

The PCA logo 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 under the 'A' with a registered trademark symbol (®).

PCA®

Since 1916

America's Cement Manufacturers™

Briefing: #6

(August, 2020)

Coronavirus Impacts on the US Cement Industry

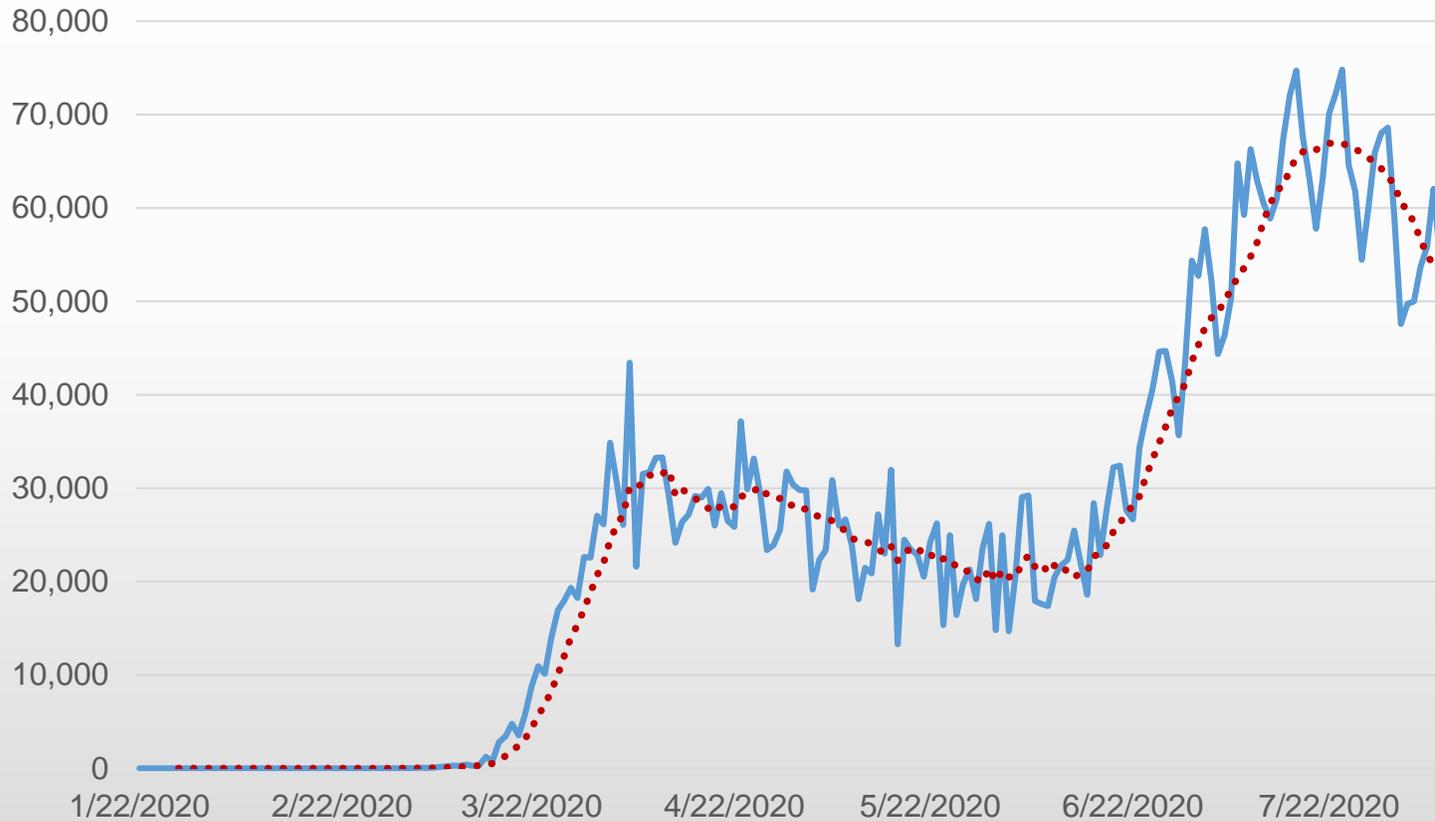
Ed Sullivan, SVP & Chief Economist

Market Intelligence's Research Focus

1. Recent Covid & Macroeconomic Information.
2. Macroeconomic Outlook Scenarios.
3. Recent Cement Consumption Data & Outlook.
4. Key Risks #1: Ongoing Federal Support
5. Key Risks #2: A Vaccine Scenario

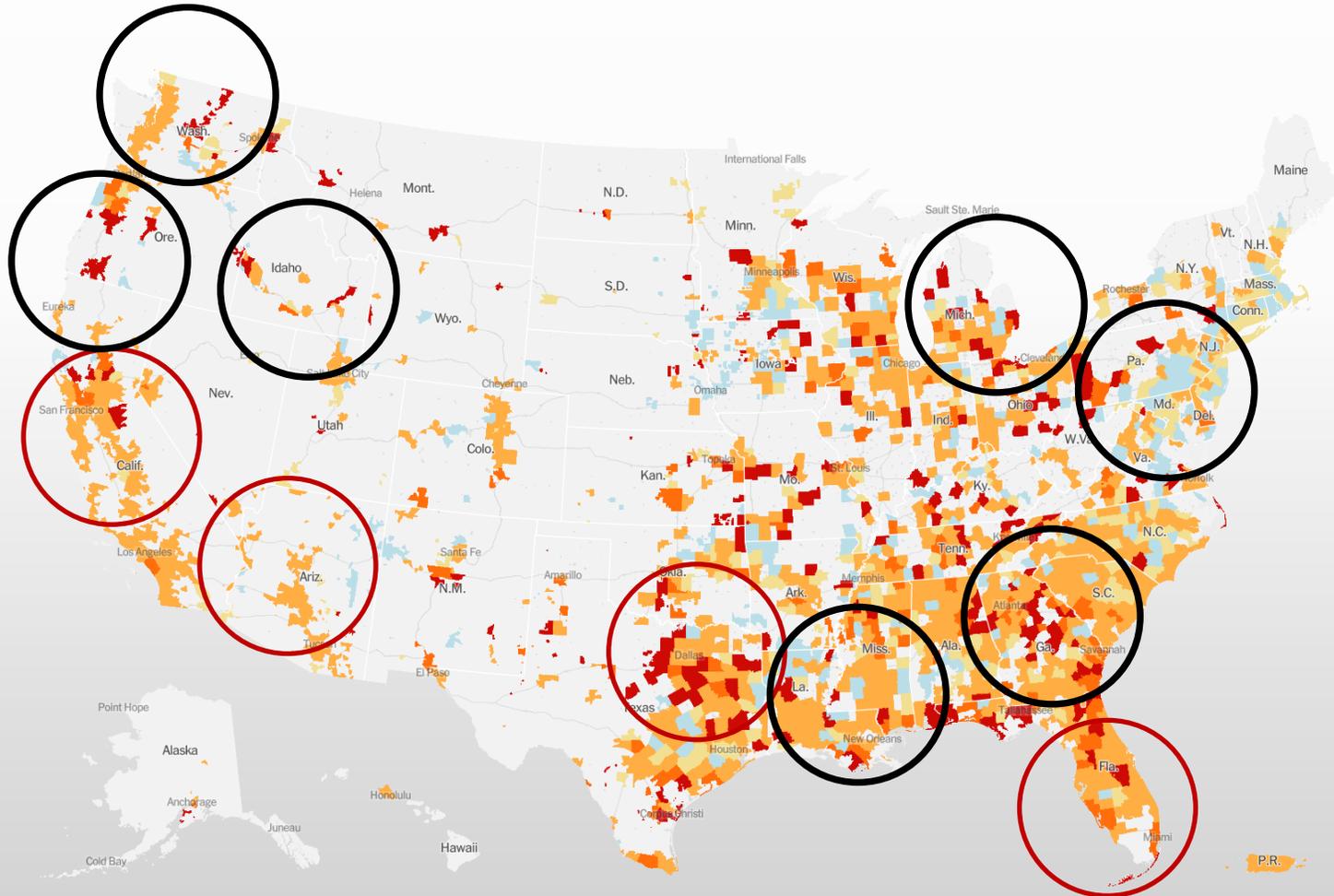
Macroeconomic & Covid Data

Average Daily Infections



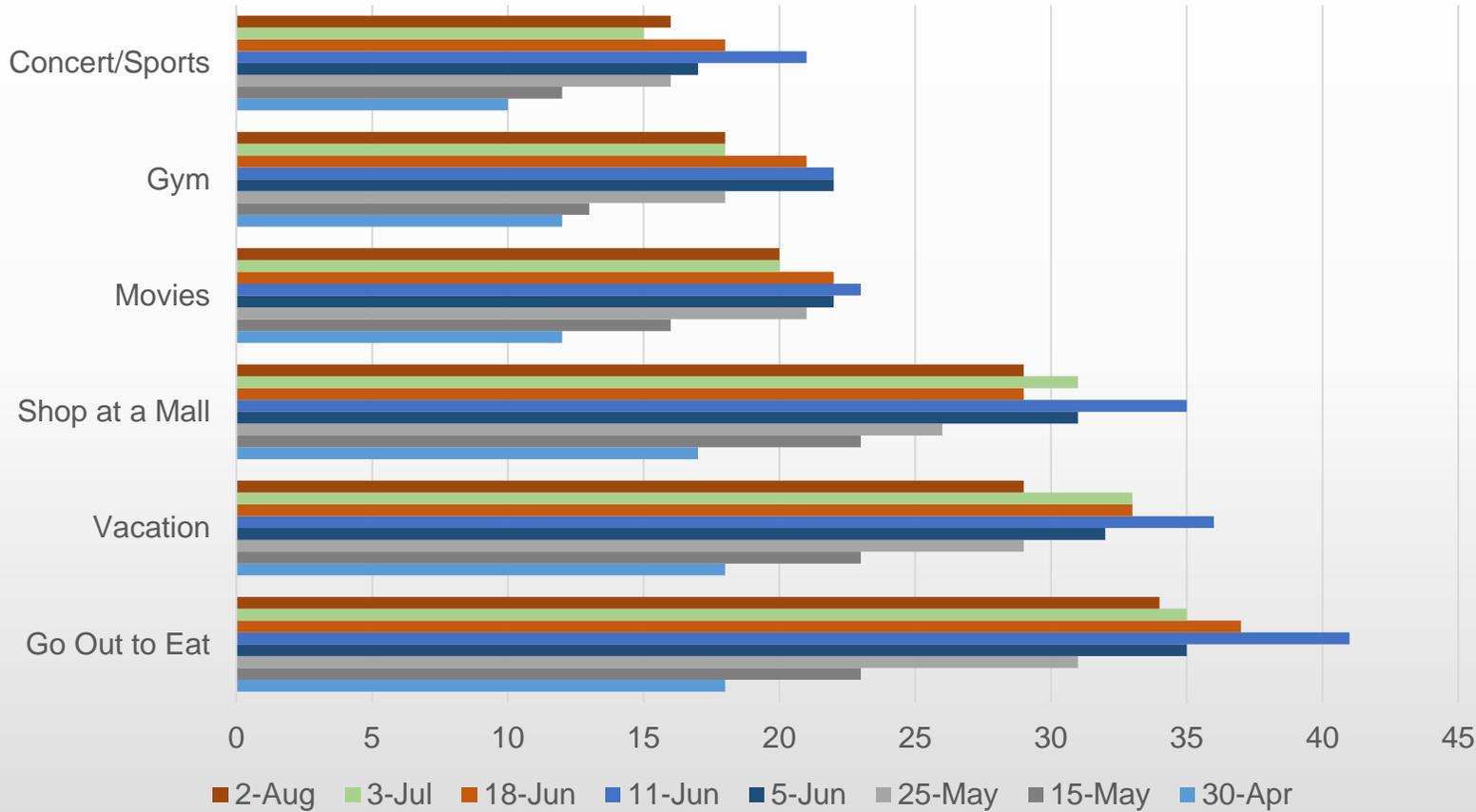
- Covid-19 first appeared in the US in late February. By March 18th the seven day average daily infection rate exceeded 1,000. A peak in new cases was reached in mid/early April (4/10: 32,471 cases).
- With the increase in infections, states placed restrictions on social contact. These policies forced a contraction in economic activity.
- These policies ushered in a decline in new Covid cases. The seven day moving average reached a trough of 21,303 by mid/early June (6/9) – reflecting a 34% decline.

Covid: Policy Retrenchment



- With this improvement, several states relaxed rules aimed at limiting social contact. Infections increased and reached a new peak of 69,190 in late July (7/25).
- Covid increases correlate closely with the easing of restrictions. Allowing for a two week lag, re-opening of bars seems to be a critical explanatory policy factor.
- The alarming increases in **Florida, Texas, Arizona and California** have prompted state governments to reverse policies aimed at easing restrictions. In addition to states reversing their reopening policies, another seven states have put their re-opening plans on pause.
- States reversed a relaxation of state policies. New cases declined to 55,142. This reflects a 20% reduction from the July peak, but also reflects a 153% increase over the June trough.
- Assuming current state policies remain in effect, IHME projects new cases will grow slowly and double existing levels by December.

Are you Comfortable Going to.....



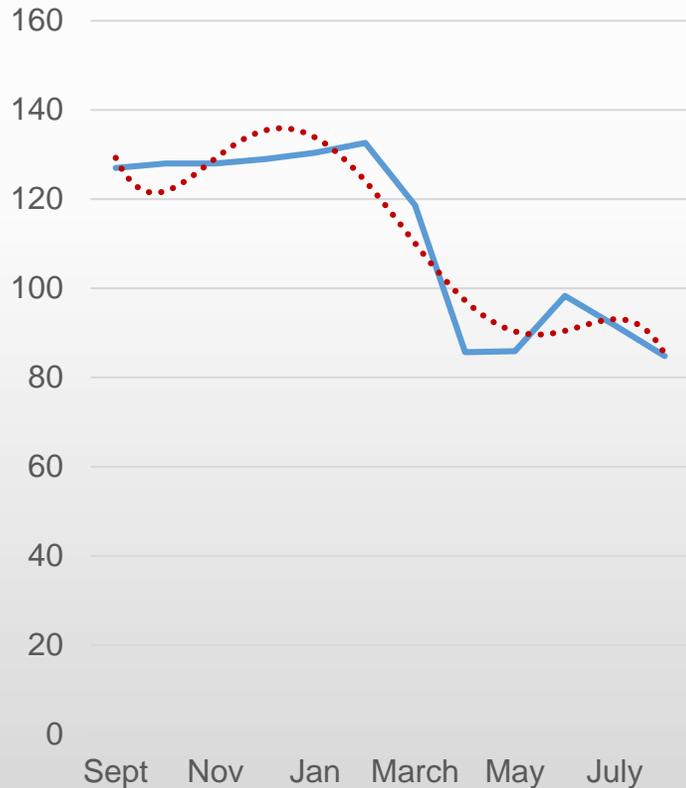
- Prior to the resurgence in new Covid cases, consumer comfort levels improved five straight weeks.
- As Covid infections increased, consumer confidence in returning to their “normal” spending activity has reversed.
- Consumers return to “normal” spending activity will play a key role in the speed at which the economy recovers.
- The rise in infections, coupled with IHME projections for future infections, suggests a slower than previously expected return to “normal” spending.
- Consumer spending accounts for 70% of overall economic activity. The slower return to “normal” suggests slower than expected interim growth.

Source: Morning Consult

Economic Crossroads: An Inflection Point

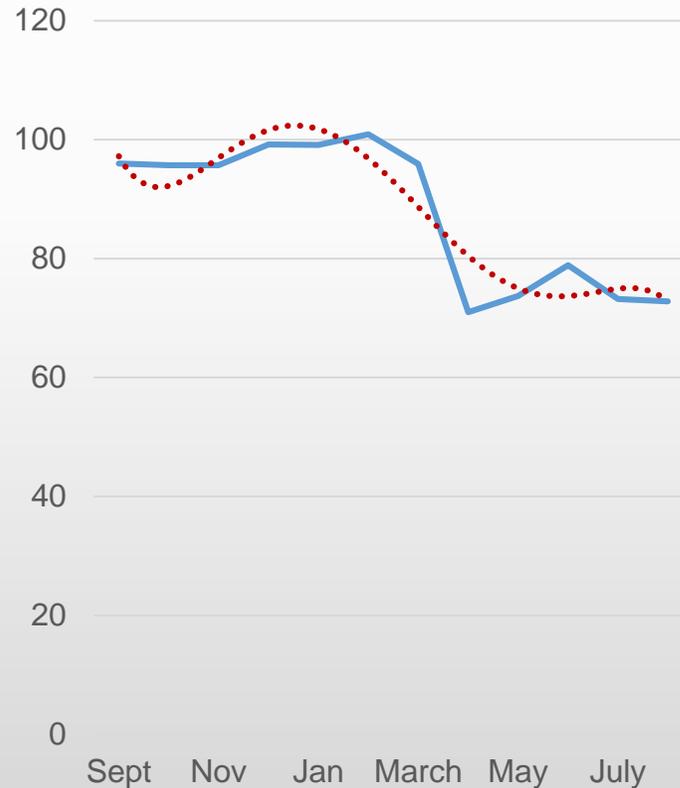
Consumer Confidence

Composite Conference Board



Consumer Sentiment

Composite Univ of Michigan

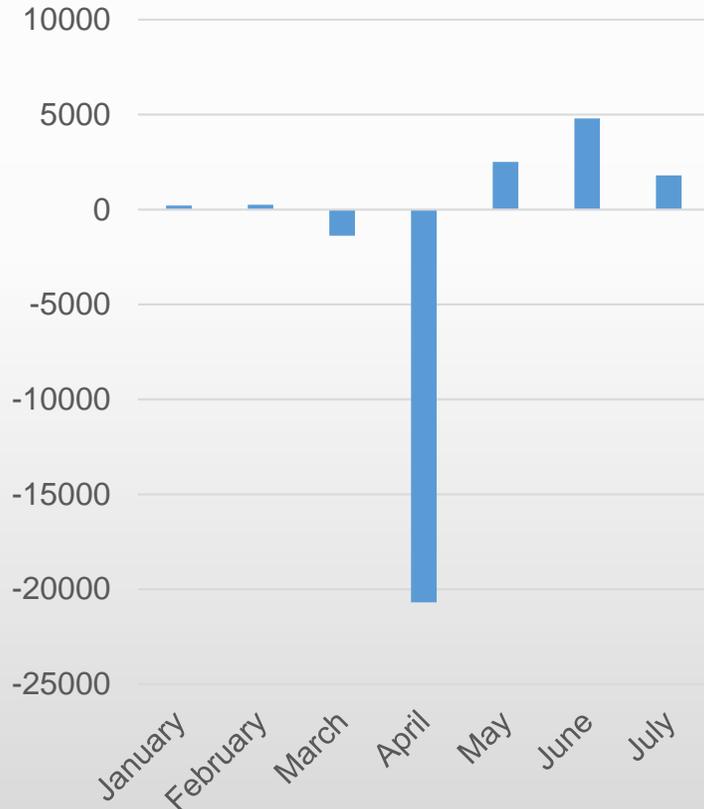


- By any measure, economic activity crashed during the second half of March through April. GDP suffered a 32% decline. 20 million jobs were lost overnight.
- With the reduction in cases & state re-openings, the recovery began. Recapturing some jobs lost began. Consumer confidence improved.
- With return of higher new infection cases, the momentum of previous months' economic gains began to wane.
- The economy may be at a crossroads.
- With the gradual expiration of the CARES act, in the context of 16 million unemployed, closed businesses, high debt burdens, delinquent mortgage/rent payments – significant risks exist that the recent momentum of the recovery could be lost.
- Two key drivers of near term growth appear to be the path of Covid itself & Federal government support to individuals, businesses & states.

Economic Crossroads: An Inflection Point

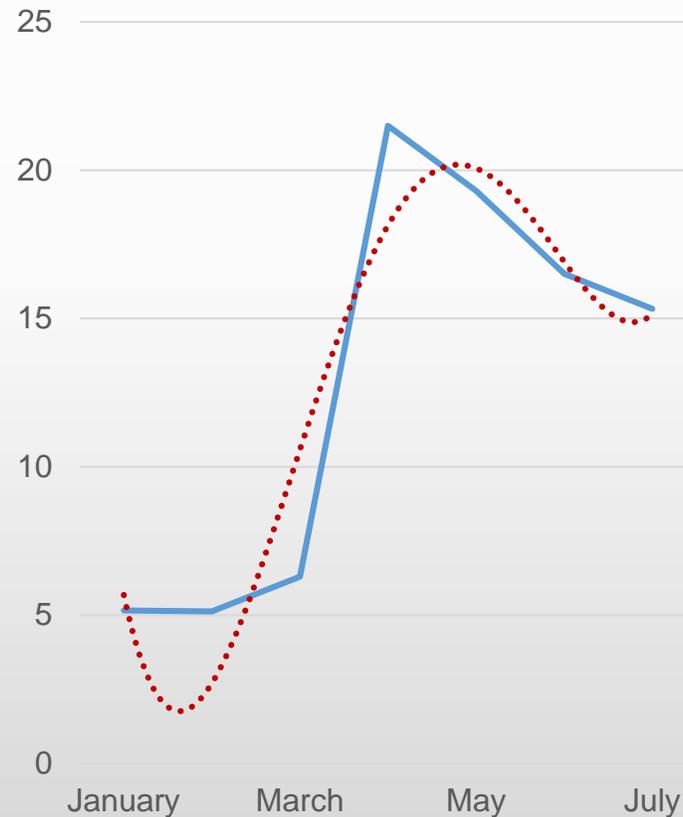
Change In Employment

- Millions



Unemployed

- Millions



- With the re-opening of state economies, strong job creation materialized. After the initial bump in job creation, subsequent gains have been noticeably smaller – as expected.
- The pause in consumer confidence, may suggest a further slowdown in job creation that is reflective of economic conditions and not re-openings.
- It is important to remember that despite some reassuring news of economic recovery, the economy is still deeply scarred.
- More than 15 million persons are unemployed - three times the pre-Covid levels.
- In the context of subdued demand, as many as 1 million small businesses may close by year-end.
- This scarring will moderate future near term economic growth.
- The economy has achieved the beginnings of recovery in light of this scarring through government programs such as CARES.
- Recent momentum of the recovery could be lost without a quick, new injection of Federal support.

Macroeconomic Risks & Assumptions

The Alphabets of Recovery

U

A Sharp deep decline, followed by a period of slow recovery.

- Some Scarring.
- Many business foreclosures. Consumer debt, and lacks confidence .
- Jobs come back slowly.
- Economic growth is enhanced by relaxation aimed at restraining the spread of the virus.
- Consumer confidence slowly improves and ebb.
- A slow shallow process of recovery.
- Federal Support continues (33% Funding of Heros Act)
- Virus does not accelerate significantly.

PCA is developing a Vaccine Scenario. According to some, the likelihood of this scenario is increasing in probability.

Under this scenario, a vaccine or therapeutic drugs will be available and in mass distribution by the end of 2Q 2021.

Such an outcome results in dramatically improved consumer confidence, reduces uncertainty and results in significantly stronger economic growth during the 2nd half of 2021.

W

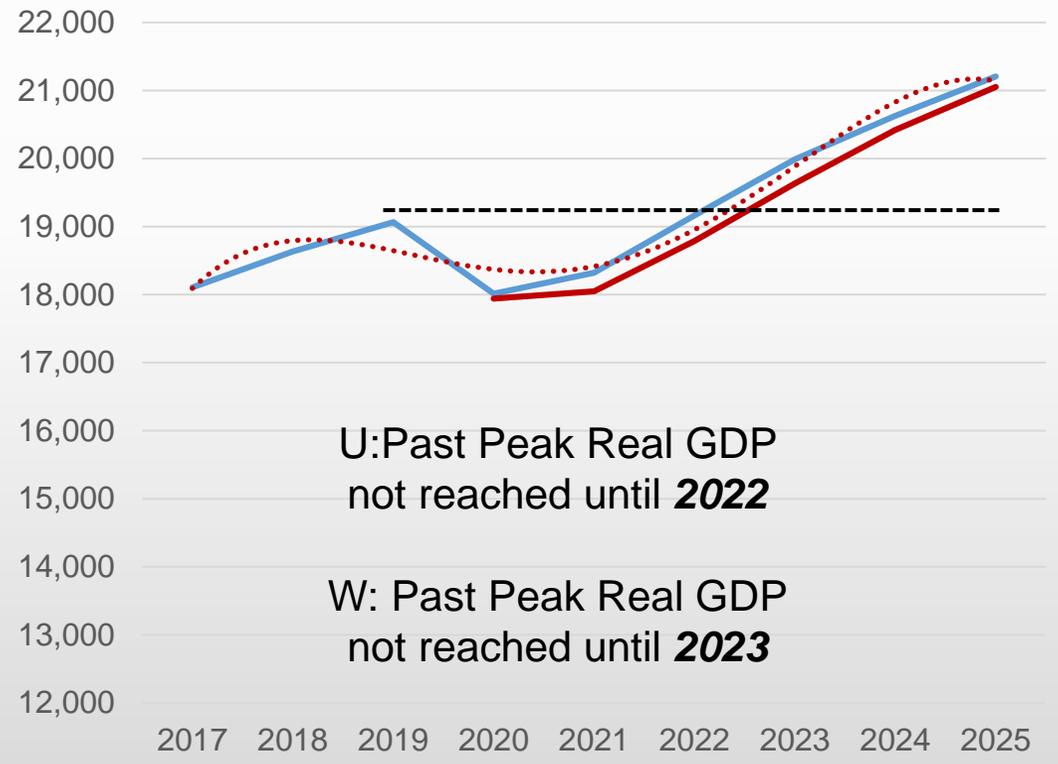
A Sharp deep decline, followed by a slow recovery and a slide back into recession due to a significant rise in infections.

- Some Scarring.
- Consumer spending is hurt by debt, and confidence is low.
- Economic growth is enhanced by relaxation of state policies aimed at restraining the spread of the virus.
- Consumer confidence slowly improves and ebb.
- A slow shallow process of recovery.
- Federal Support continues (33% Funding of Heros Act) and is supplemented with further support in early 2021.
- Virus does not accelerate significantly.
- If recovery is interrupted, followed by another retrenchment in GDP growth.

GDP – “U & W” Scenarios

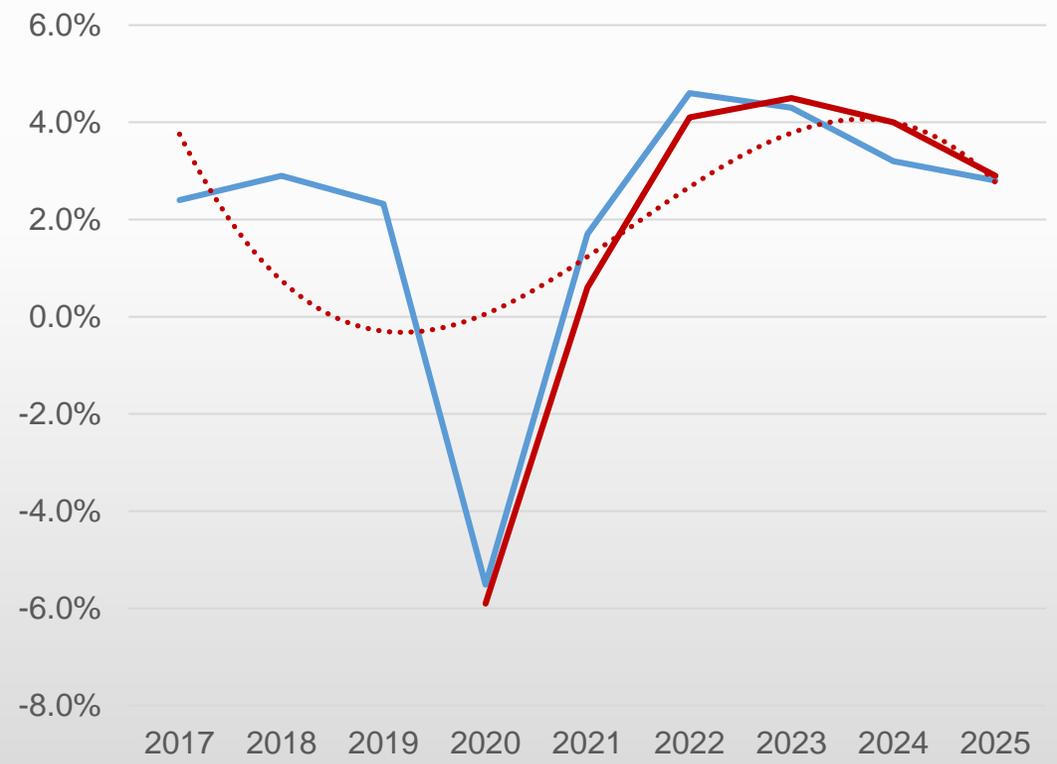
Real GDP

1985=100



Real GDP Growth

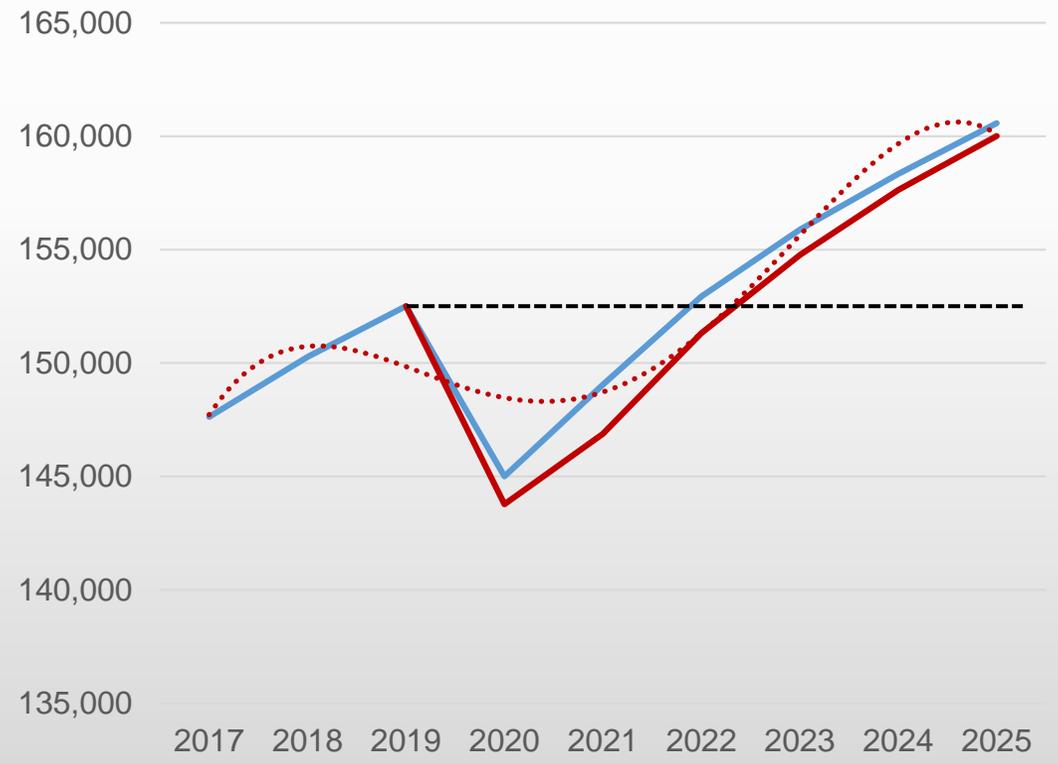
Percent Change, Y-O-Y



Employment & Unemployment Rates– “U & W”

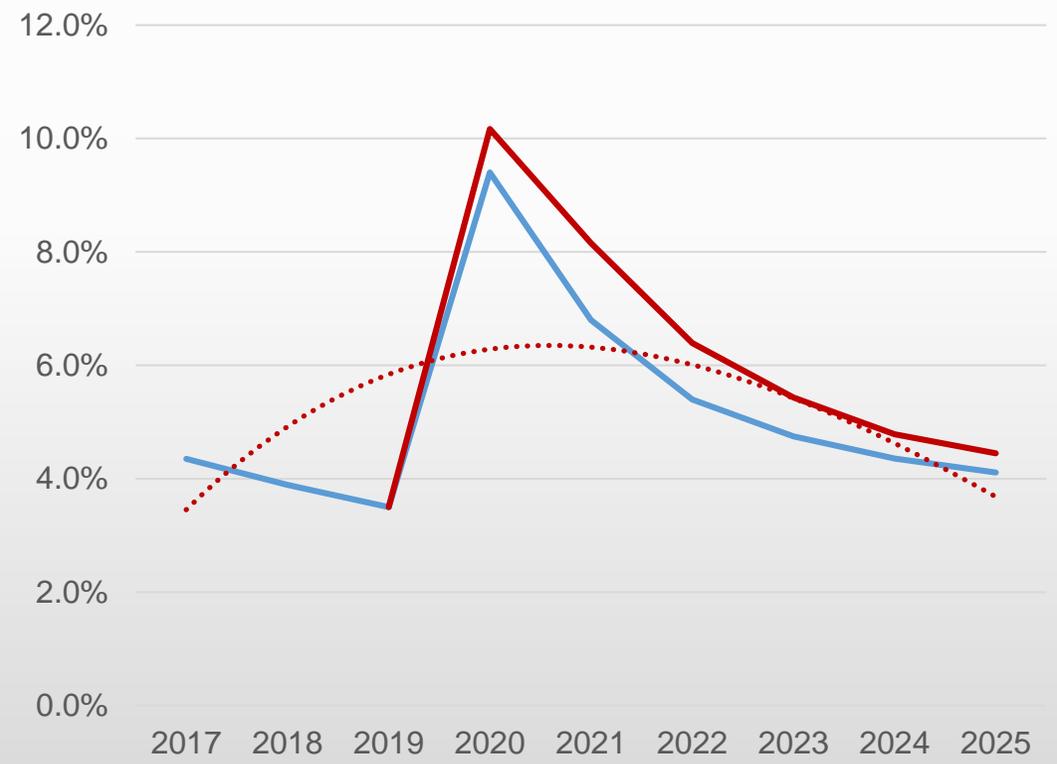
Employment

Thousands



Unemployment Rates

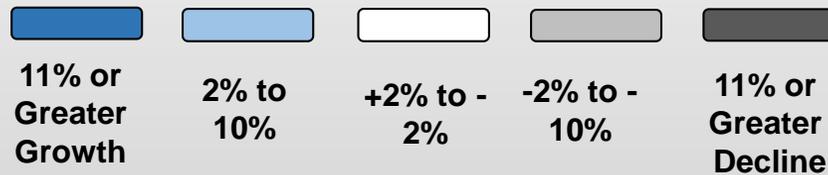
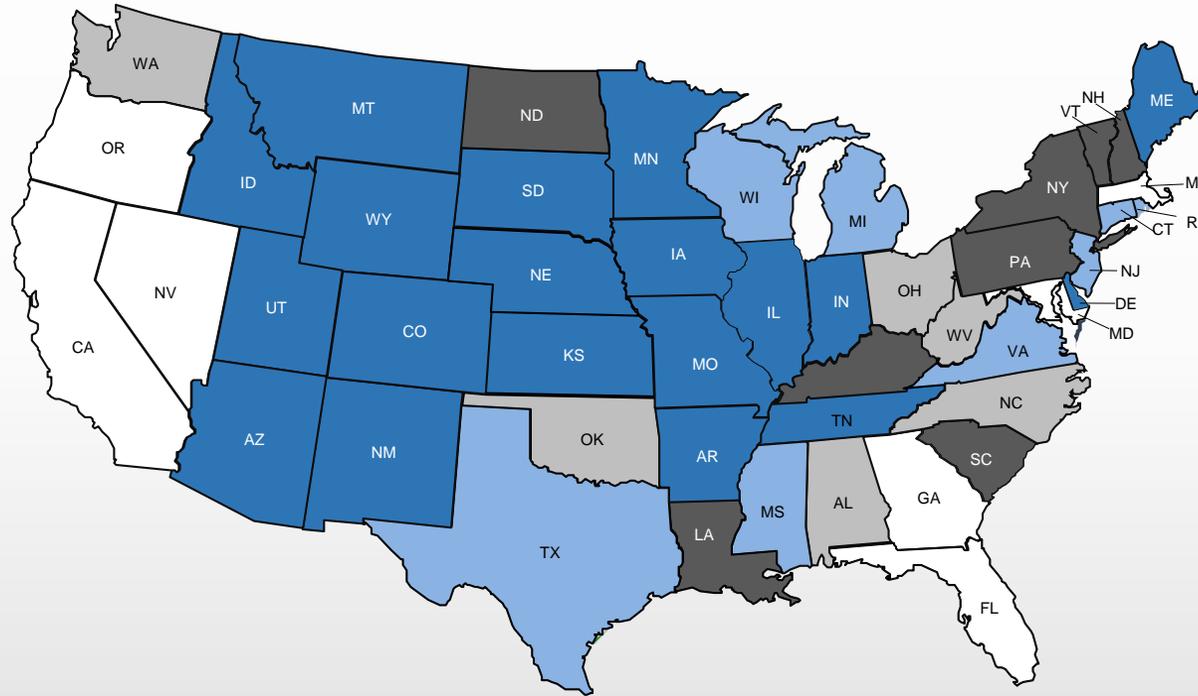
% Unemployed of Labor Force



Construction & Cement Outlook

Regional Cement Trends

June year-to-date



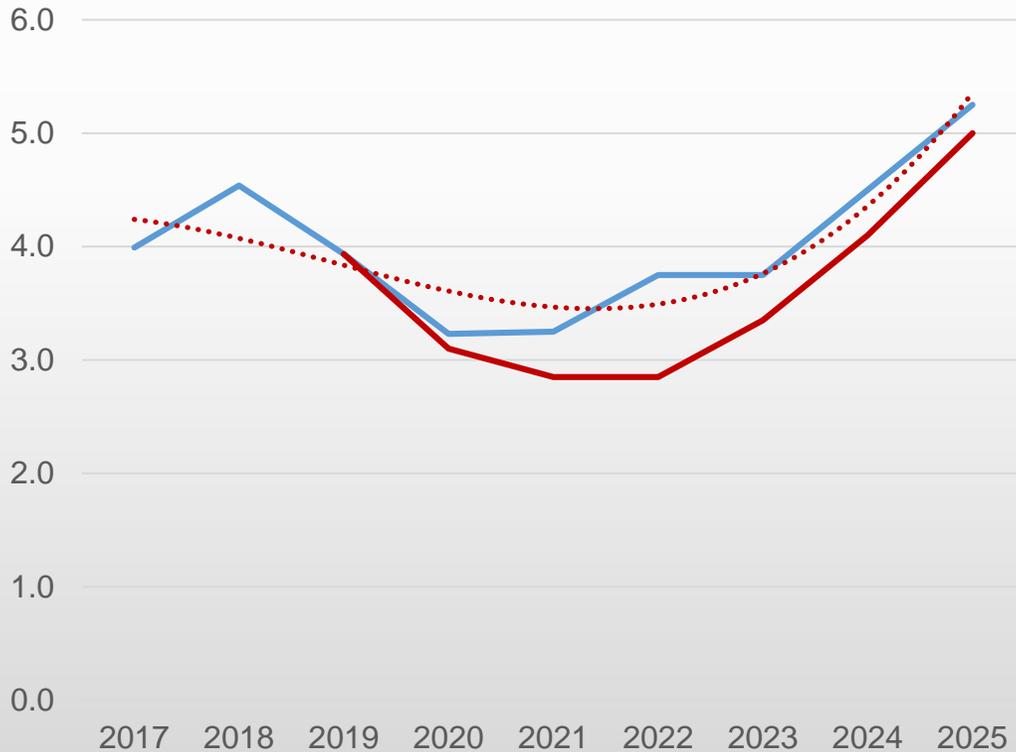
| | |
|----------------------|---------------|
| West North Central | +19.0% |
| West South Central | +0.7% |
| New England | 3.3% |
| East North Central | 5.1% |
| Middle Atlantic | -9.9% |
| South Atlantic | -1.7% |
| East South Central | -3.1% |
| Pacific | -0.8% |
| Mountain | +14.3% |
| United States | 2.2% |

Source: USGS/PCA

Housing Starts – “U & W”

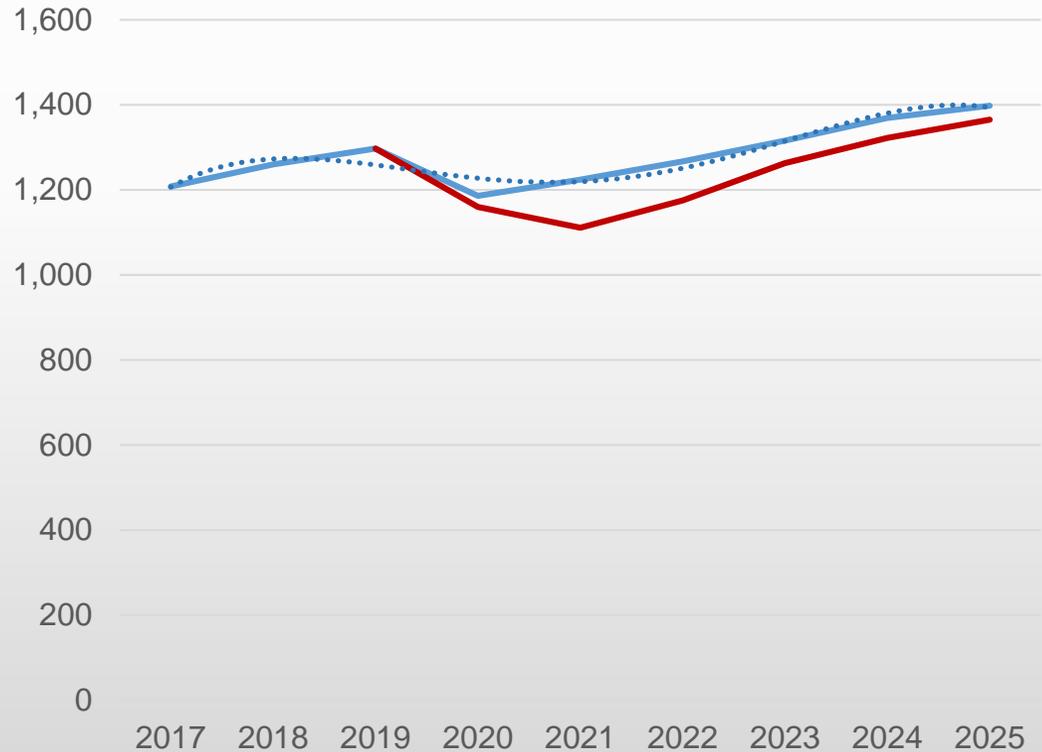
Mortgage Rates

Conventional, 30 Year, Annual Interest Rate



Housing Starts

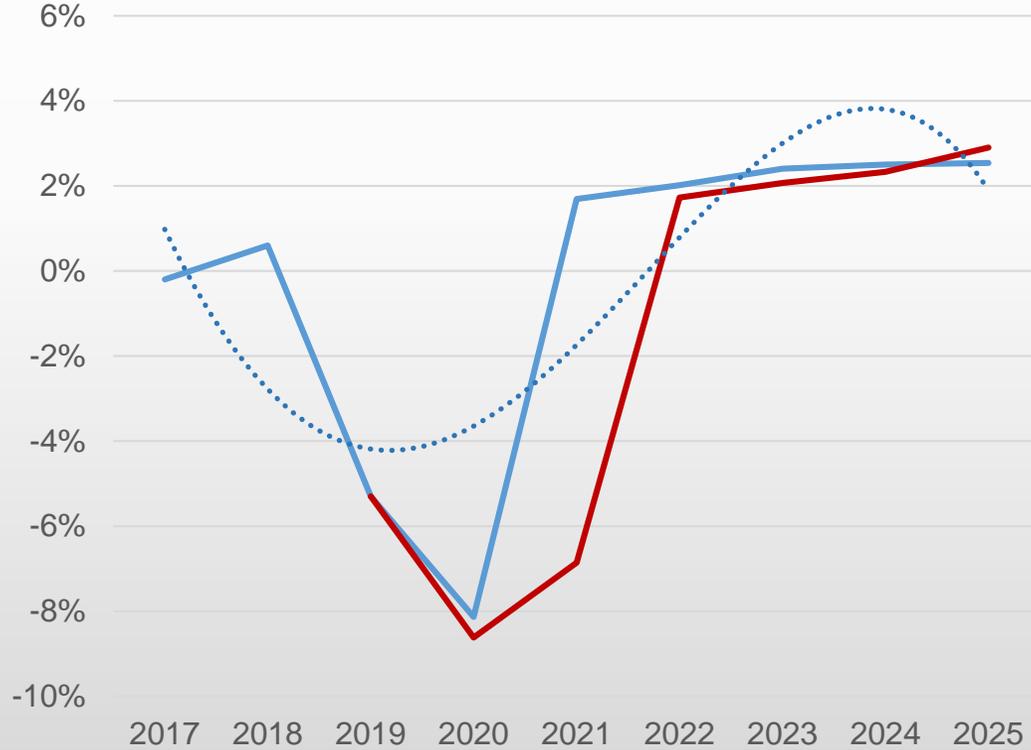
Thousands



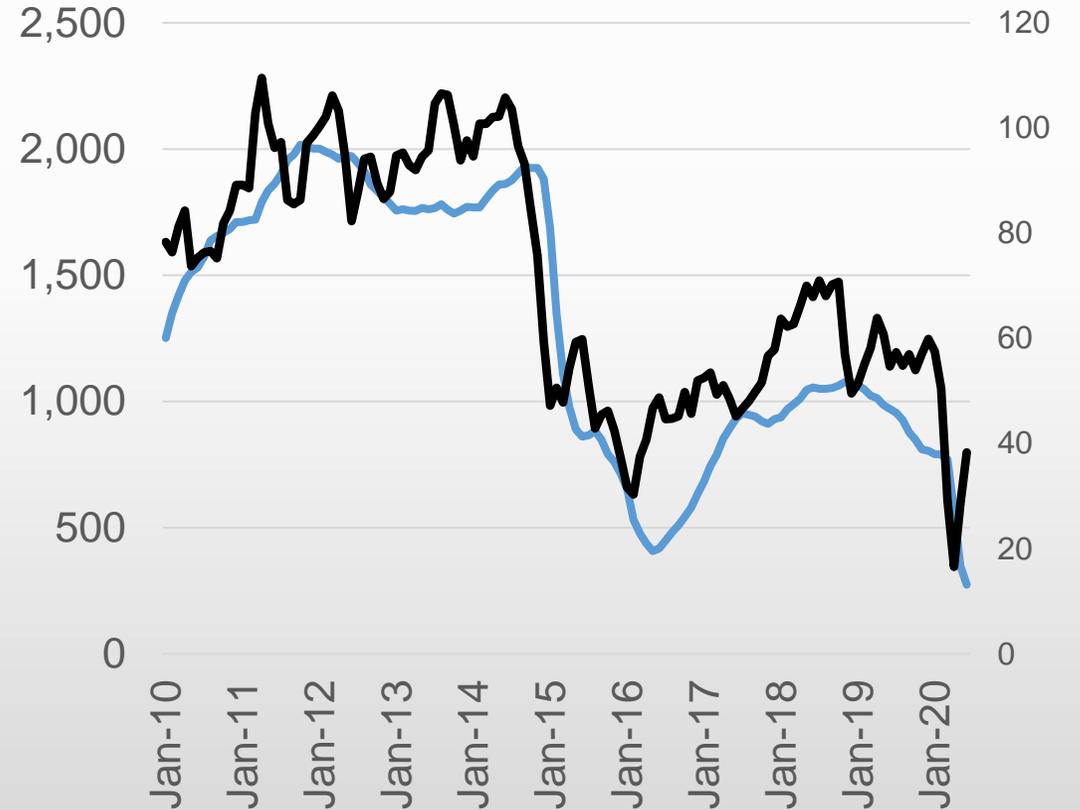
Nonresidential & Public – “U & W”

Nonresidential

Real PIP, Y-O-Y Percent Change

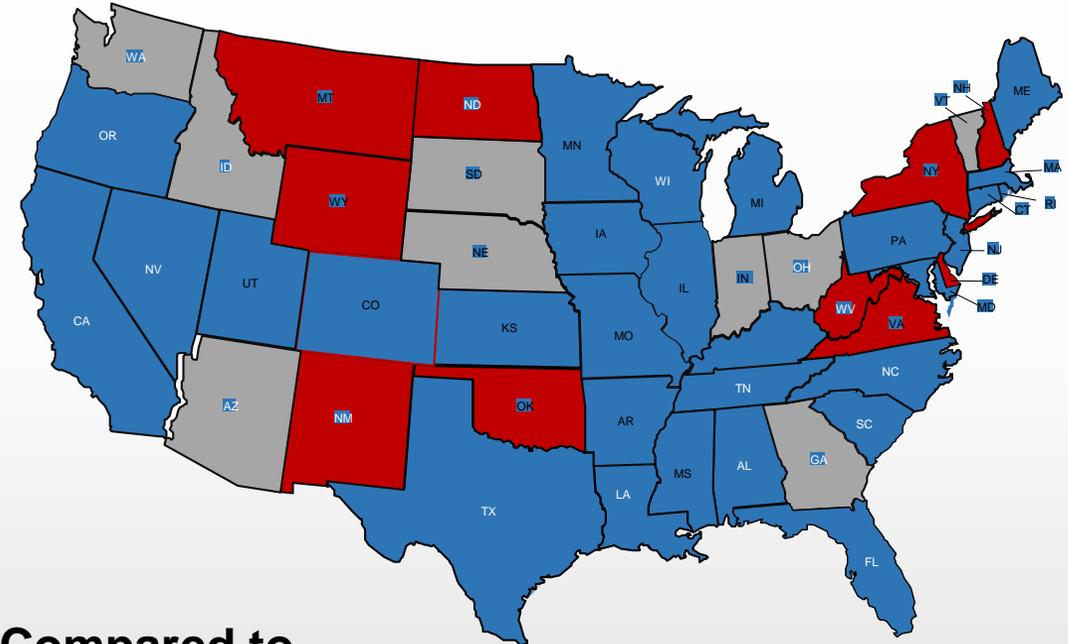
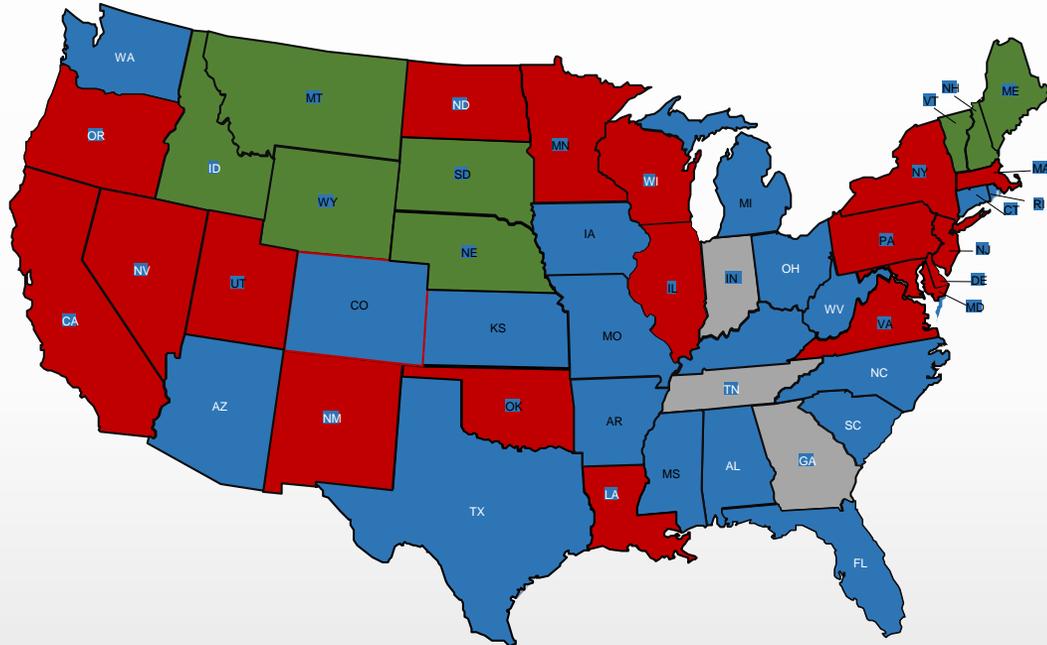


Oil & Gas Drilling



State Revenues: 2020

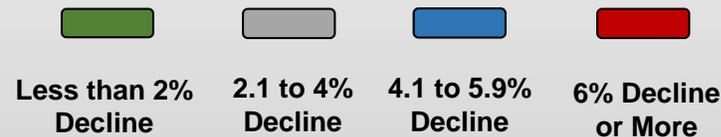
State Revenues: 2021



Revenue Decline Compared to 2019 Levels

Given our Macroeconomic Projection

- Estimate Income by State
- Consumer Spending by State
- VMT By State
- Real Estate Values



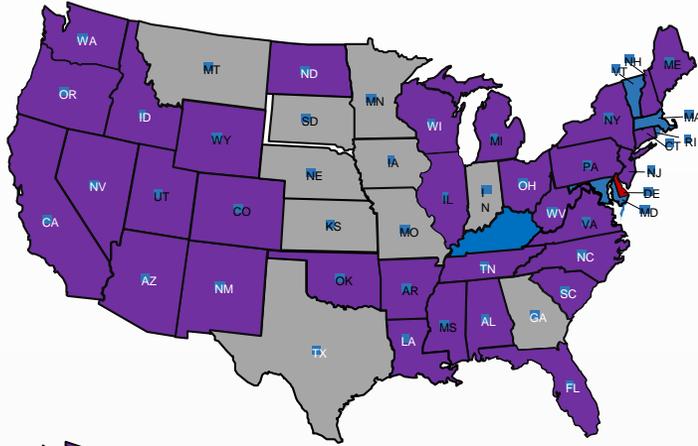
We Calculate State Revenues

- Individual & Corporate Income Taxes
- Sales Taxes
- Fuel Taxes
- Property & All Other
- Add CARES
- Assume drawdown of rainy day fund

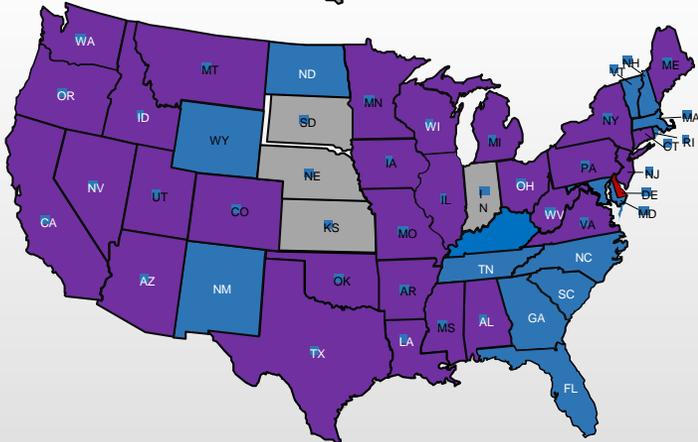
Cement Consumption Outlook: Average Growth 2020-2021

Percent Change, Year Ago

“U”



“W”



Expected Y-O-Y Change



“U”

“W”

| Total Cement | 2020 | 2021 | 2020 | 2021 |
|----------------------|--------------|-------------|--------------|--------------|
| West North Central | 2.9% | -0.3% | 1.8% | -2.8% |
| West South Central | -2.6% | 1.9% | -5.0% | -1.4% |
| New England | -6.2% | 1.1% | -6.6% | 0.1% |
| East North Central | -2.9% | 1.4% | -3.2% | 0.7% |
| Middle Atlantic | -7.6% | 1.9% | -8.0% | 0.9% |
| South Atlantic | -6.2% | 4.7% | -7.2% | -5.8% |
| East South Central | -6.9% | 2.7% | -8.3% | -4.4% |
| Pacific | -4.0% | 1.6% | -5.5% | -2.3% |
| Mountain | 0.3% | -1.6% | -1.6% | -6.0% |
| United States | -3.4% | 1.7% | -4.8% | -2.7% |

New Risks: Government Support

Ameri — The Dark Side

- PCA believes the economy is at the cross-roads of economic growth WITH a CARES replacement. Absent a replacement, whatever momentum the economy currently has will dissipate rapidly.
- PCA's forecasts assume another \$1.5 trillion in Federal support to workers, businesses, state governments, and others. Absent this additional support, economic conditions could dramatically worsen – quickly.
- The house has passed a \$3 trillion spending bill (Heroes Act) aimed at a myriad of projects. Among the items included in spending is roughly \$1 trillion in fiscal support to state, local & tribal governments. The Senate returns the week of July 21st. Senator McConnell has stated his concern over the growth in federal debt, and will counter with his own proposal – presumably at lower funding levels.
- Thus far, the CARES act has buffeted the economy from very harsh realities. The BEA estimates that the \$600 premium to unemployment alone supported more than \$850 billion in economic activity. Lacking that demand, another 5 million persons may have lost jobs. Make no mistake – the CARES act has been spectacularly successful.
- Some point to the recovery and improving economic conditions as an indication that no further support is required. That is a mirage. The recovery would not happen without the support. Quite simply the economy is not strong enough to stand on its own. It requires Federal support.
- Even a delay in replacing the CARES act will result in significantly more dour economic outlook

New Risks: Vaccine Scenario

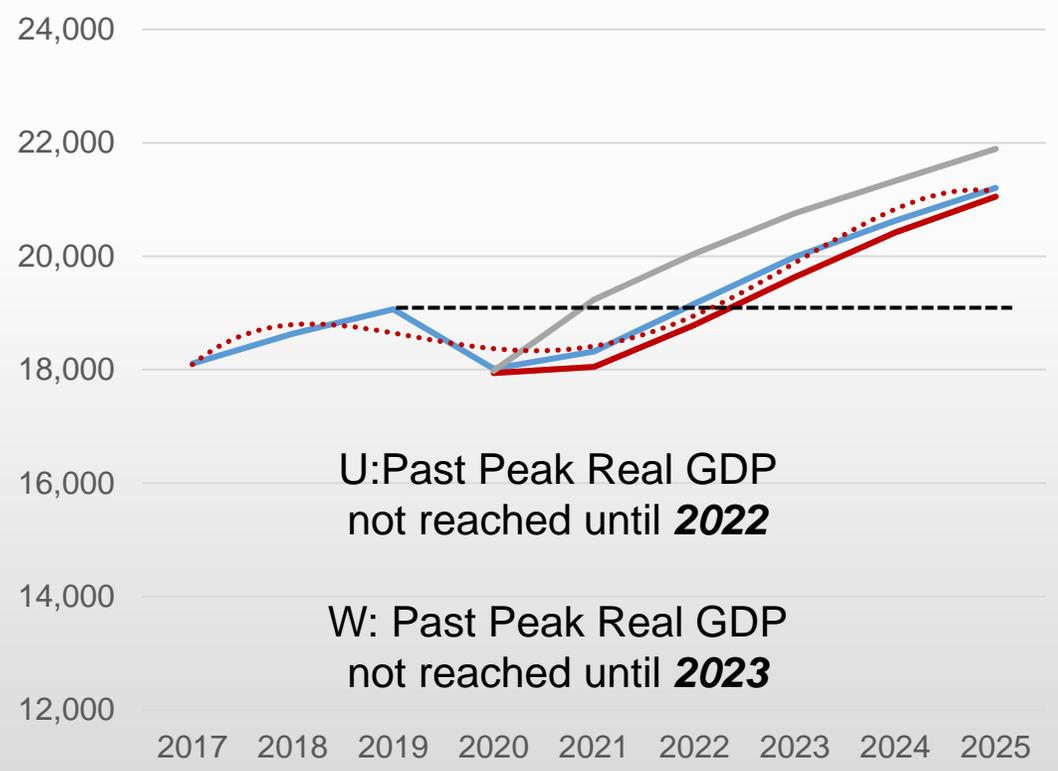
Vaccine Research

- Many health professionals are optimistic that a vaccine will eventually materialize.
- For the purposes of the economy, this does not necessarily mean 100% cure rate. Rather, all the vaccine must accomplish is to reduce serious illnesses, hospitalization, and deaths. Many in the health community suggest a reduction 50% in symptoms and a 70% reduction in moderate to severe cases is considered a success.
- Four phases of vaccine development are often cited and they include: 1) Pre-clinical testing (on animals), 2) Phase One (small sample testing), 3) Phase Two (sample size involving 100s of persons), and 4) Phase Four (sample size involving 1,000s of persons).
- Once these tests are completed the FDA can approve the vaccine for widespread distribution. “Operation Jump Start” is designed to make sure the time between FDA approval and widespread production and distribution of the vaccine is shortened.
- To date there are 138 vaccine research at the Pre-clinical testing. Another 25 are in Phase One. 15 are in Phase Two and 7 are in Phase Three.
- All this information still begs the question, when will a vaccine that will reduce the death rate be ready for widespread distribution? PCA assumes that materializes in the third quarter of 2021.

GDP – “U, W & Vaccine” Scenarios

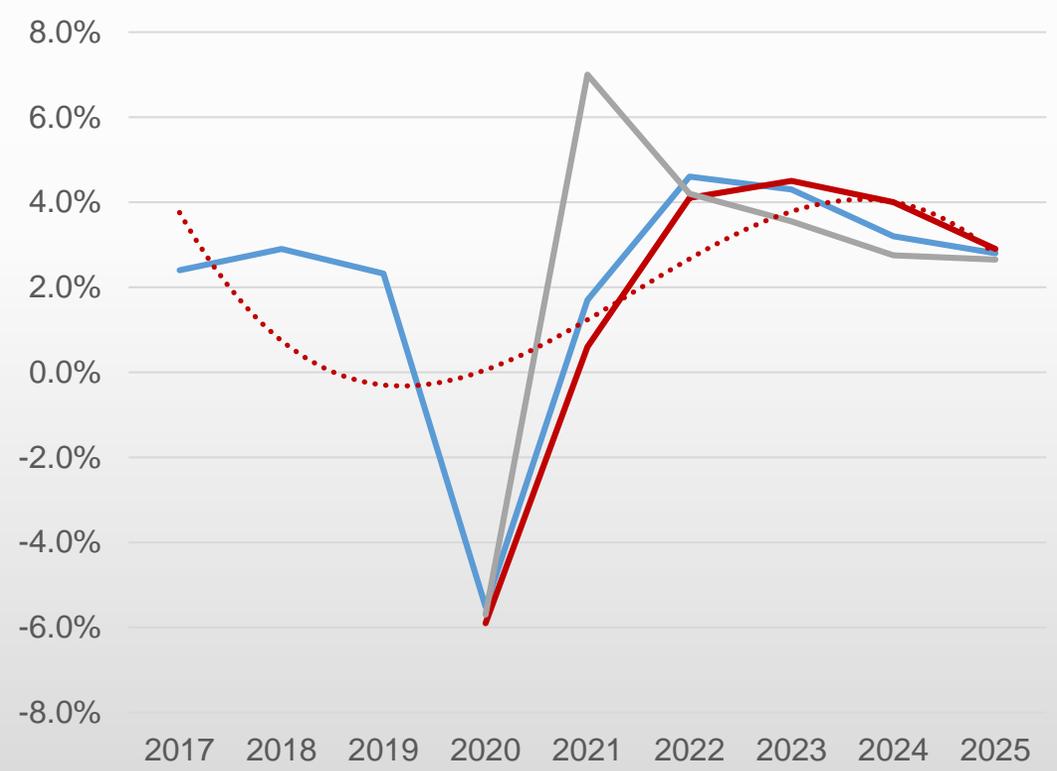
Real GDP

1985=100



Real GDP Growth

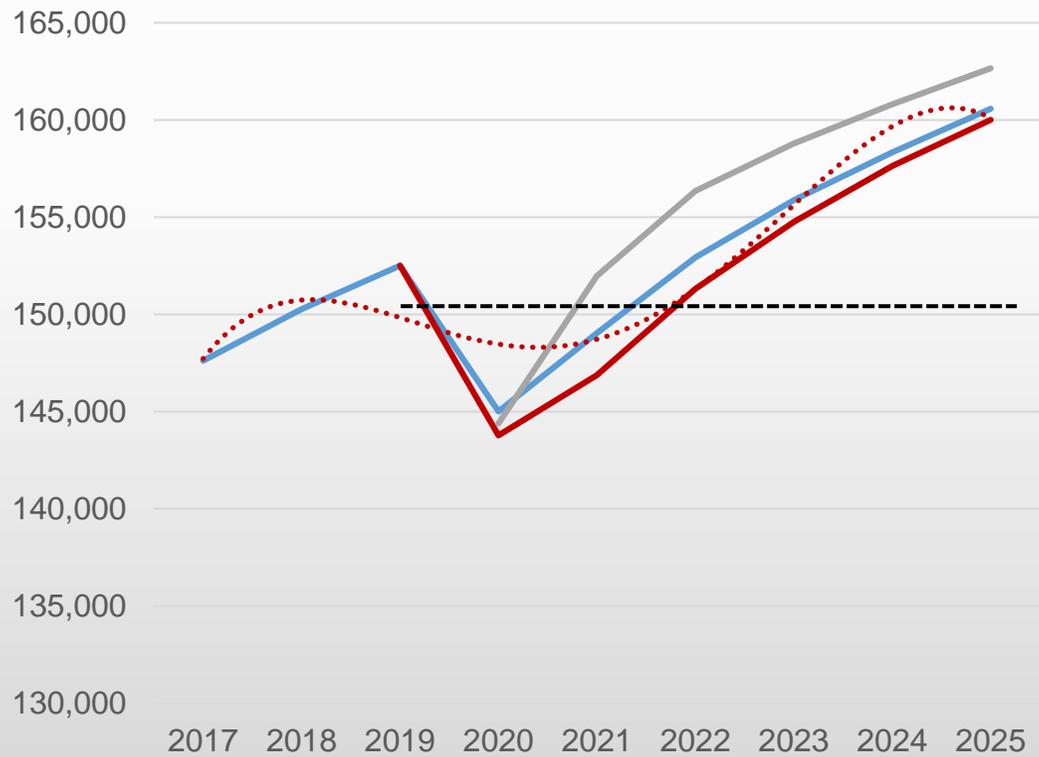
Percent Change, Y-O-Y



Employment & Unemployment Rates– “U, W & Vaccine”

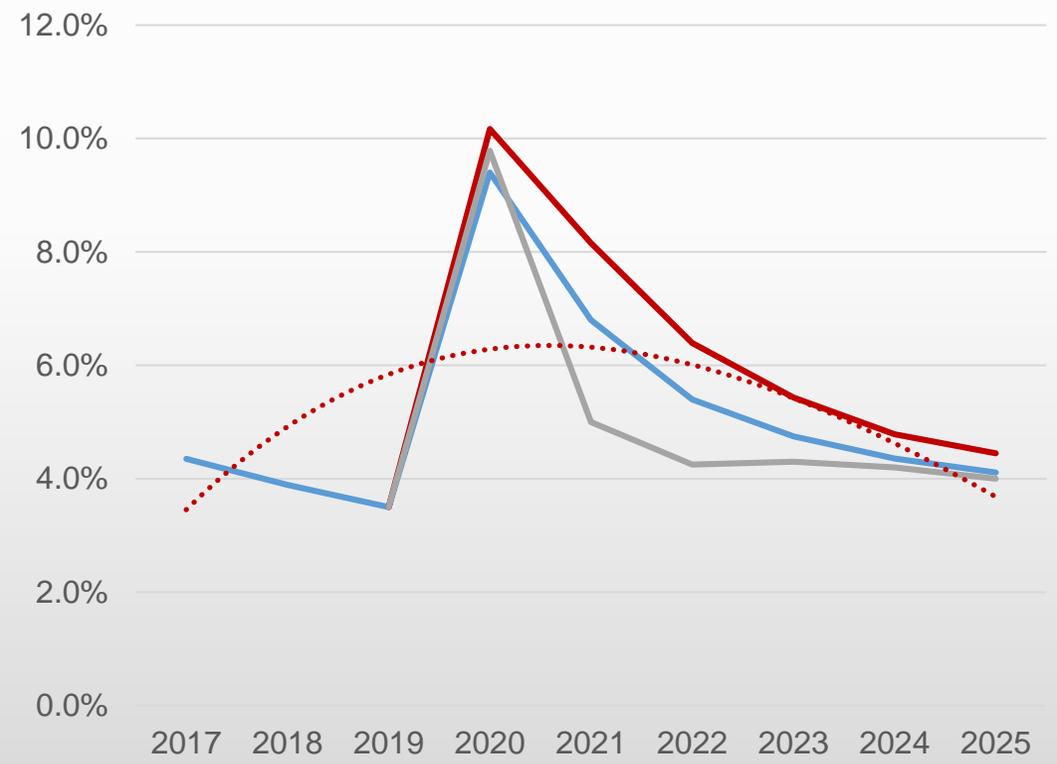
Employment

Thousands



Unemployment Rates

% Unemployed of Labor Force



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