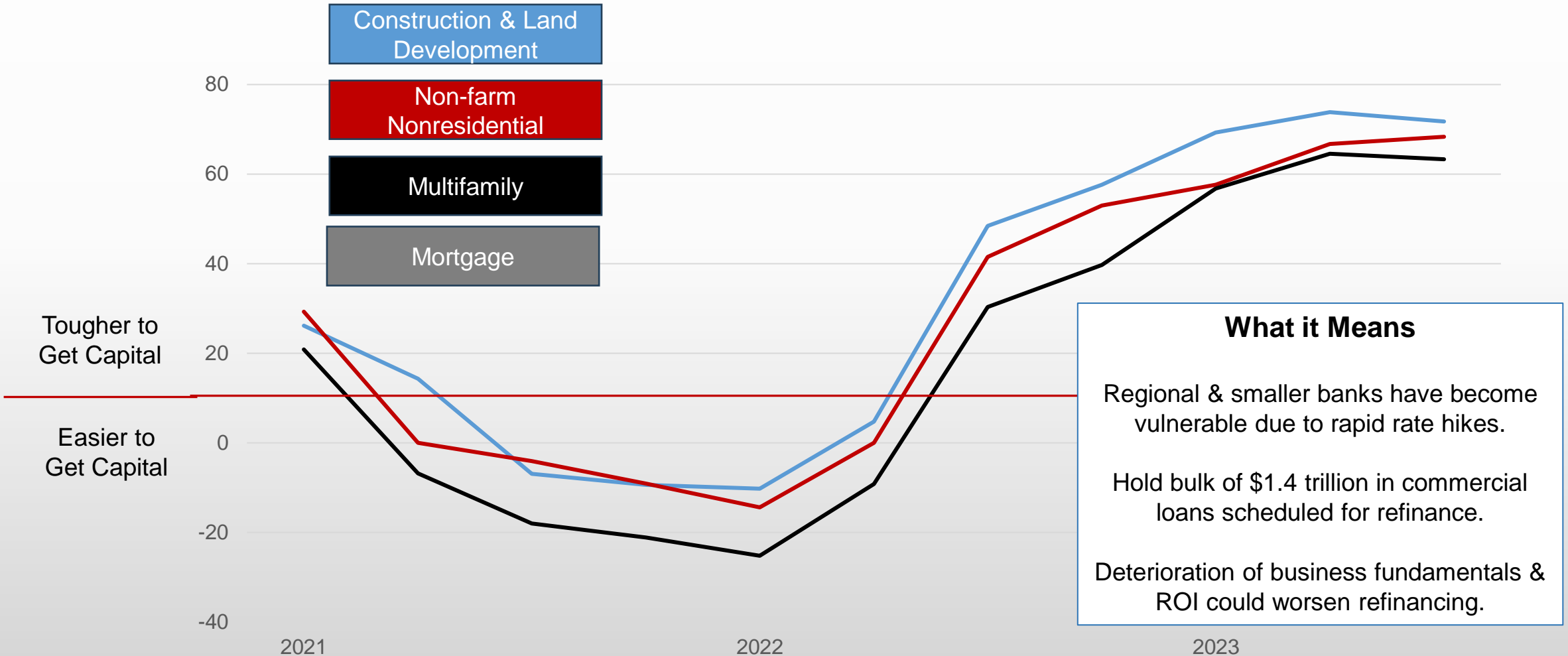
Credit Standards are Tightening: Economy

Survey of Bank Lending Officers



Credit Tightening Has Specific Risks for Construction

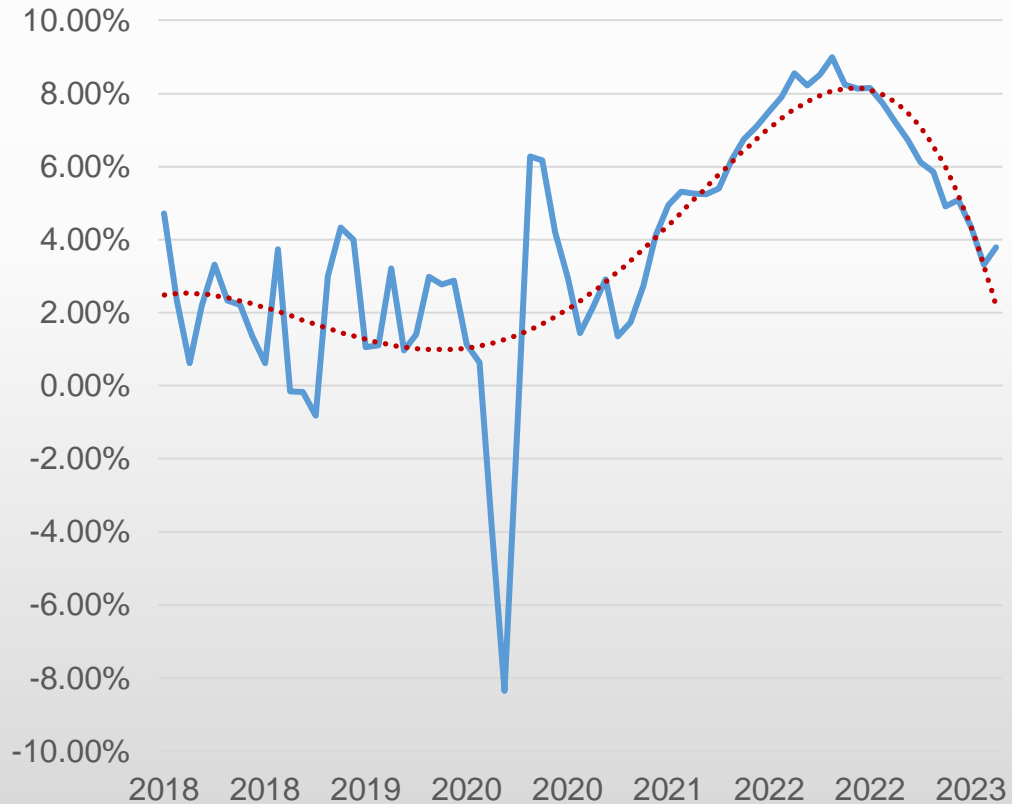
Survey of Bank Lending Officers



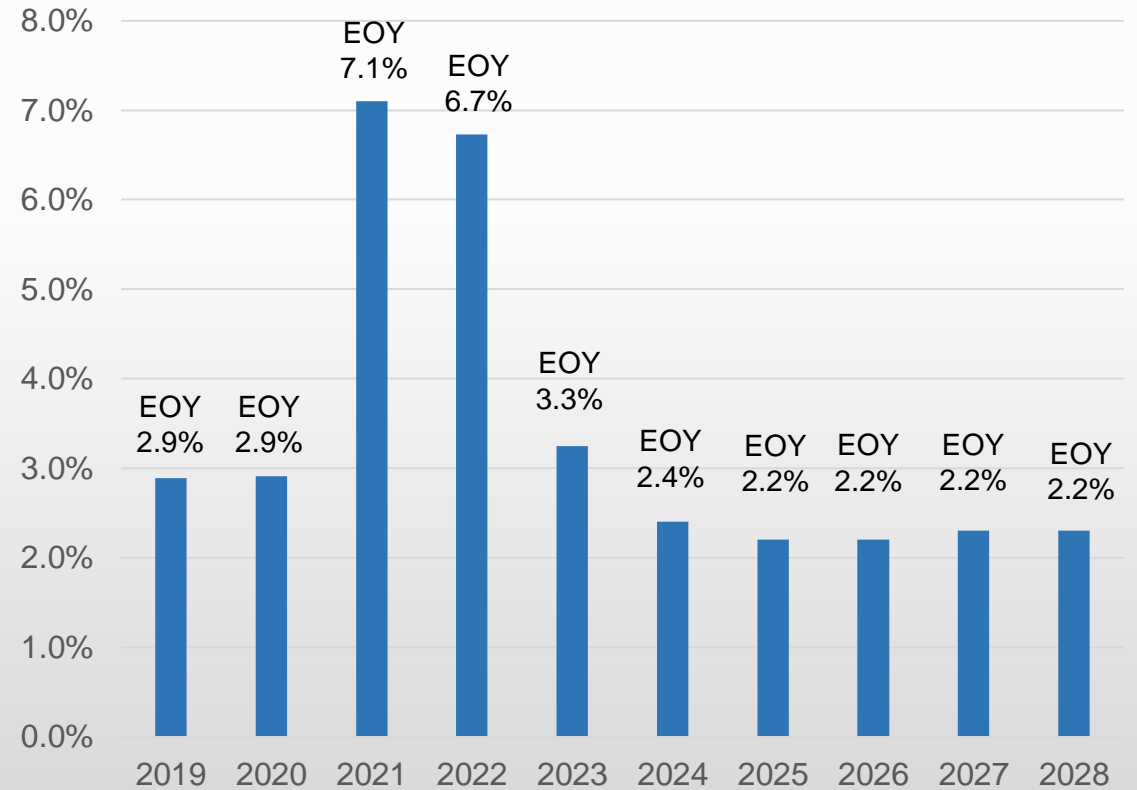
Macroeconomic Summary

Inflation Improvement

Consumer Price Index
- BLS



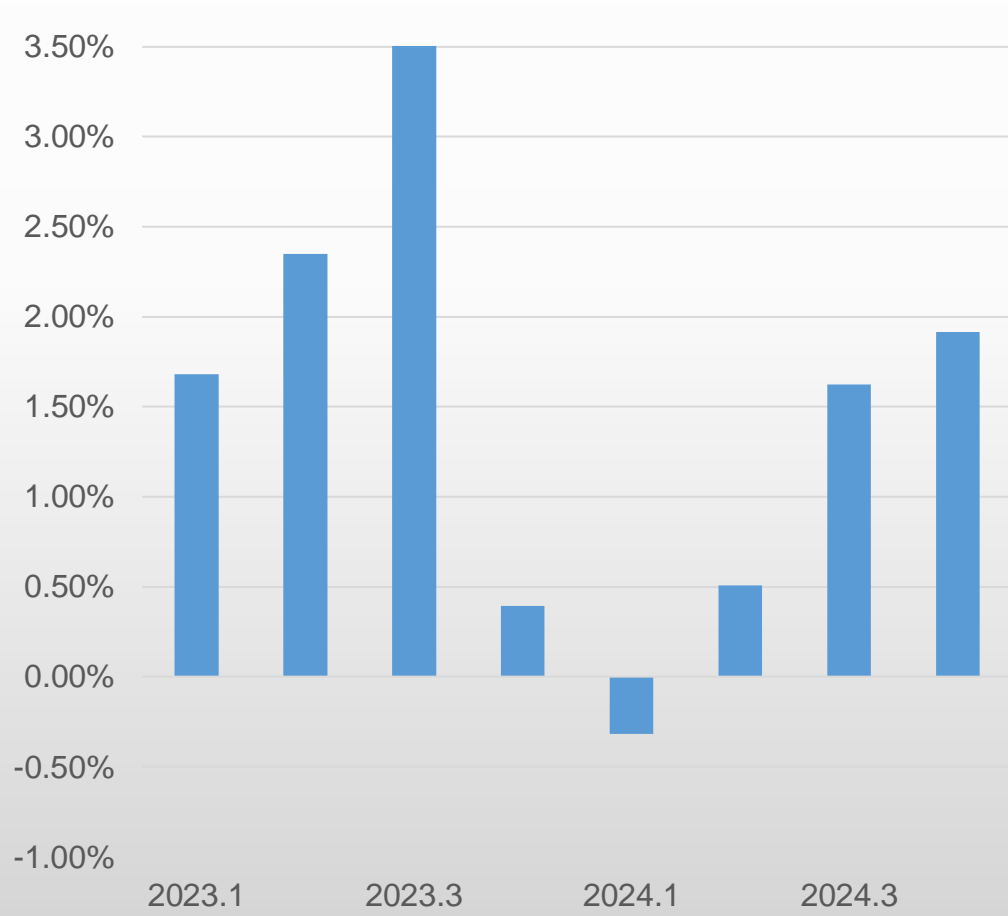
Inflation Outlook
CPIU % Change, Monthly Average



An Economic Slowdown is Likely, But No Recession

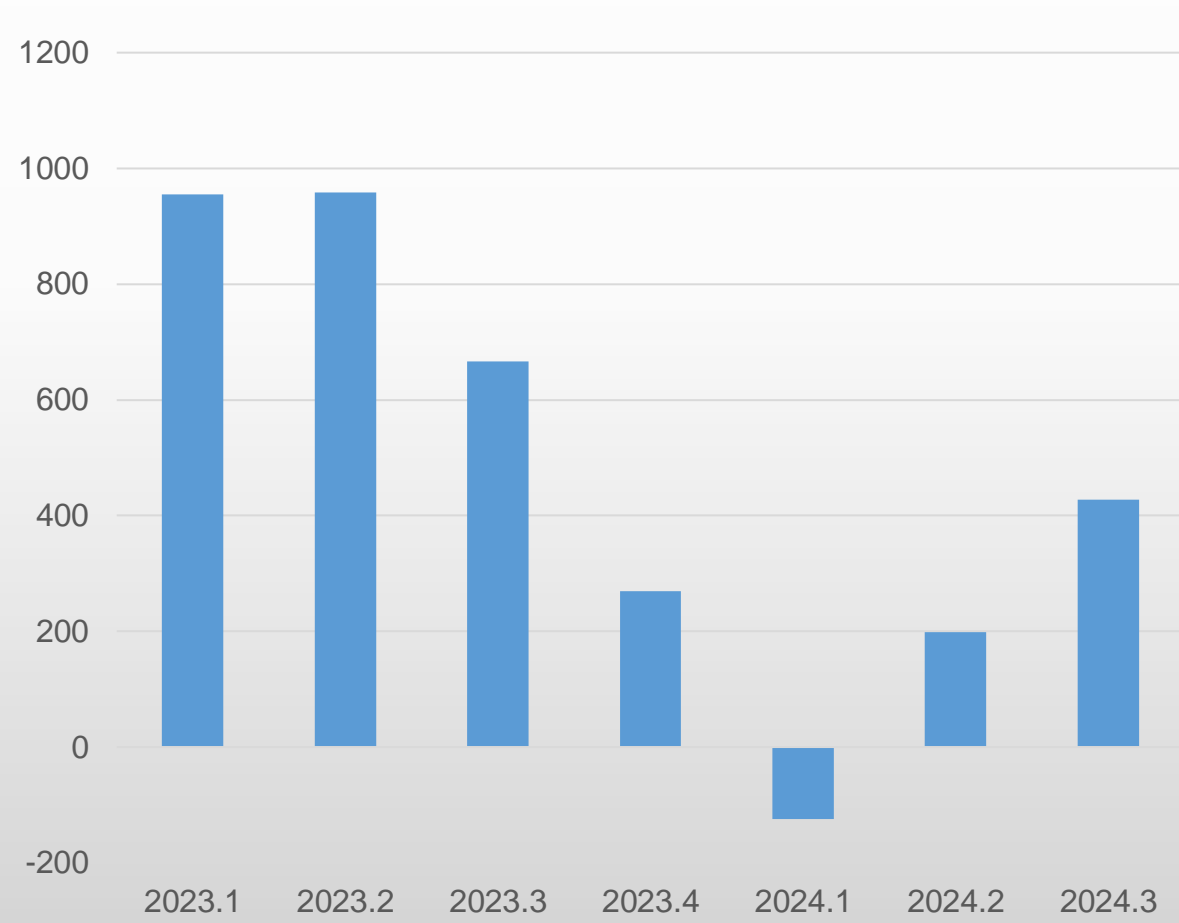
The Economy Will Slow

GDP Growth Rate



Job Losses Will Materialize

Quarterly Change in Employment, Thousands Average Monthly Rate



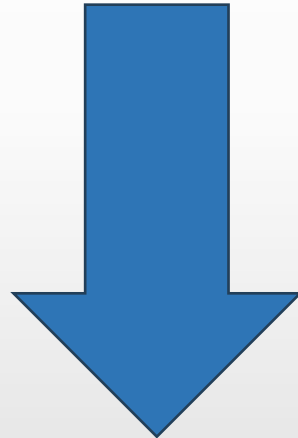
Construction Summary

Construction Outlook: 2024

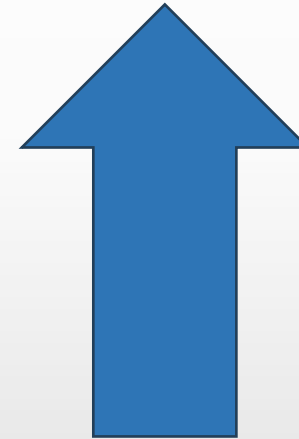
The Burden of High
Interest Rates

Tight Lending
Standards

Weakened Economy



VS



Higher Volumes
Attributed to IIJA

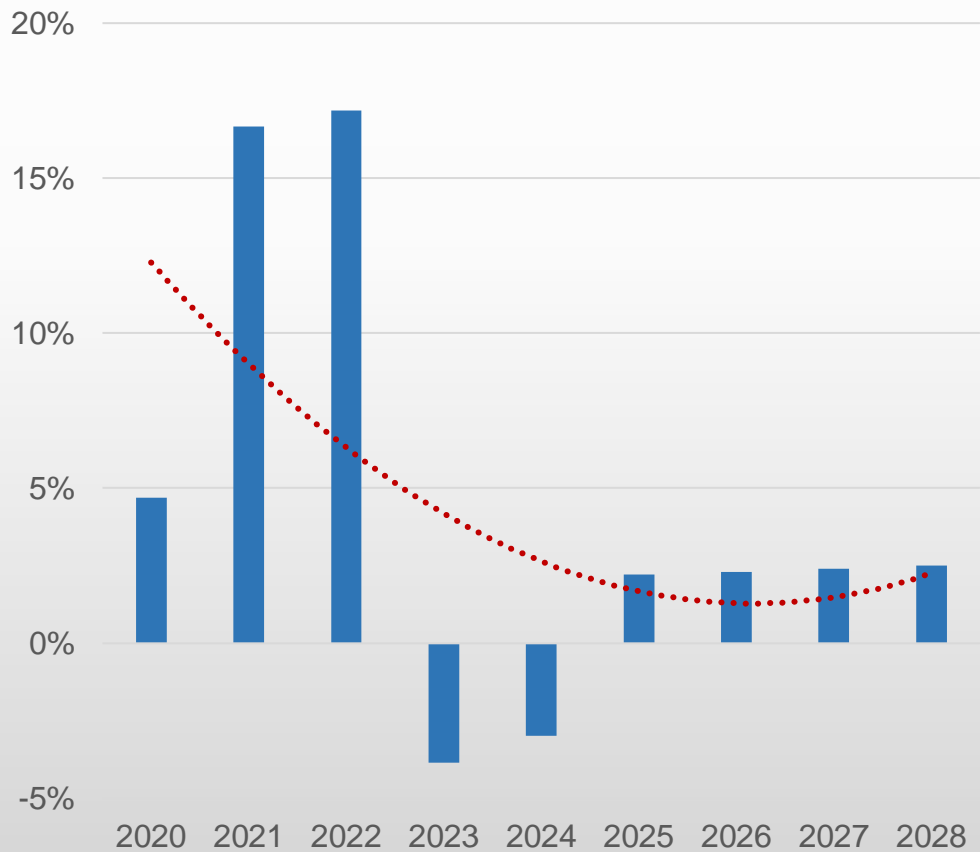
Onshoring Plant
Construction
(Limited to Regional
Impacts)

Residential

New Home Affordability

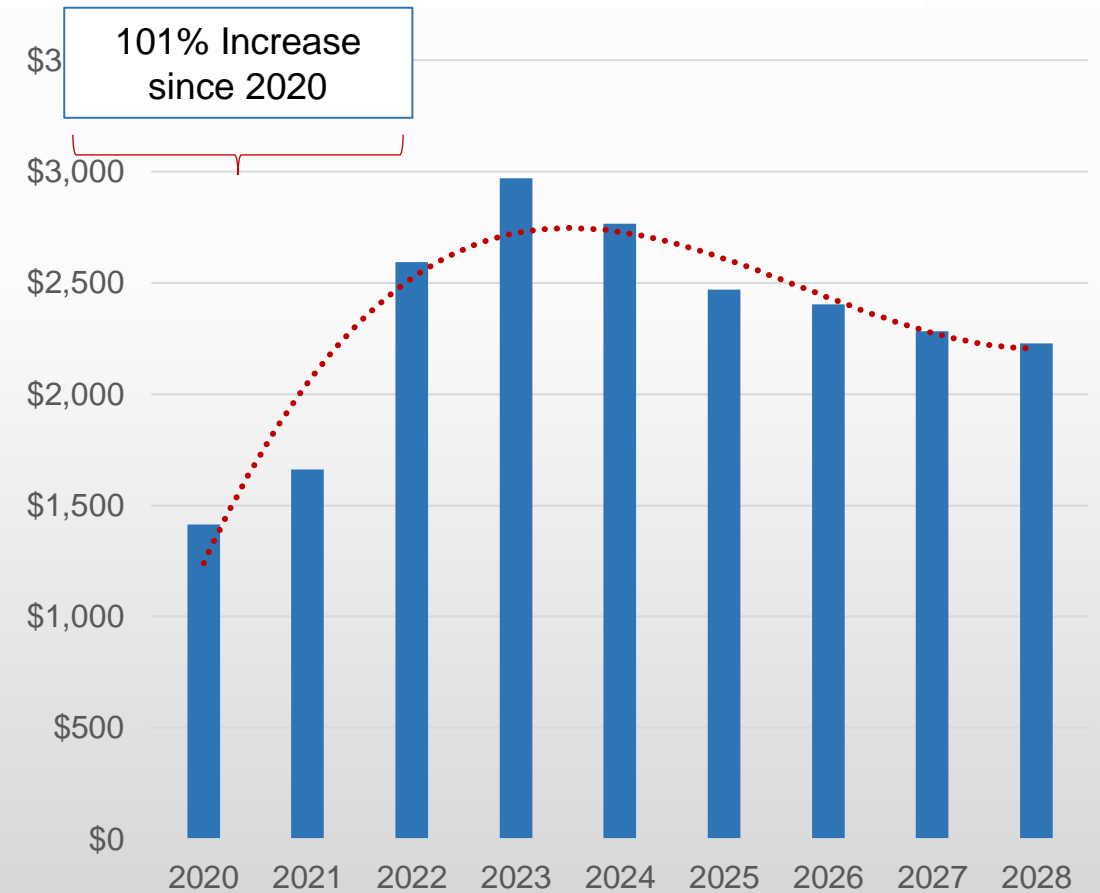
New Home Price Outlook

Annual % Growth



Monthly Payment

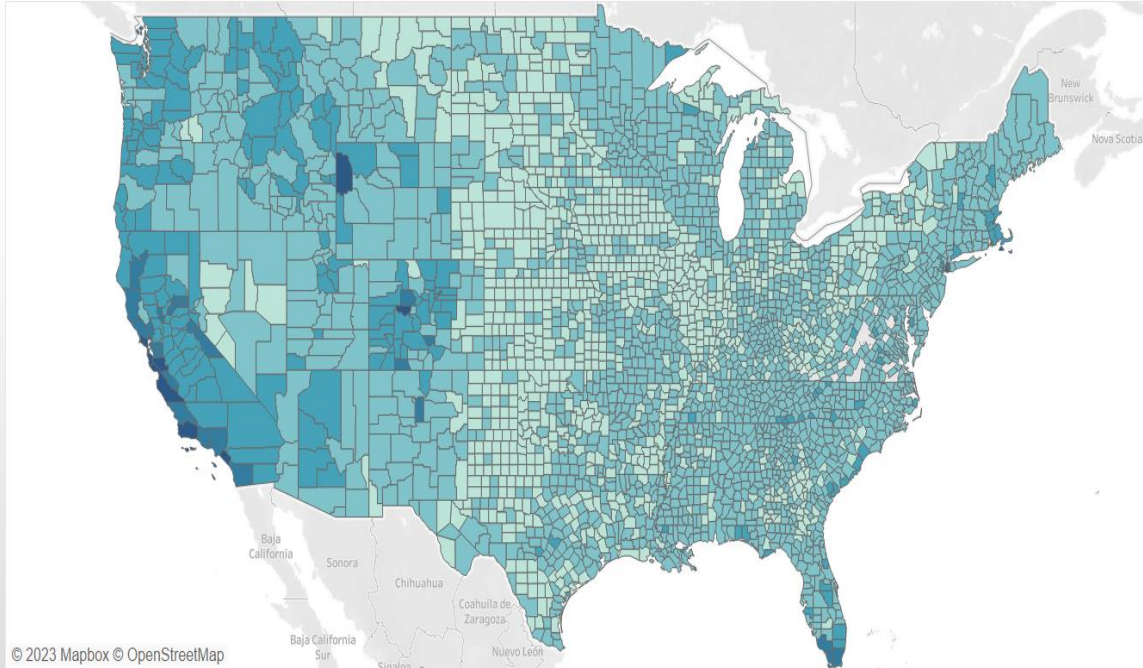
Annual



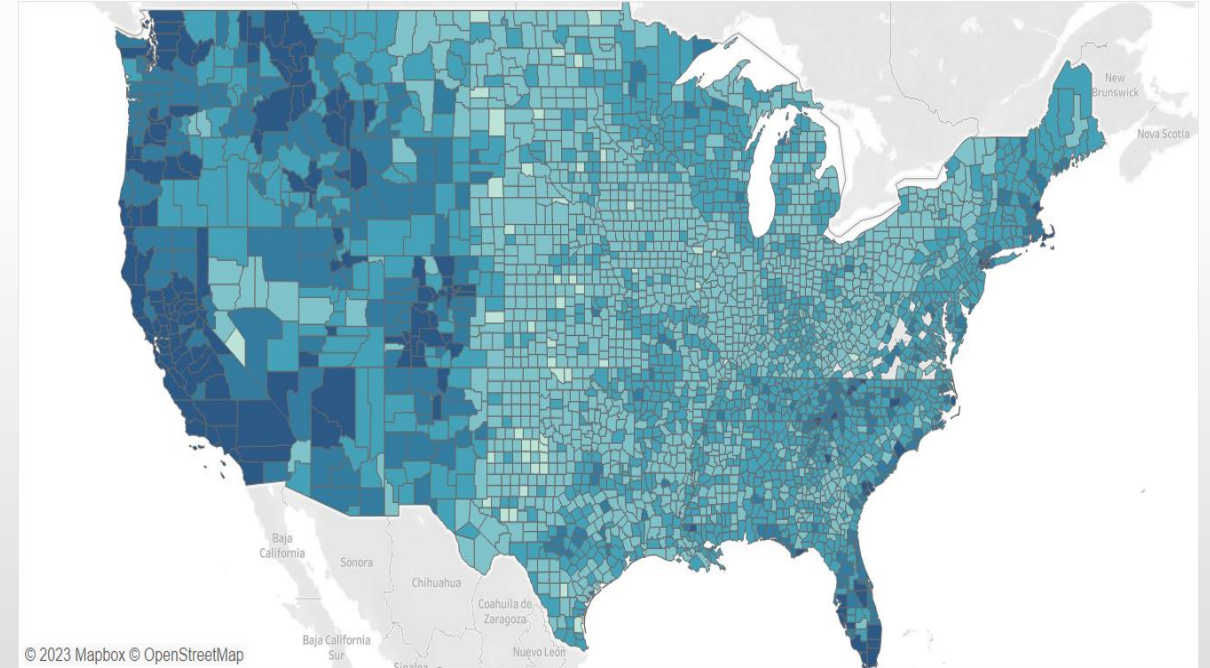
Affordability Has Deteriorated Across the Country

Median mortgage payment share of median family income

2020 Q2



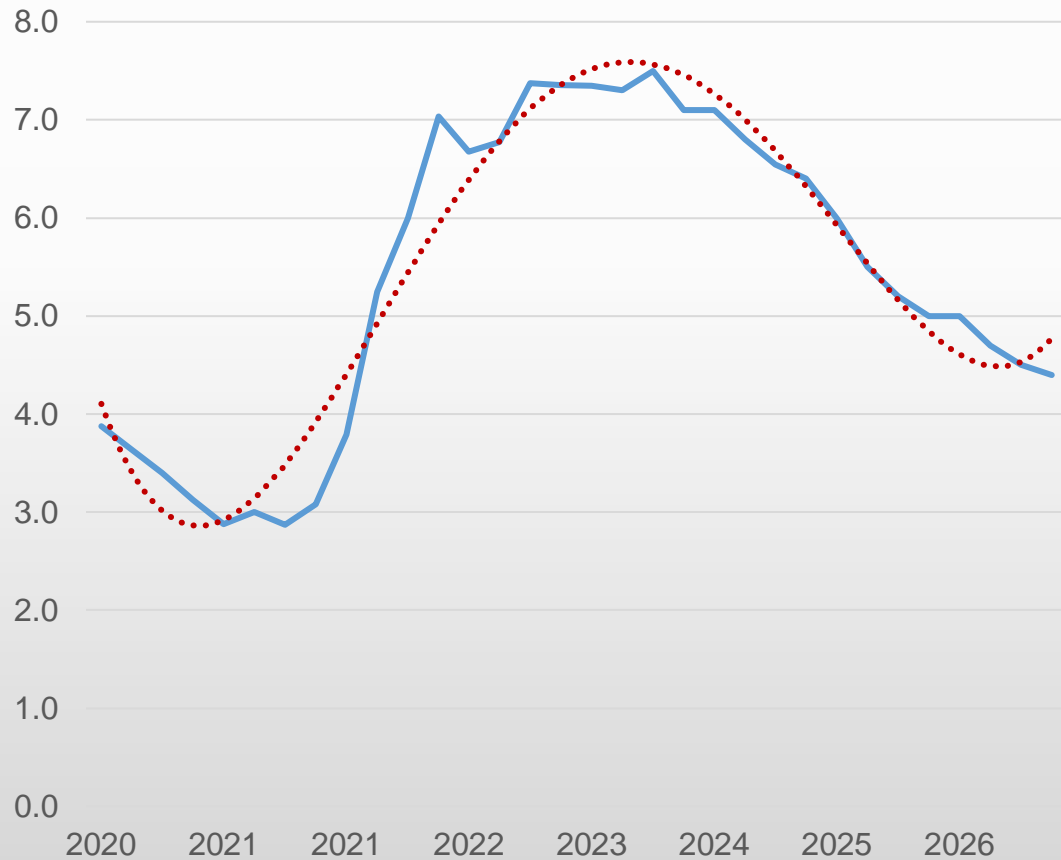
2023 Q2



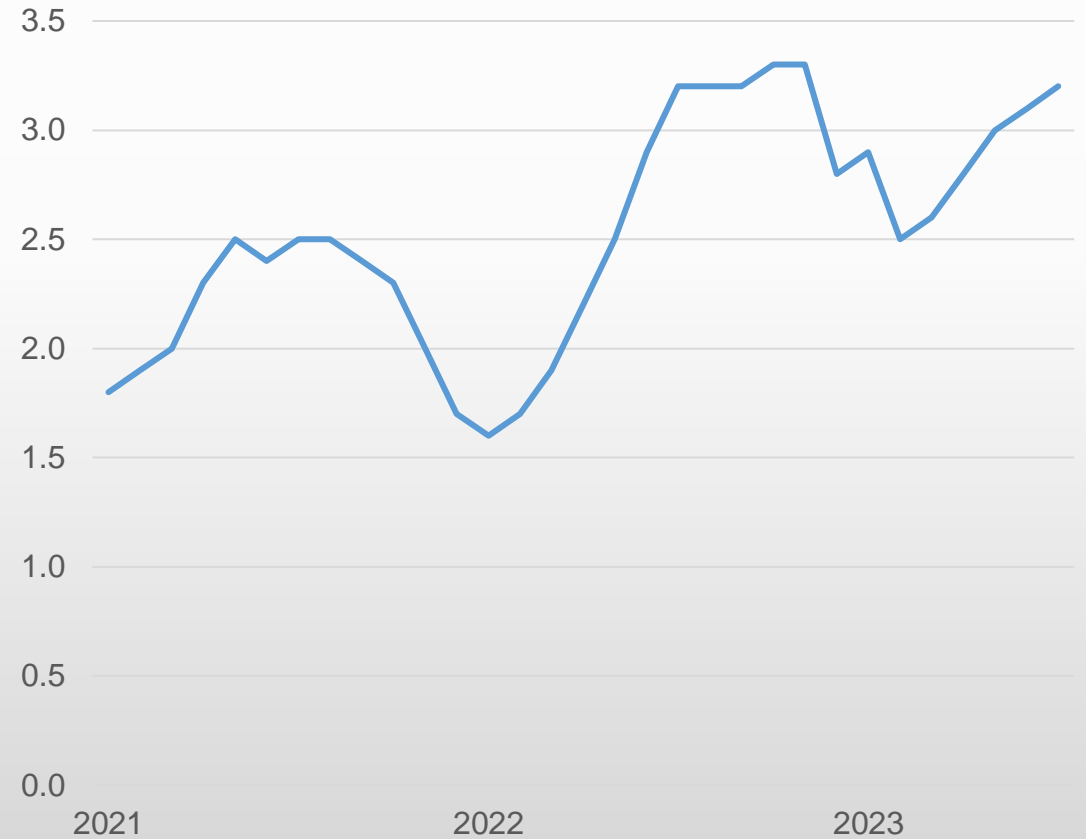
Darker = Greater Share Mortgage Payment as Percent of Income

Affordability Erosion Is Not Expected to Improve Soon....

30 Year Conventional Mortgage Rates

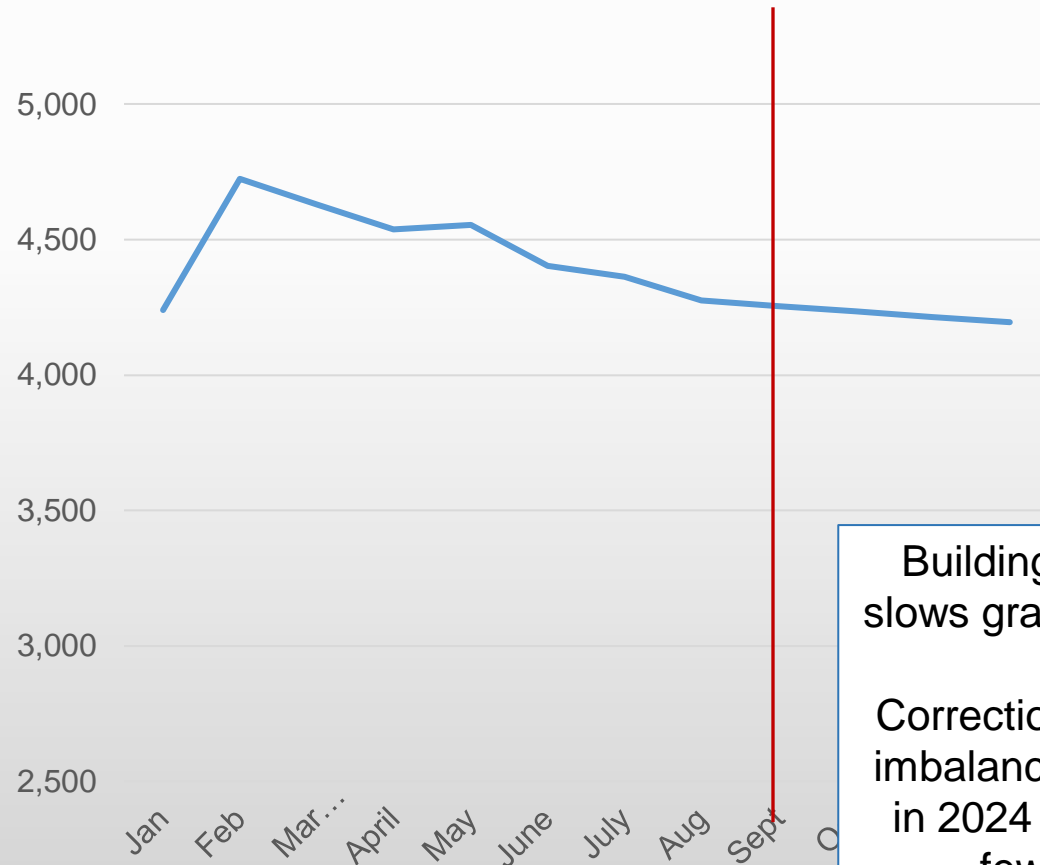


Months Supply Existing Homes

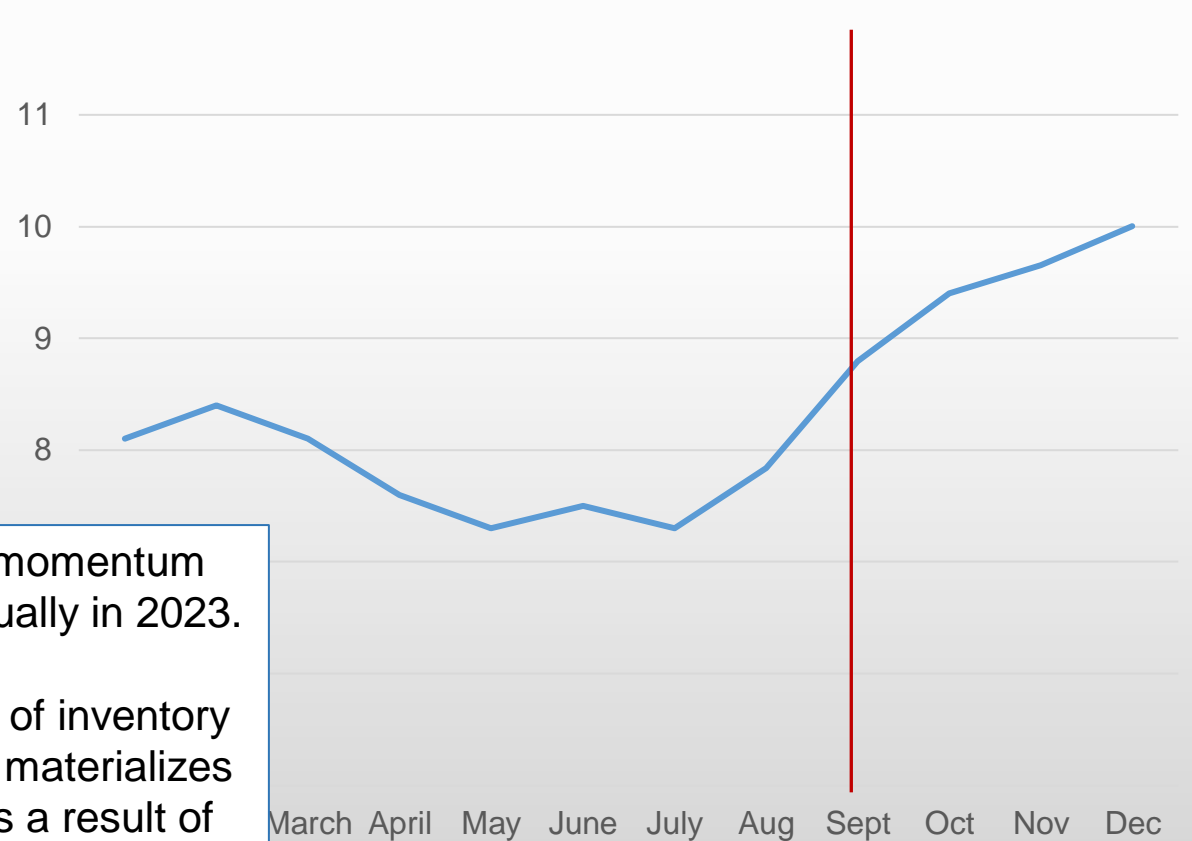


New Home Starts Correction Spill Into 2024...

Near Term Home Sales Thousands of Homes



New Home Month's Supply Months



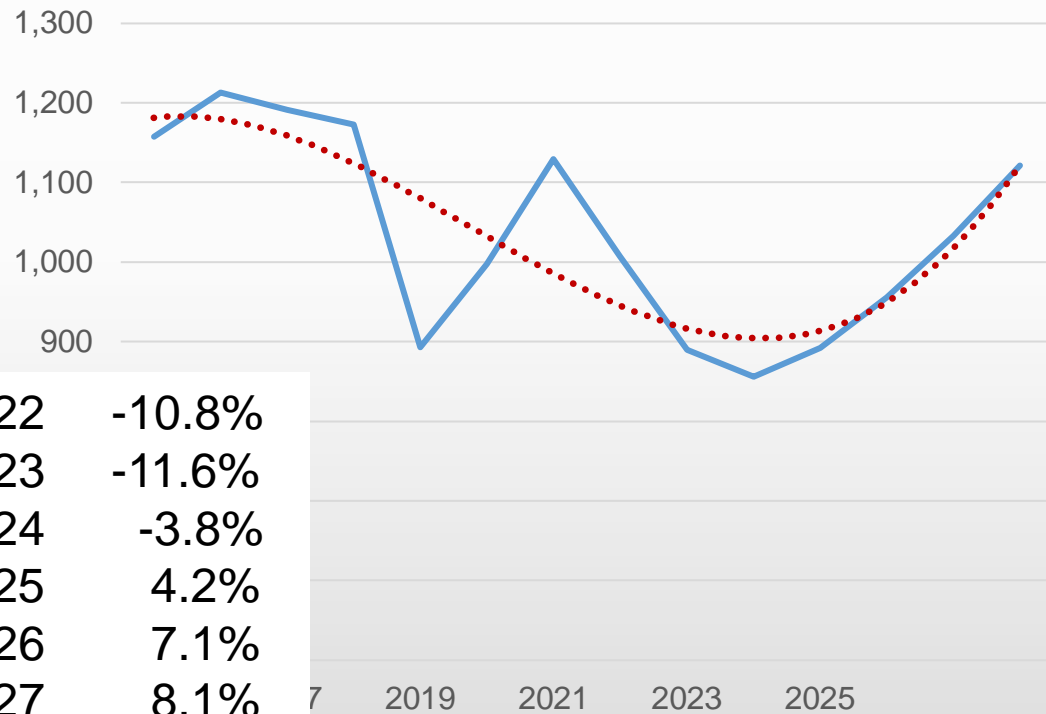
Building momentum slows gradually in 2023.

Correction of inventory imbalance materializes in 2024 as a result of fewer starts

Housing Starts Outlook

Single Family Starts

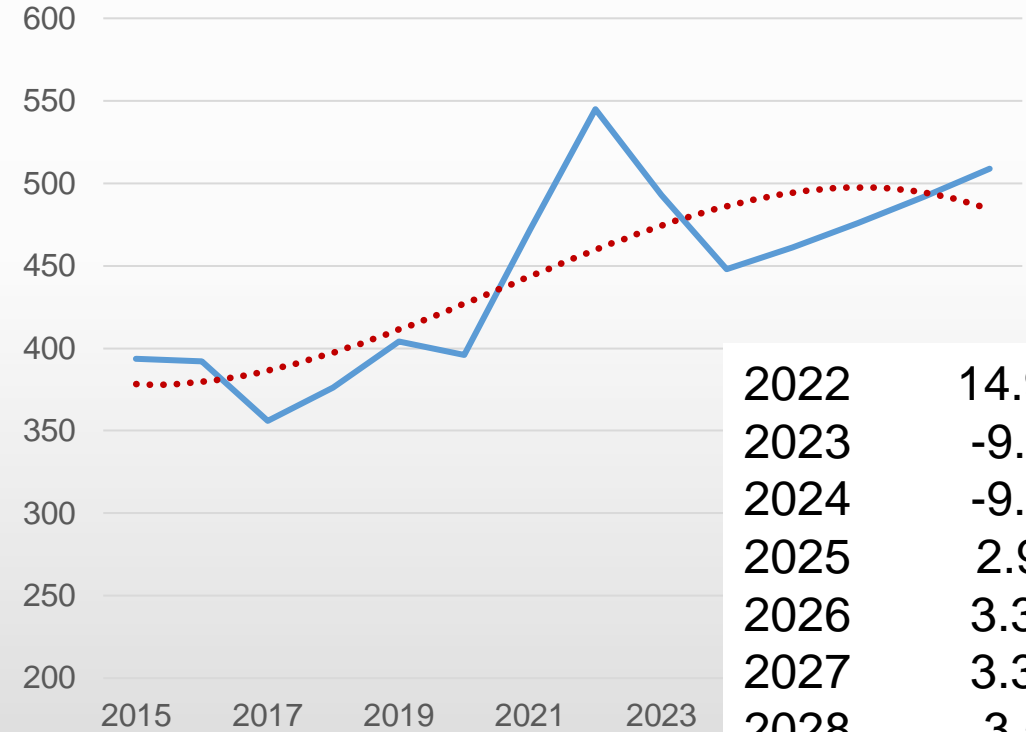
Thousands



2022	-10.8%
2023	-11.6%
2024	-3.8%
2025	4.2%
2026	7.1%
2027	8.1%
2028	8.5%

Multifamily Starts

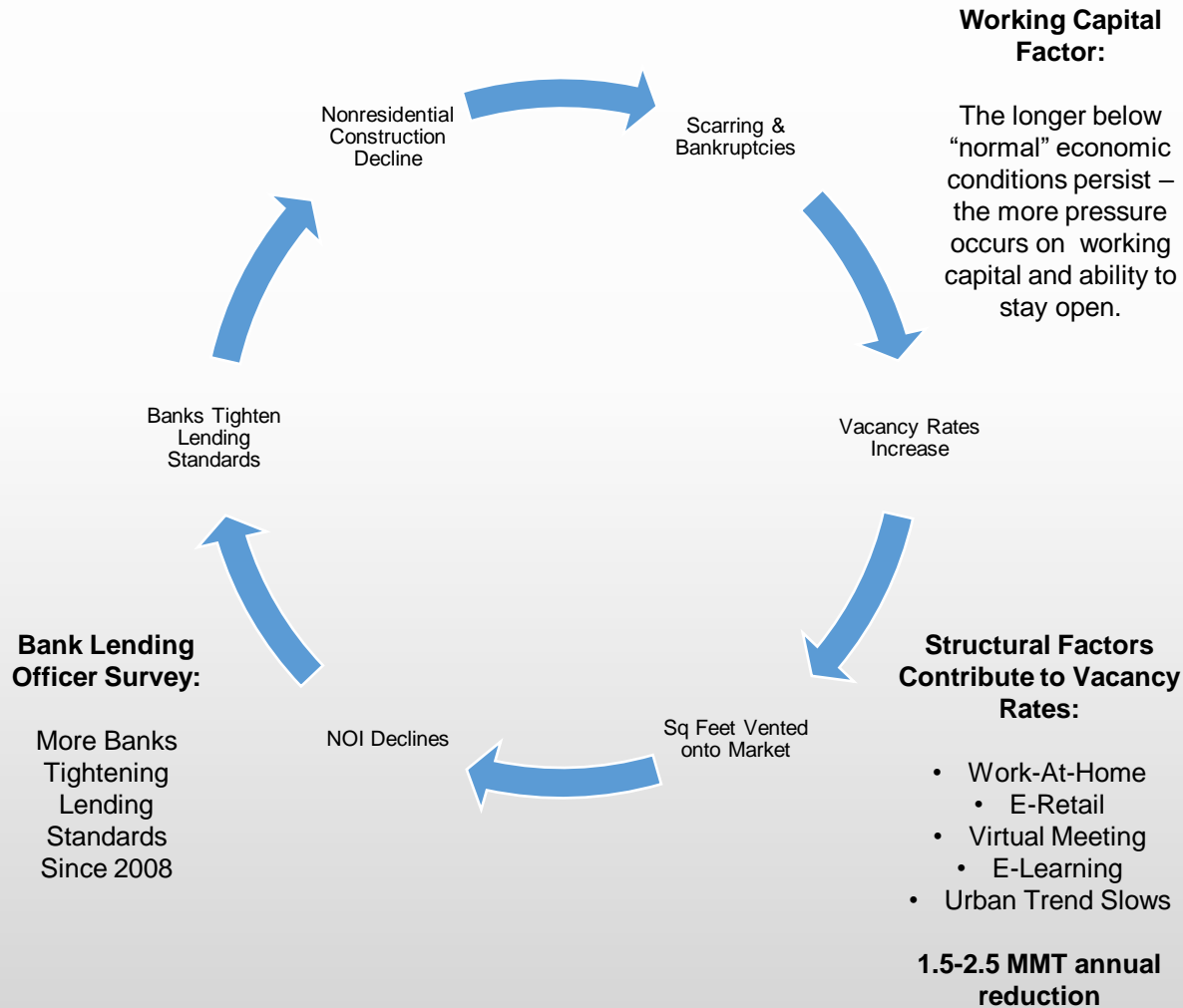
Thousands



2022	14.9%
2023	-9.5%
2024	-9.1%
2025	2.9%
2026	3.3%
2027	3.3%
2028	3.5%

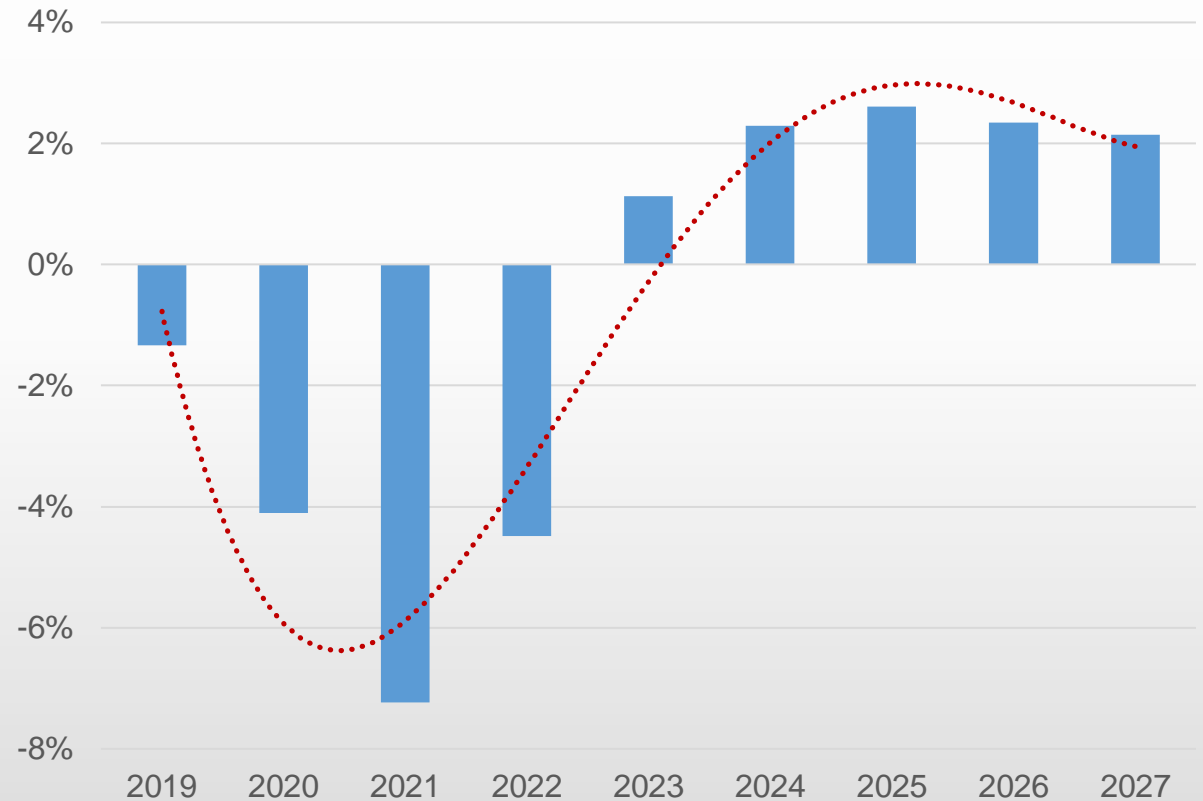
Nonresidential

Nonresidential Recovery Process



Nonresidential Construction *

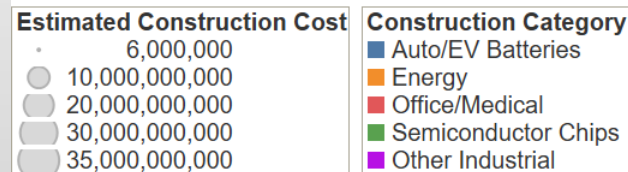
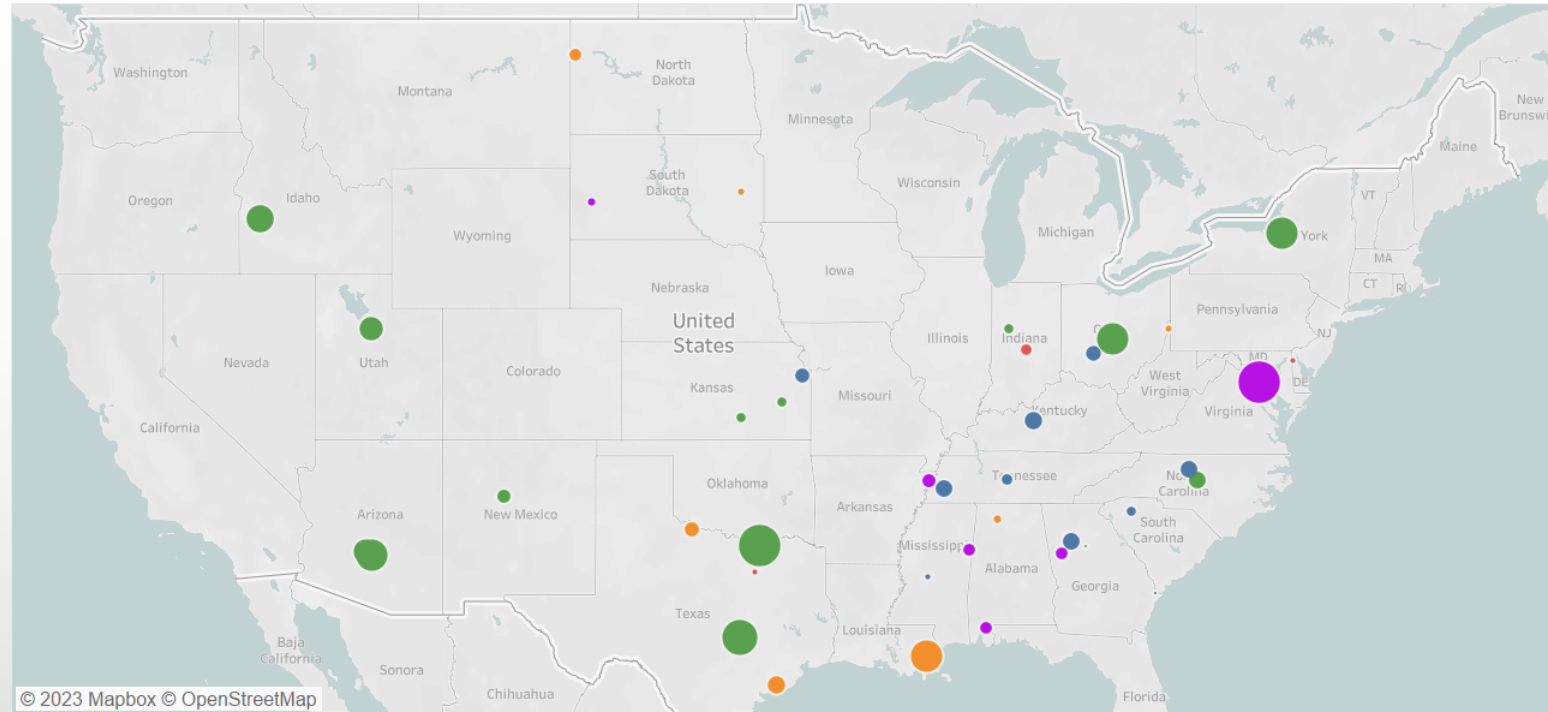
Real PIP, Y-O-Y Change



* Excludes Industrial Manufacturing

Onshoring US Manufacturing

Large-Scale Investment Across the United States

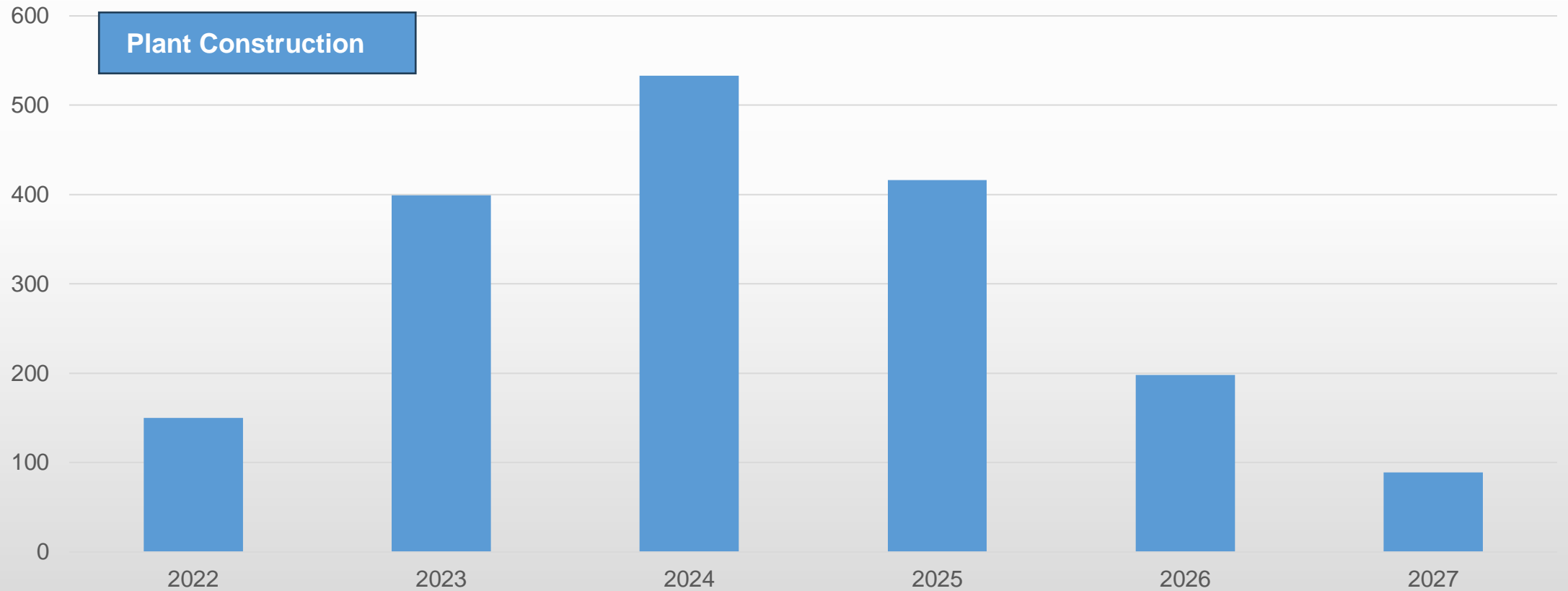


PCA's MI Study

- Investment in response to national defense, supply chain, Chips Act & Inflation Reduction Act.
- Identified all (42) investments \$500 Million or Larger
 - Totaling more than \$300 billion.
 - Adding 80,000 direct jobs.
- Established baseline characteristics for each plant.
- Based on this established estimates for direct & indirect cement consumption
 - Plant, infrastructure, housing, nonresidential.

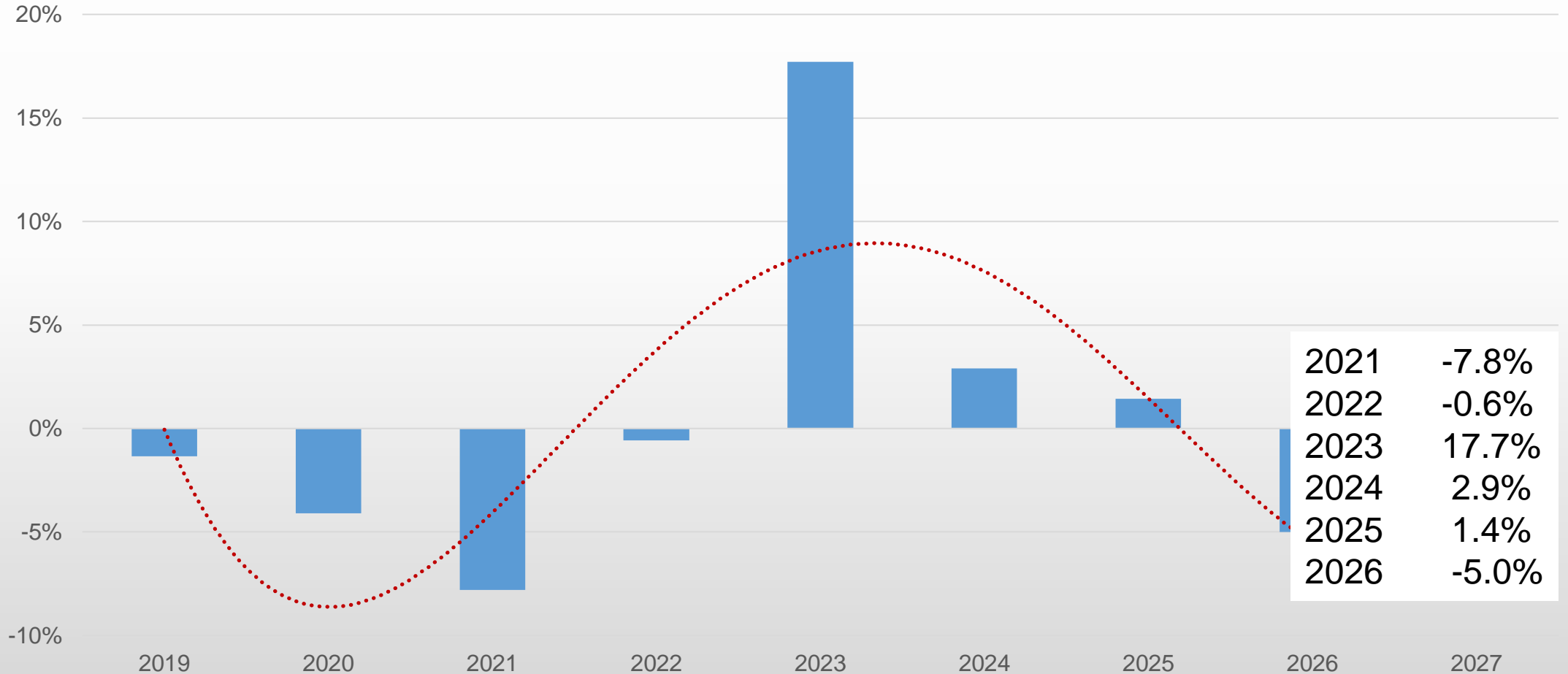
On-Shoring Adds Significant Volume

Thousand Metric Tons



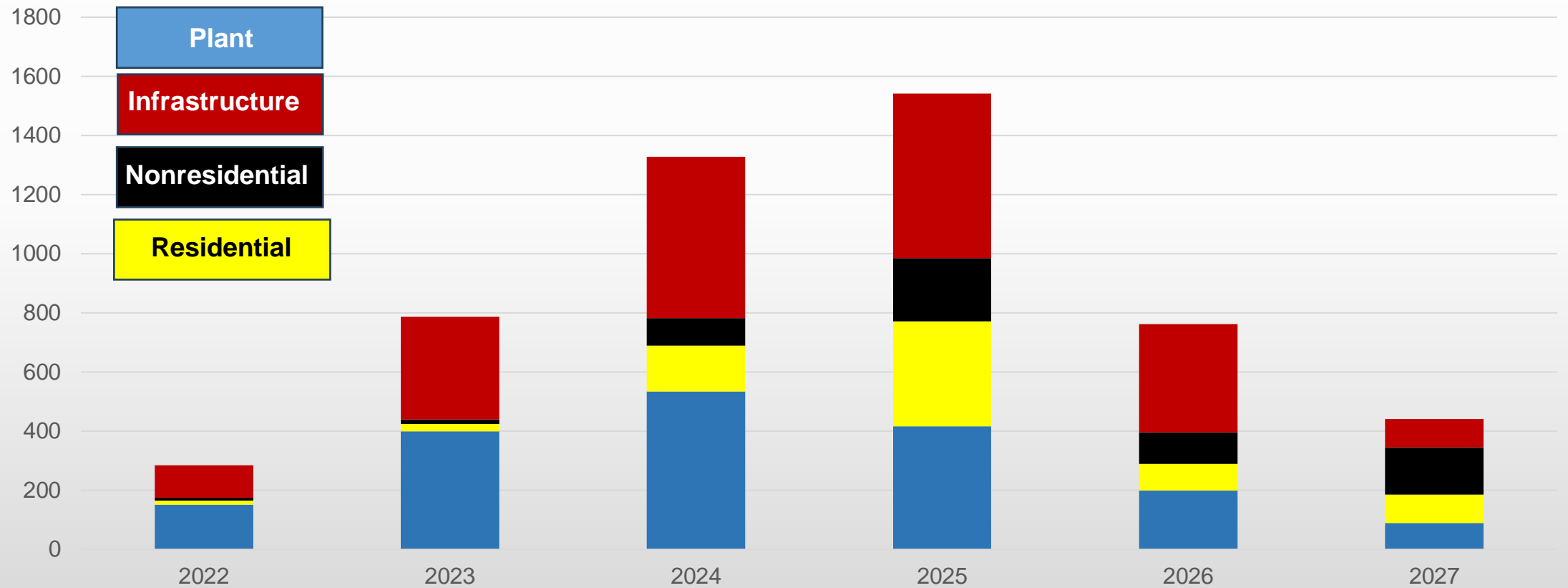
Nonresidential Recovery Process

Annual Y-O-Y Percent Change Real Spending



2021	-7.8%
2022	-0.6%
2023	17.7%
2024	2.9%
2025	1.4%
2026	-5.0%

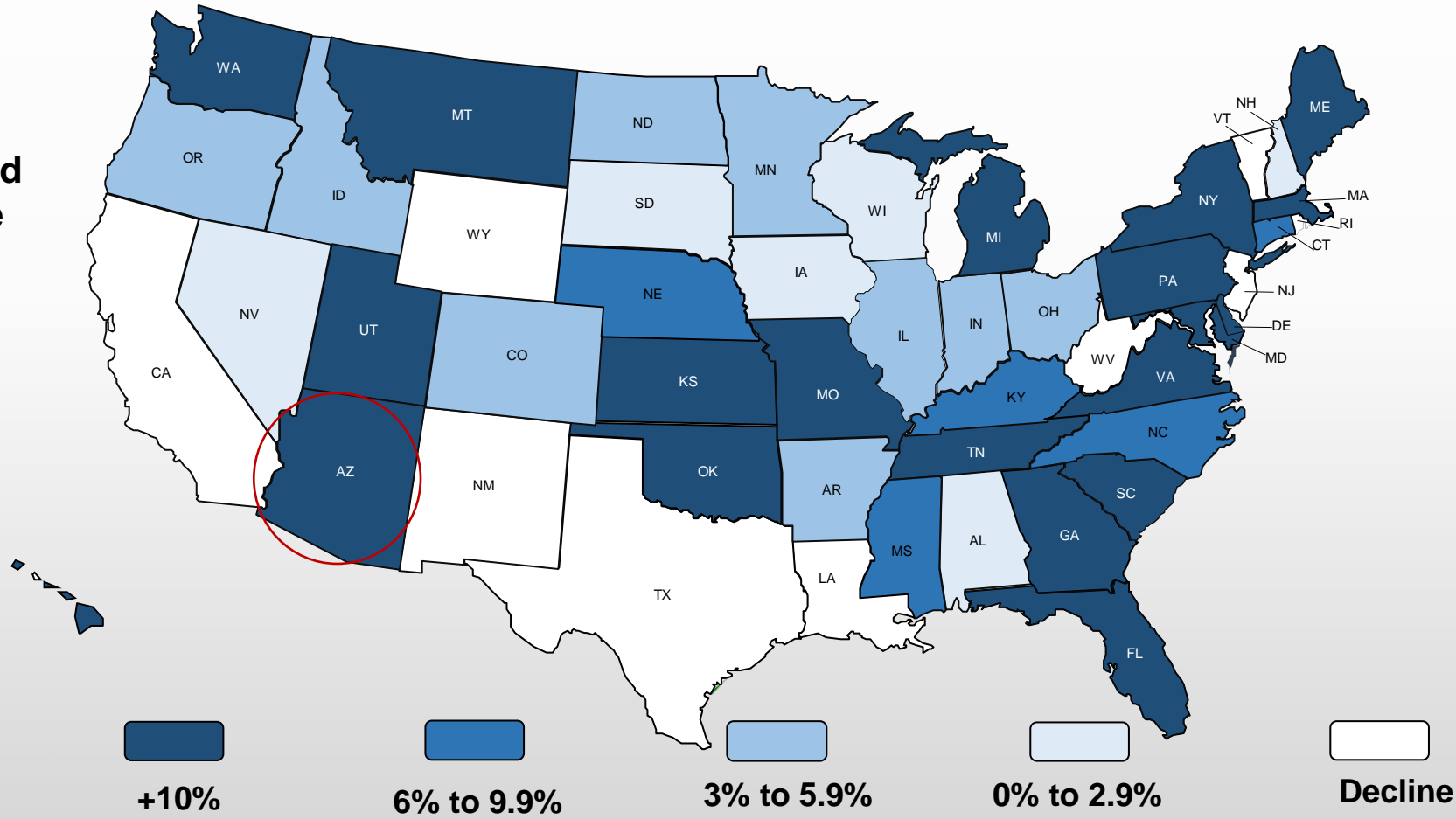
On-Shoring Adds to Residential, Nonresidential & Public Thousand Metric Tons



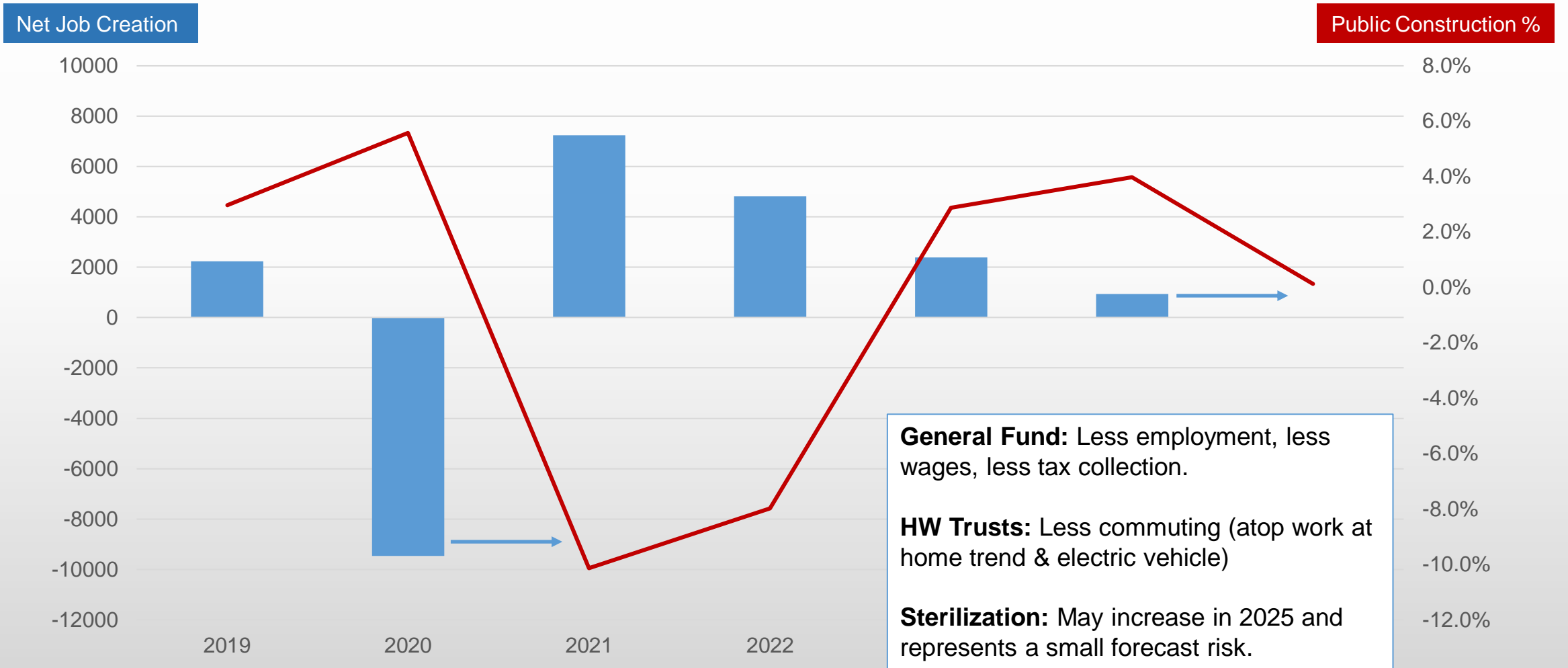
Public

General Fund Percentage Expenditure Change – FY2024

On a state weighted basis, 2024 general fund expenditures are expected to increase 6.7%.

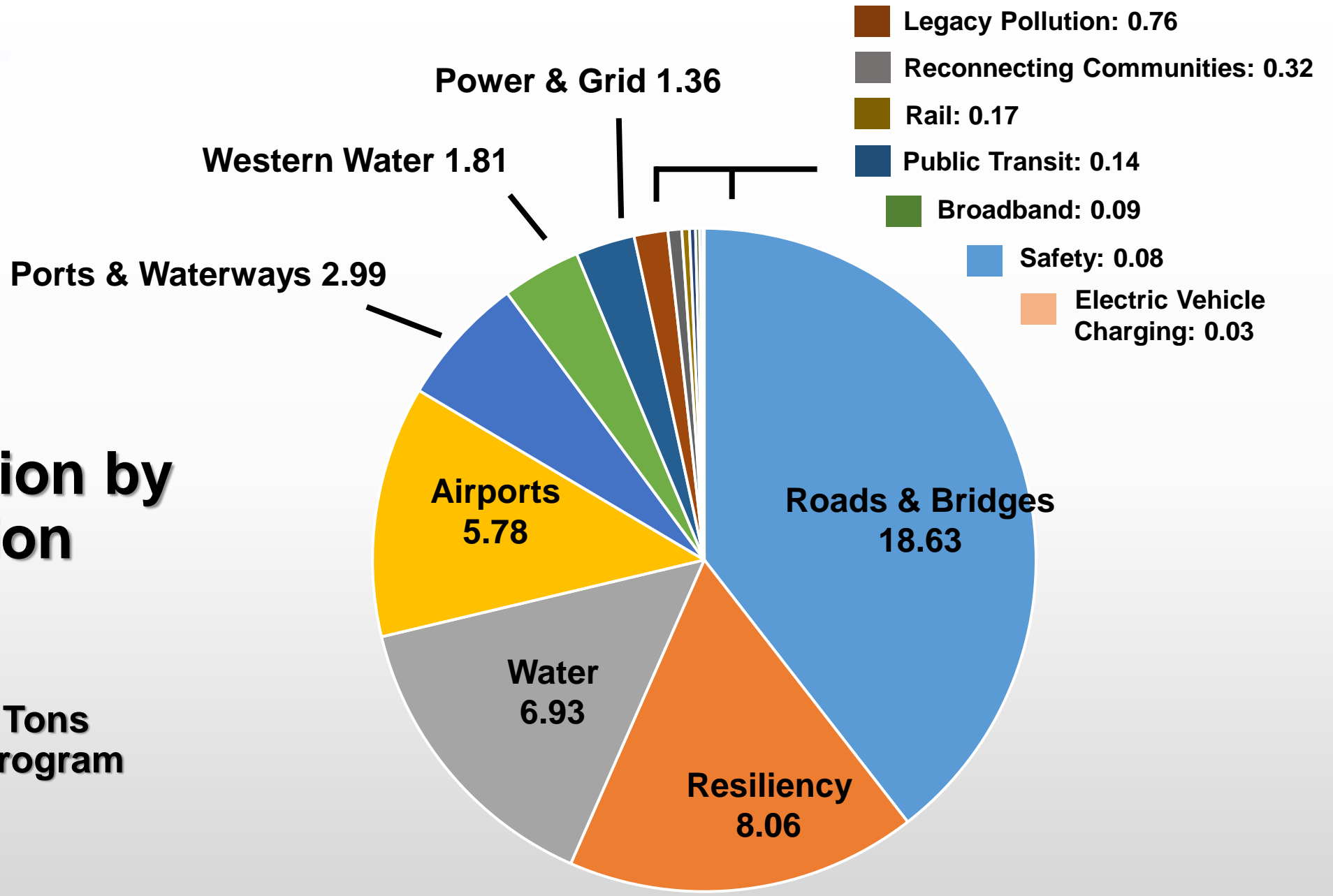


Net Job Creation, State Finances & Public Construction



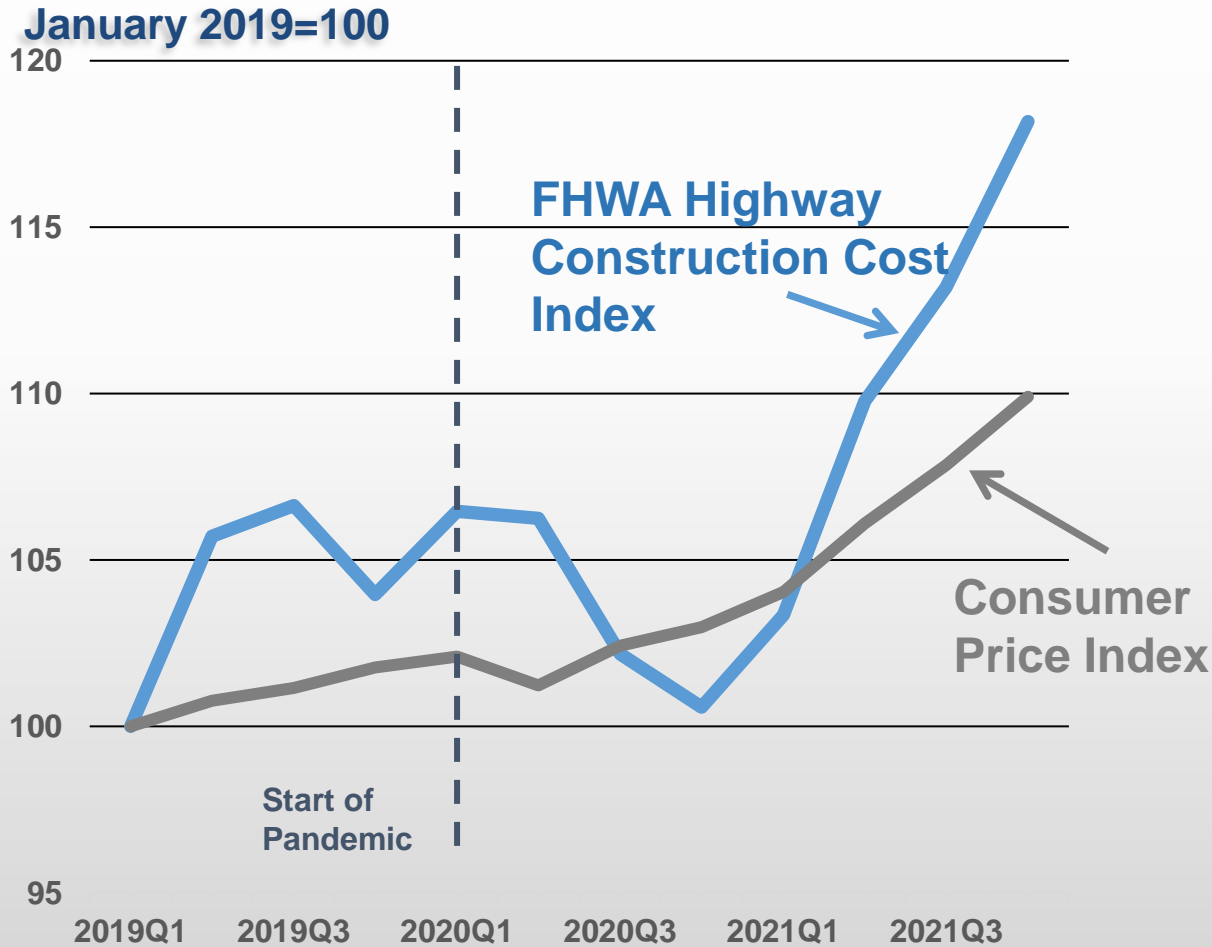
Cement Consumption by Construction Sector

46 Million Metric Tons
Over Five Year Program



Infrastructure Has Experienced Higher Relative Inflation

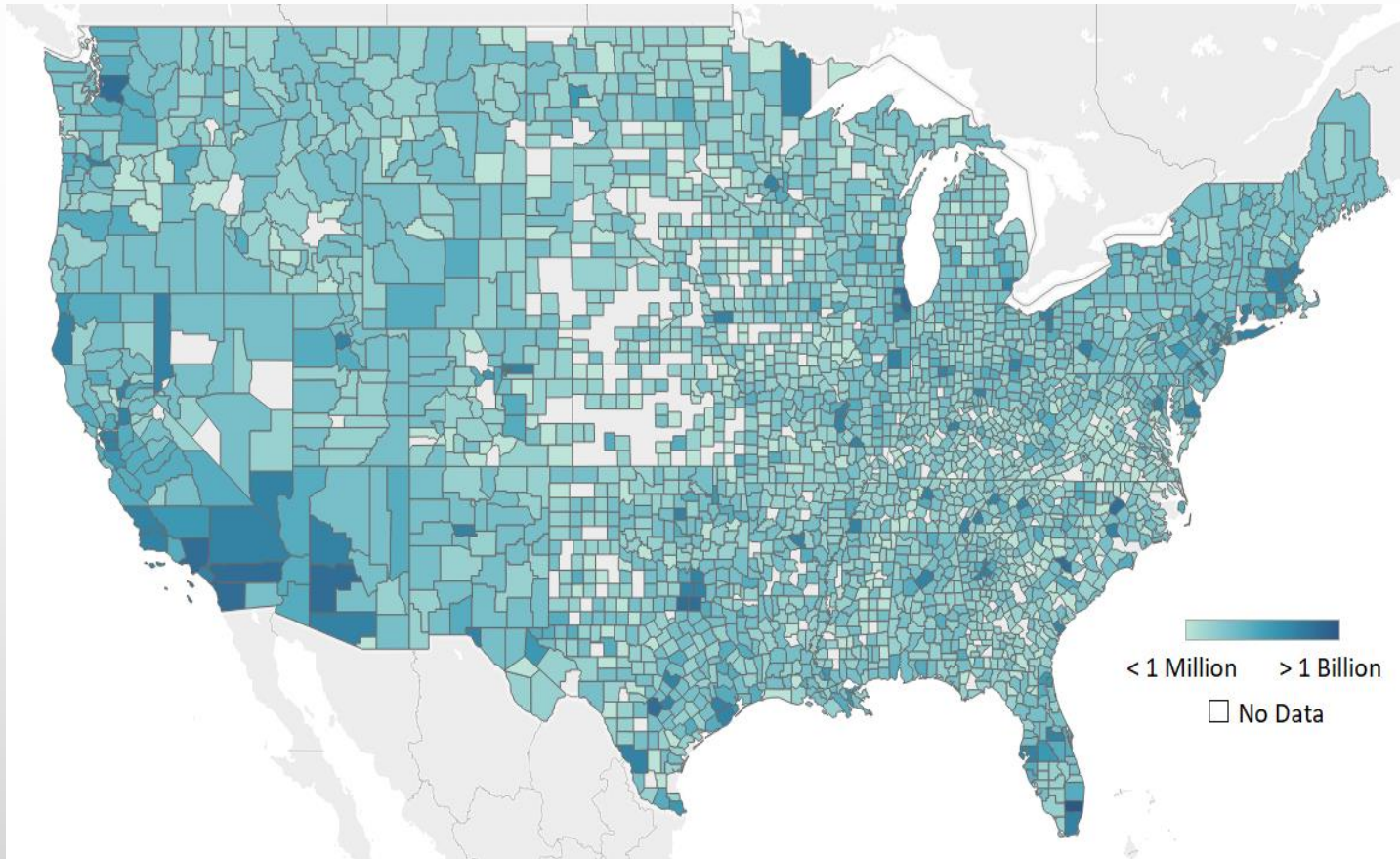
Highway Construction Costs vs CPI



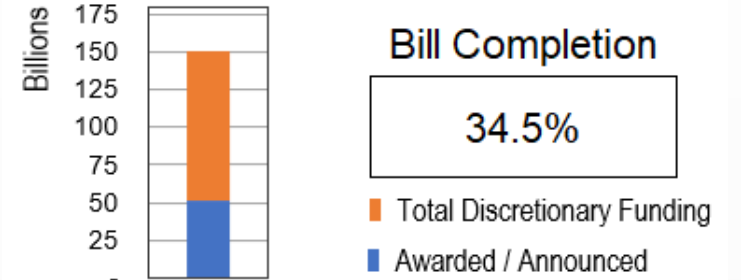
Bureau of Reclamation Construction Cost Index Annual Percent Change 2Q22/2Q21

Steel Tower Transmission Lines	19.8%
Laterals And Drains	18.5%
Secondary Roads	15.2%
Switchyards And Substations	14.4%
Earth Dams	14.2%
Steel Pipelines	13.3%
Primary Roads	12.6%
Canals	11.7%
Pumping Plants	11.6%
Diversion Dams	11.3%
Concrete Dams	11.0%
Concrete Pipelines	10.0%
Distribution Pipelines	9.5%
Bridges	9.3%
Wood Pole Transmission Lines	7.4%
Powerplants	7.3%

Current Awarded & Announced Reported IIA Funding By County

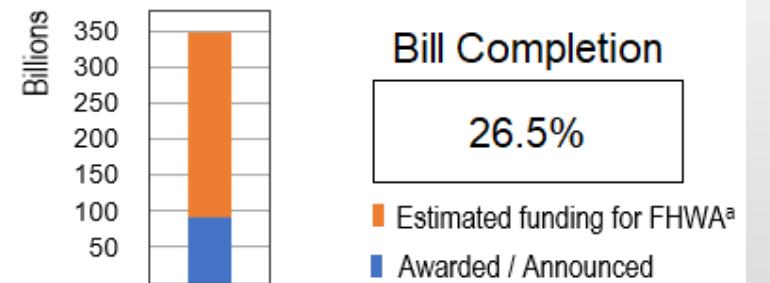


Estimated Discretionary Tracking^a



^a Used as an estimate to track the completion of the 150 Billion allocated for discretionary spending.

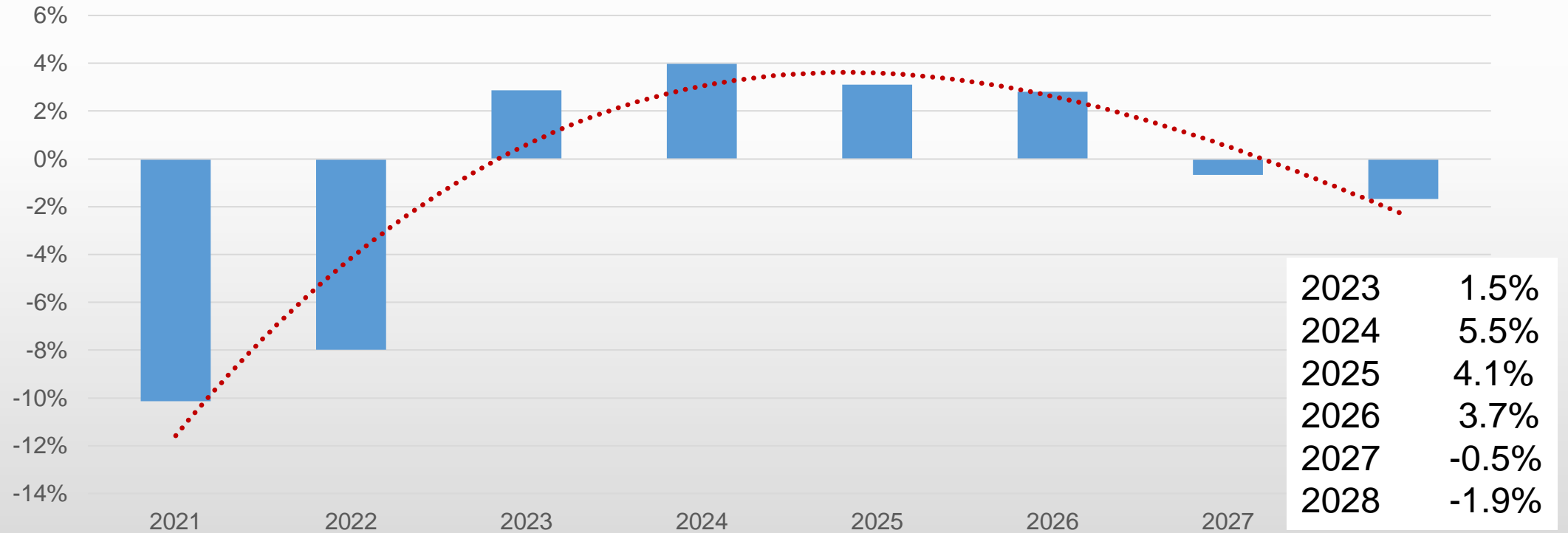
Estimated Transportation Tracking



^a Department of Transportation estimated FHWA funding FY22 - FY26

Public Construction

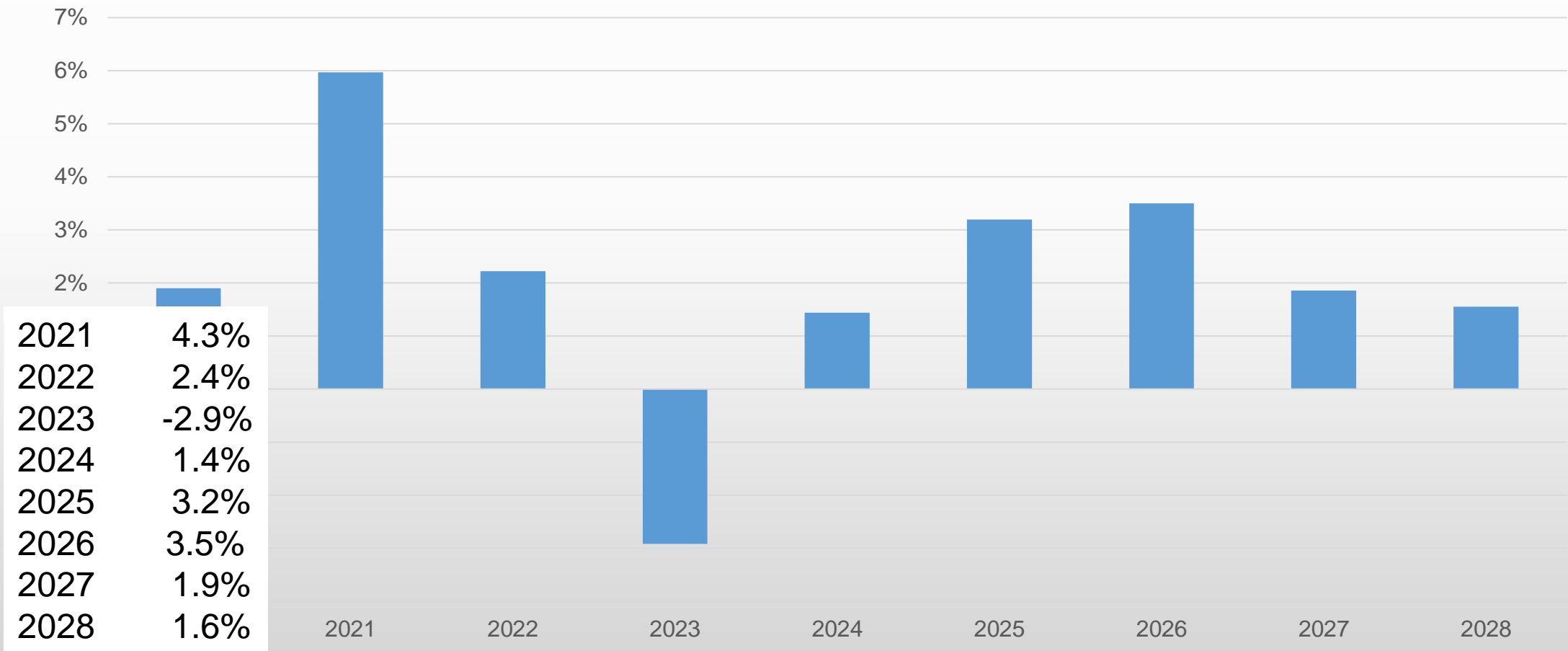
Real PIP Construction



Summary

Baseline US Cement Consumption Outlook

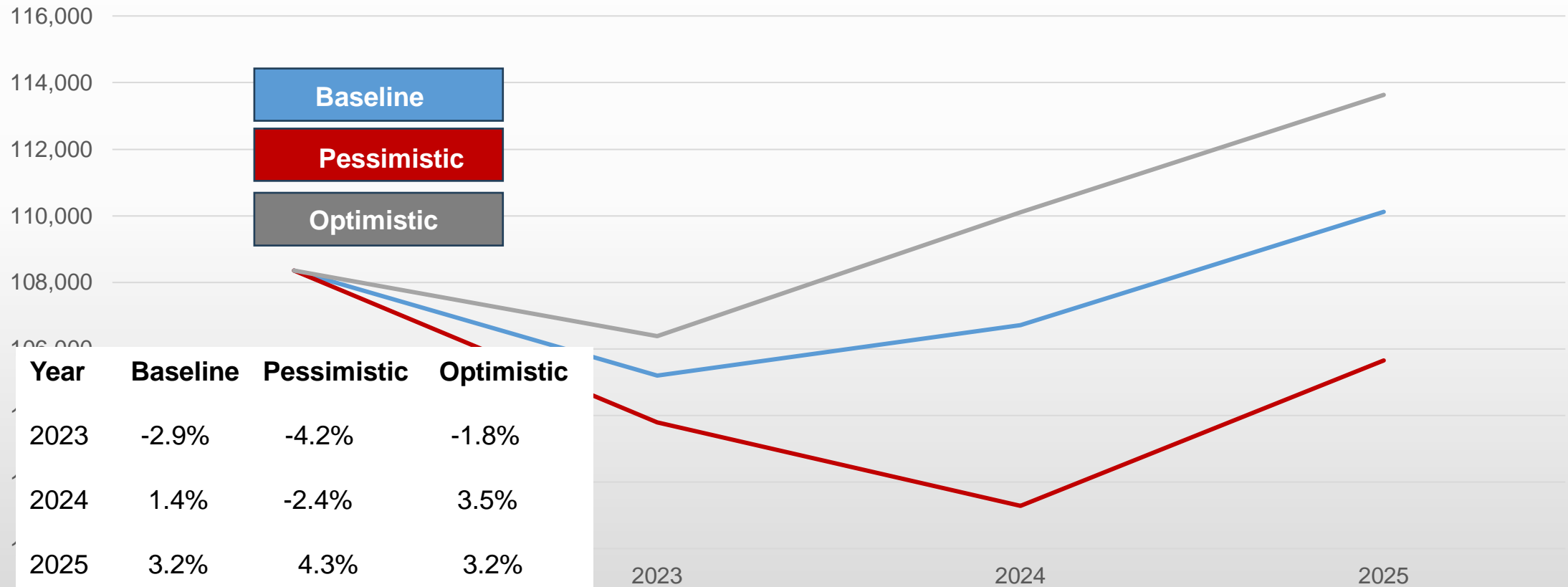
Baseline Annual % Growth



Alternatives

Alternative US Cement Consumption Outlooks

Thousand Metric Tons



Upcoming PCA Regional Forecast Conferences

- Texas Economic Summit November 7 Austin, Texas
 - In conjunction with Cement Council of Texas

- Pennsylvania Economic Conference November 14 Hershey, PA
 - In conjunction with Pennsylvania Concrete & Aggregates Association

- Western Economic Summit November 16 Sacramento, CA
 - In conjunction with California, Nevada Cement Association

Sample Agenda

- ½ Day Session
- PCA National Economic, Construction & Cement Outlook
- Moody's National & Regional Economic Outlook
- PCA Regional Economic, Construction & Cement Outlook

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Since 1916

America's Cement Manufacturers™

US Cement Outlook

October 2023

PCA/Concrete Works