

Forecasting Economic Activity for the Nation and for the State



LOWE INSTITUTE
OF POLITICAL ECONOMY

CLAREMONT MCKENNA COLLEGE

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How would you like to graduate into a recession ?

- What was it like graduating into the Great Recession for the class of 2008? and 2009?
- Will the class of 2022 or 2023 graduate into a recession?
- Double-dip recessions: 1980-1981, (1918-1920)



Red Light - Green Light

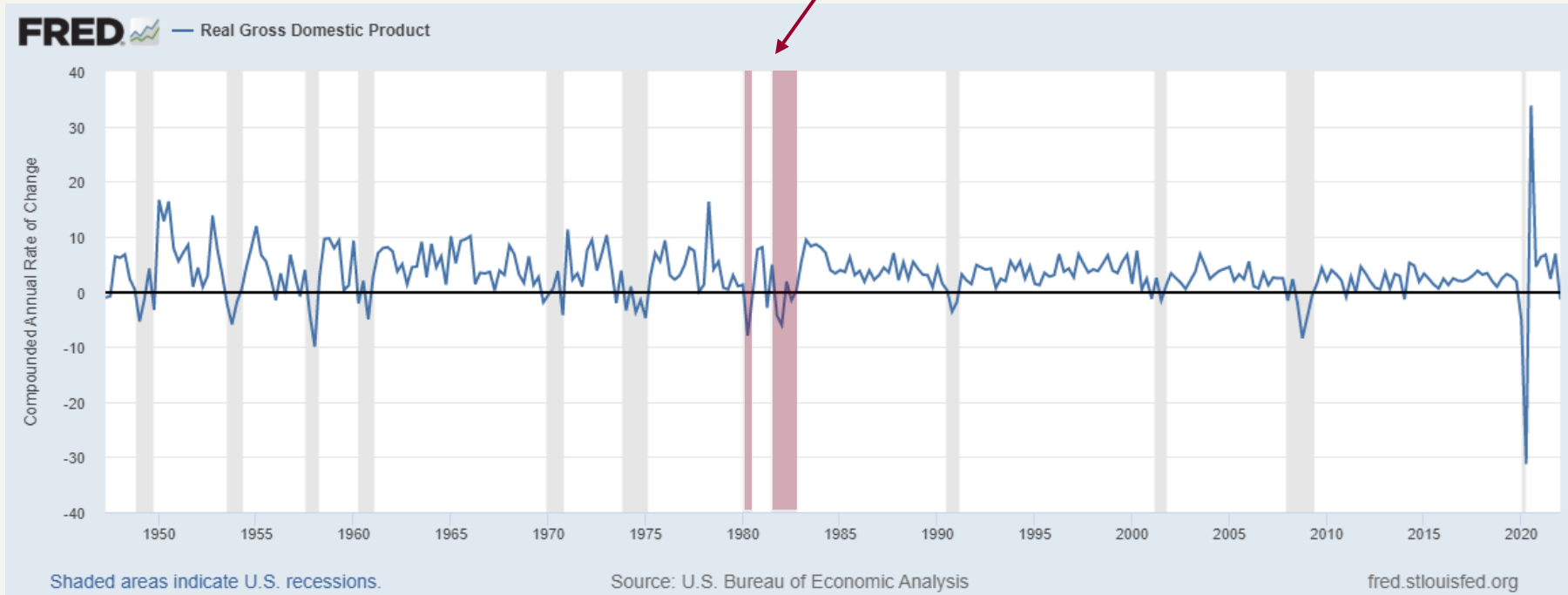
What goes down must come up ~





Double-Dip Recession?

The Double-Dip (1980-1981)



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Economic Analysis

fred.stlouisfed.org



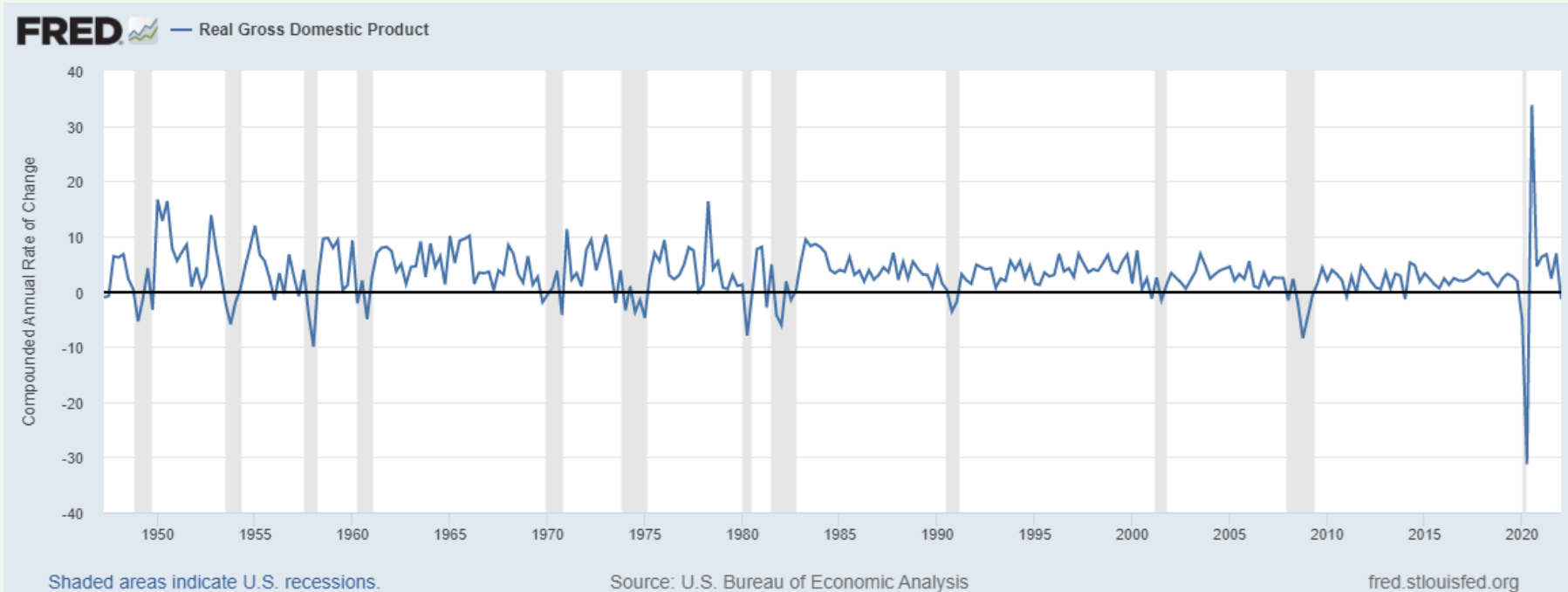
National Economy

The Big Picture

Real GDP



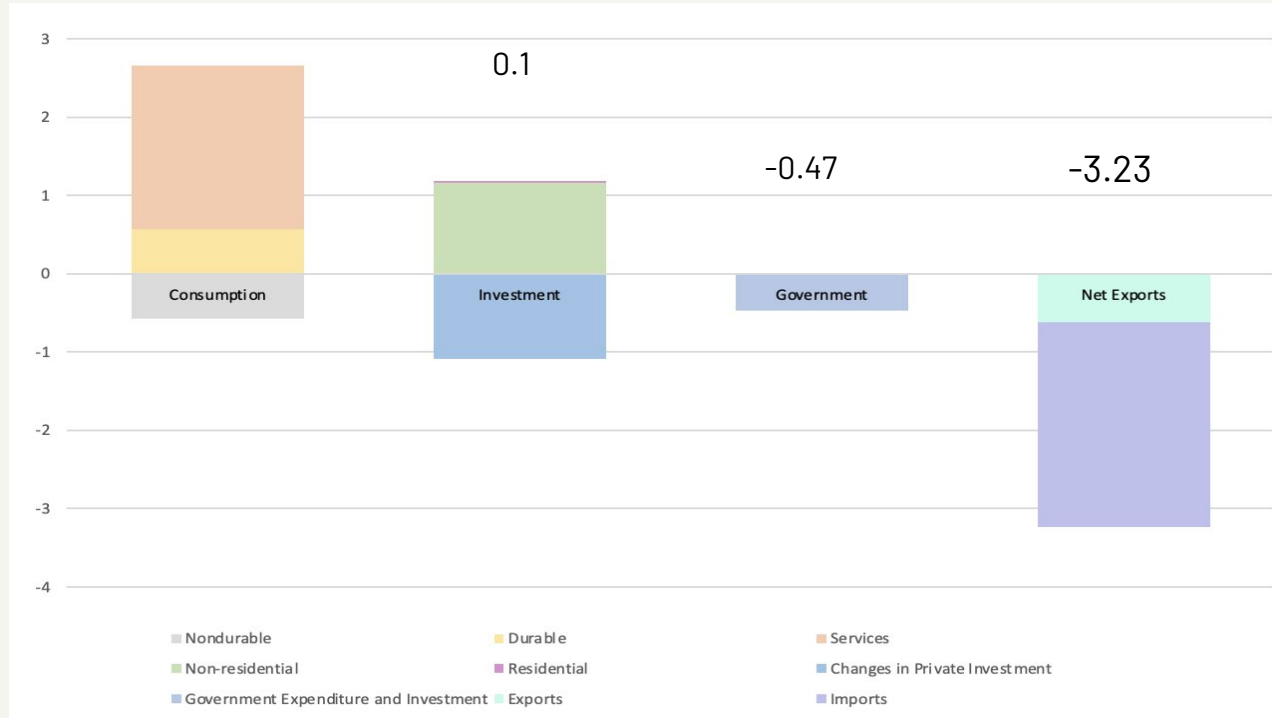
Quarterly Growth Rates, U.S., SAAR, 1947:Q2-2022:Q1
2022: Q1: -1.4%; 2021:Q4: 7.0%, Q3: 2.3%, Q2: 6.7%, Q1: 6.3%



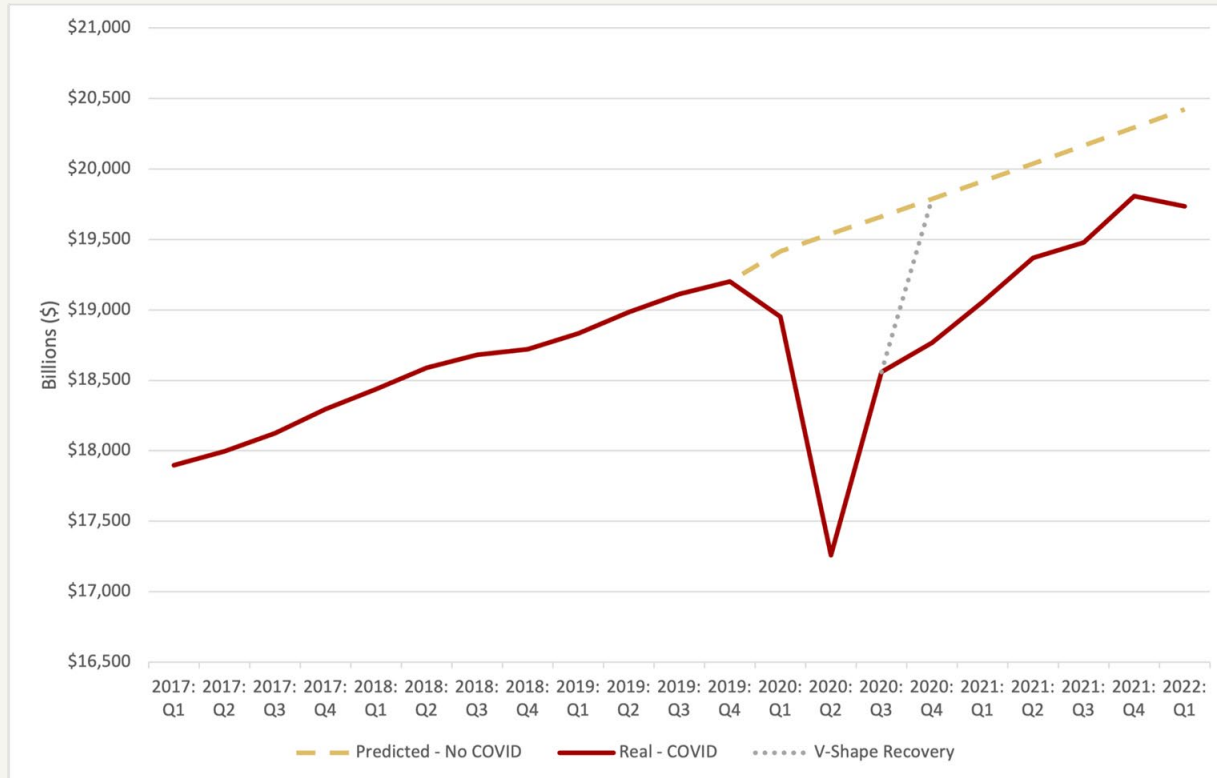


GDP Growth Rate Component, 2020 Q1 GDP Growth = -1.4%

best forecast Q2: +1.9% GDPNow, 2.9% Blue Chip

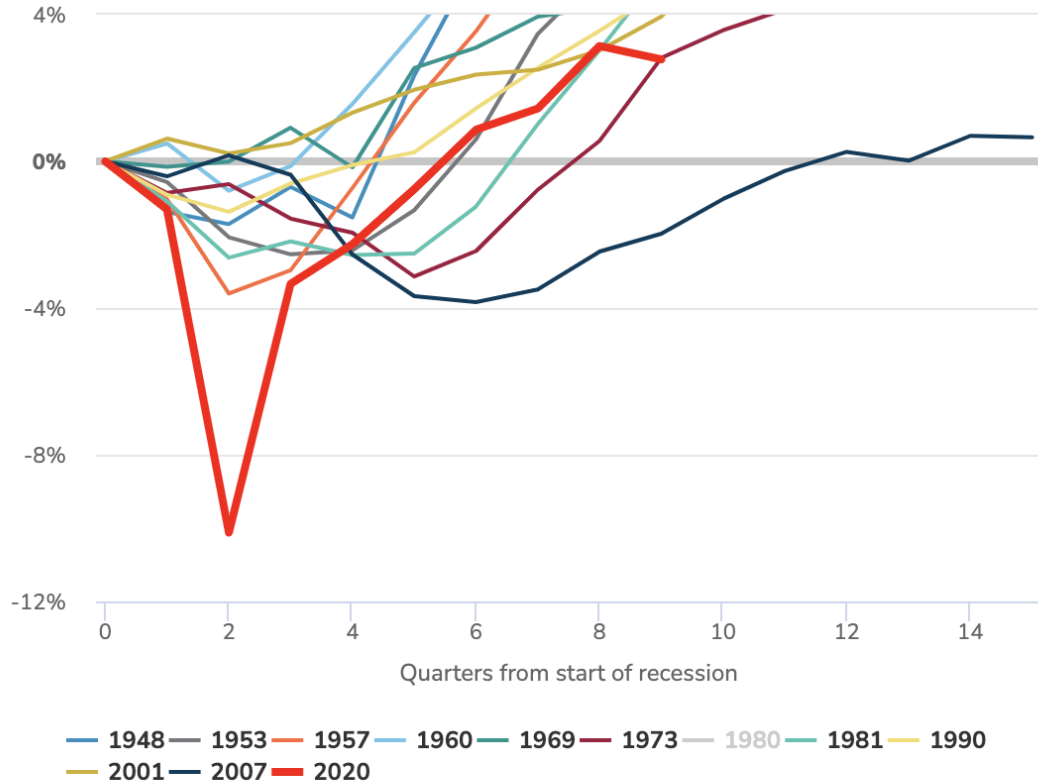


Real Gross Domestic Product, Predicted and Actual Level, U.S., SAAR, 2017:Q1-2022:Q1





Change in U.S. output



Source: Bureau of Economic Analysis

**GDP Recovery,
U.S. Recessions:**
U.S. did worse in
1953 (Korean War)
1973 (OPEC I)
1981 (Volcker
Recession)
2007 (Great
Recession)

Unemployment Rate, U.S., SA, 1947:M1

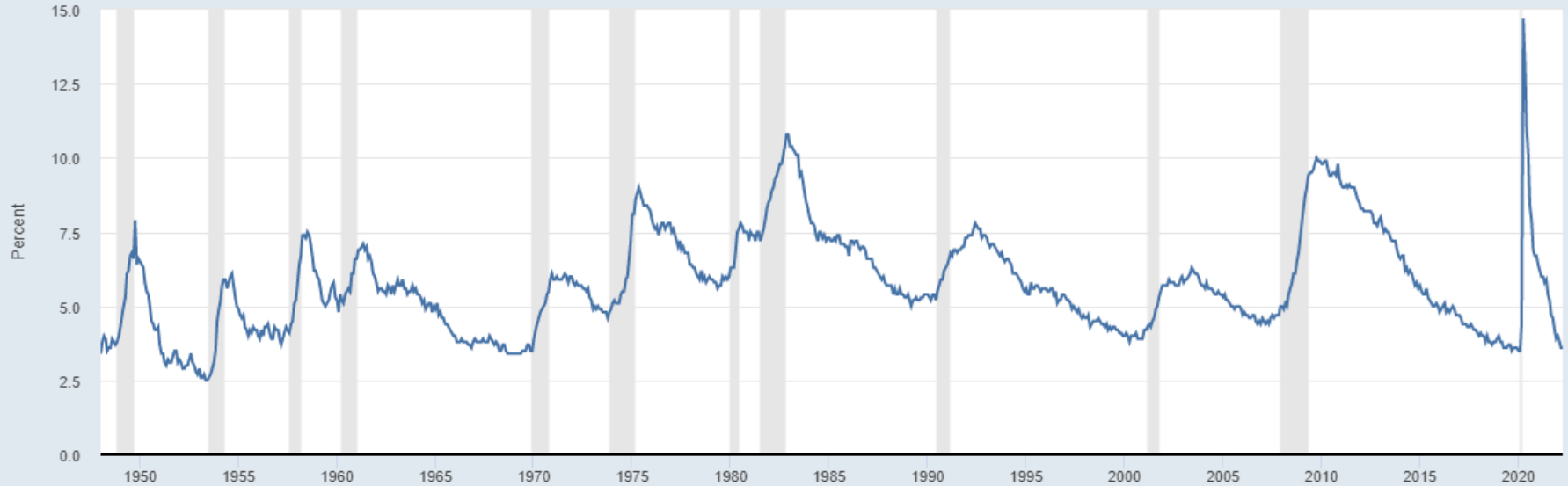


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2022:M4

2022 Apr: 3.6% March: 3.6% , Feb: 3.8%, Jan: 4.0%; 2021 Dec : 3.9%

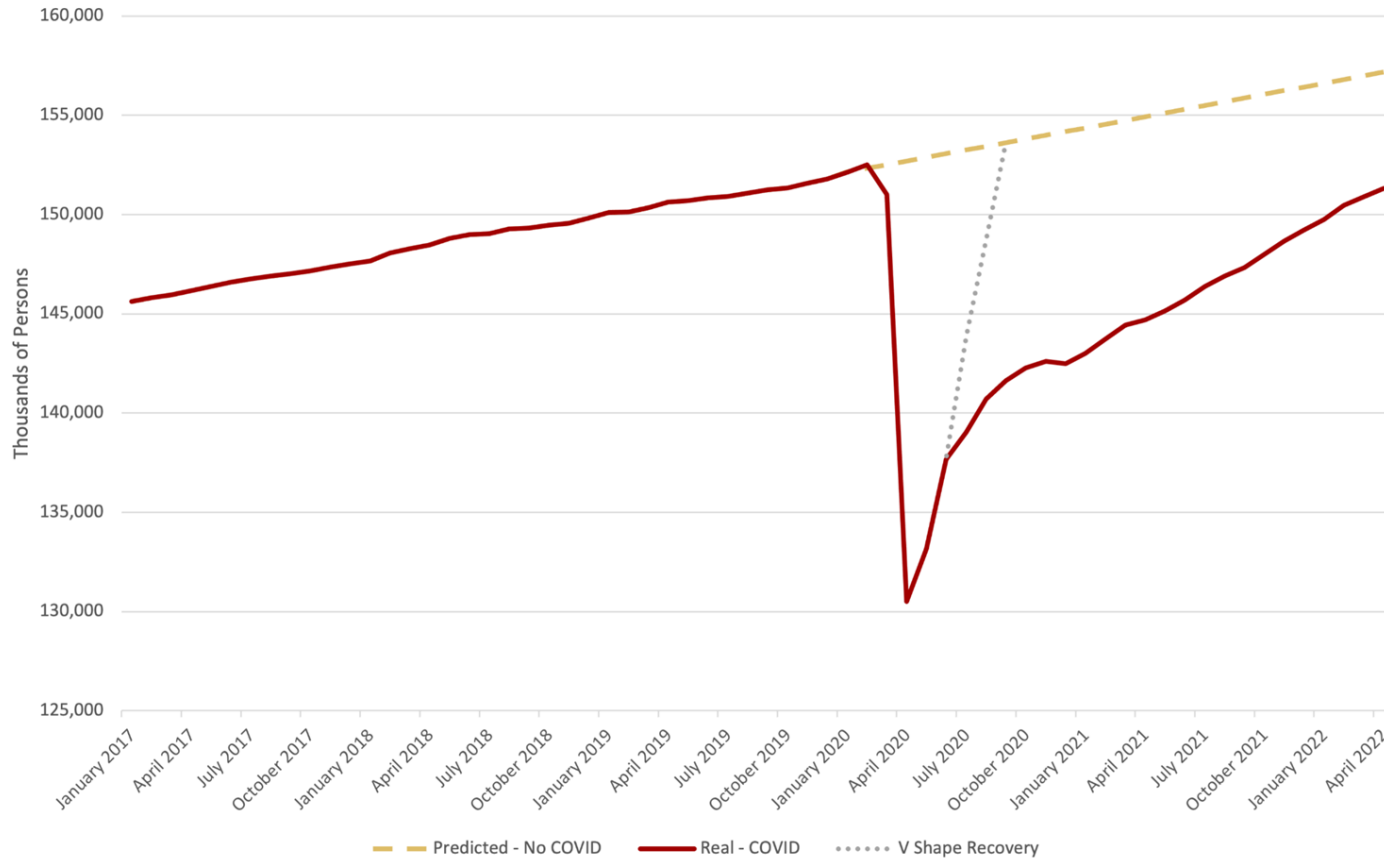
FRED — Unemployment Rate



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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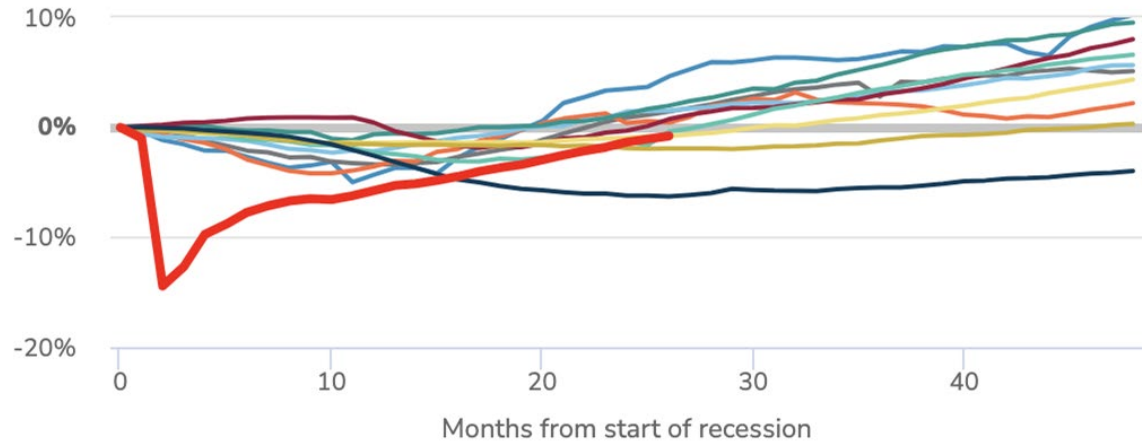


Employment Level, U.S., SA, 2017:M1 - 2022:M4



Change in employment by industry

Total nonfarm



— 1948 — 1953 — 1957 — 1960 — 1969 — 1973 — 1980 — 1981 — 1990
— 2001 — 2007 — 2020

Source: Bureau of Labor Statistics

**Employment Recovery,
U.S. Recessions:
U.S. did worse in
2001 (dot com)
2007 (Great Recession)**

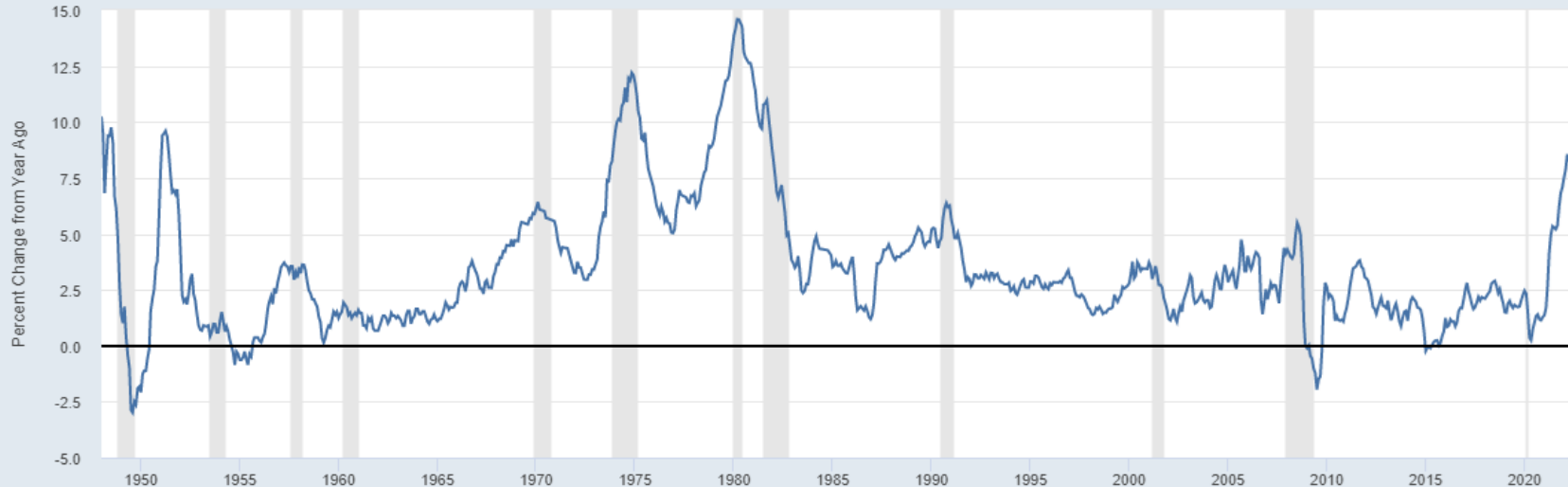


Annual Inflation Rate, CPI

U.S., in Percent, 1947:M1 - 2022:M4

Apr 2022: 8.2%, Mar: 8.6%, Feb: 7.9%, Jan: 7.5%, Dec 2021: 7.1%

FRED — Consumer Price Index for All Urban Consumers: All Items in U.S. City Average



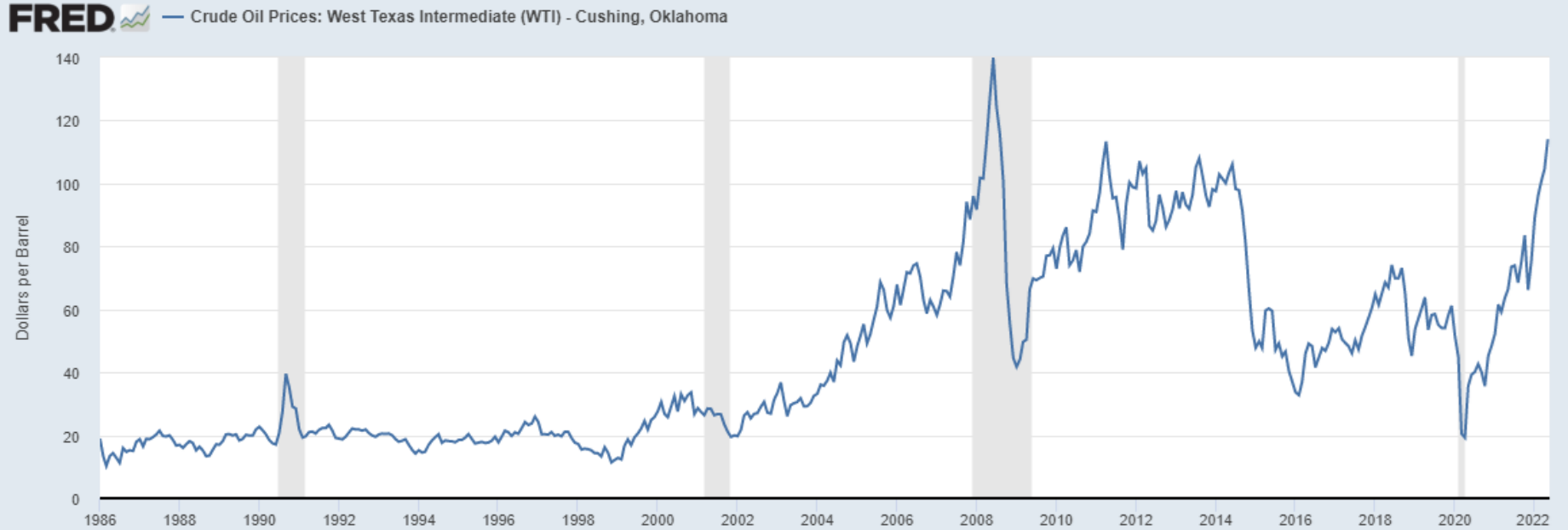
Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

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What about Oil Prices? West Texas Intermediate, 1986 - 2022



Shaded areas indicate U.S. recessions.

Source: U.S. Energy Information Administration

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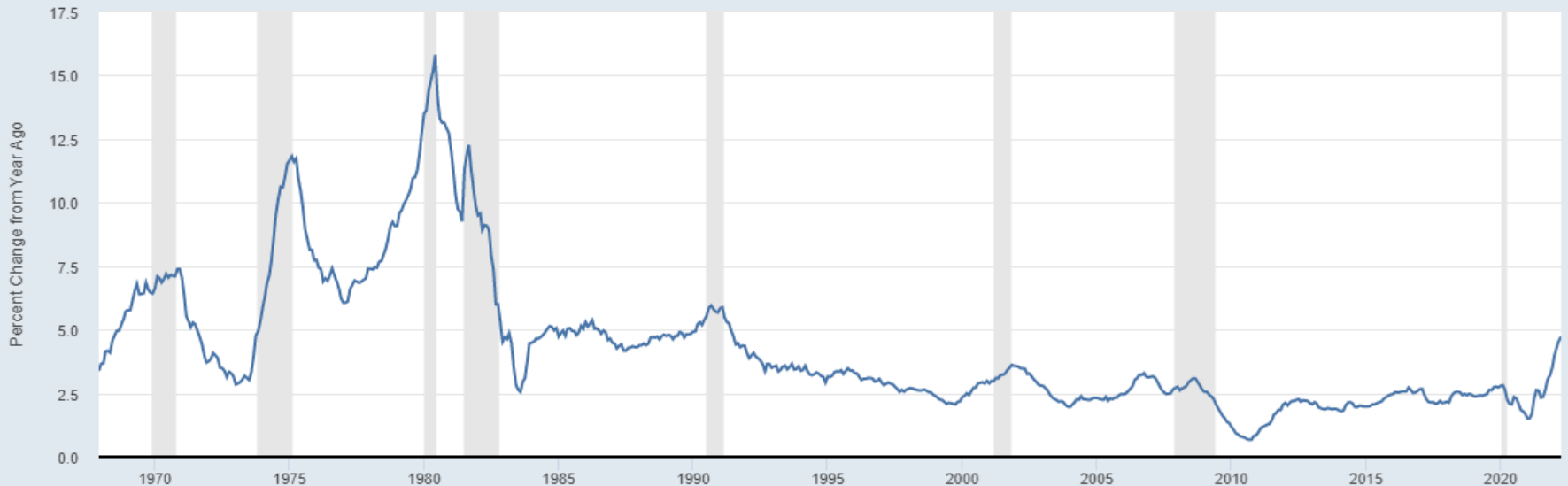


Annual Inflation Rate: “Sticky Price CPI less Food & Energy”

U.S., in Percent, 1967:M12 - 2022:M4

Apr 2022: 4.7%, Mar: 4.6%, Feb: 4.3%, Jan: 4.0%, Dec 2021: 3.5%

FRED — Sticky Price Consumer Price Index less Food and Energy



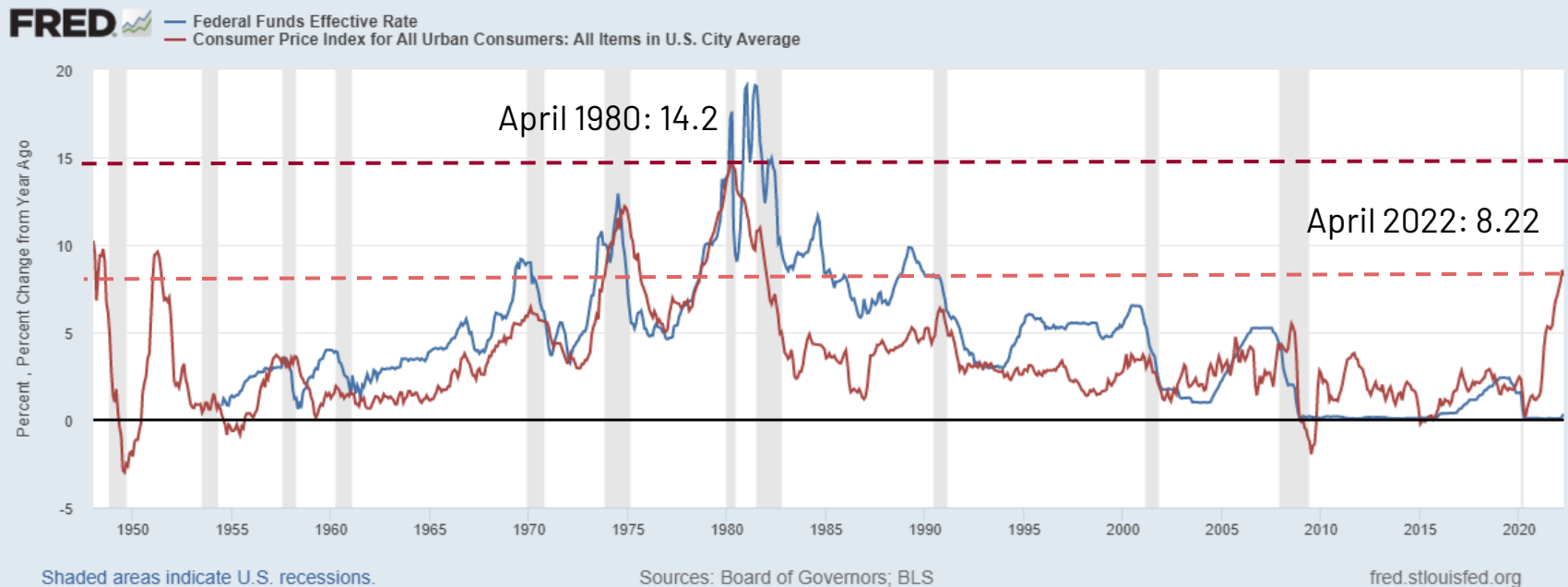
Shaded areas indicate U.S. recessions.

Source: Federal Reserve Bank of Atlanta

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Then vs. Now

- **High Inflation:** 1981, Inflation rate at 14.2%; now, Inflation at 8.2%
- **High Oil Price**
- **FED increasing the interest rate (now by 0.5 pct pts in June and July 2022)**



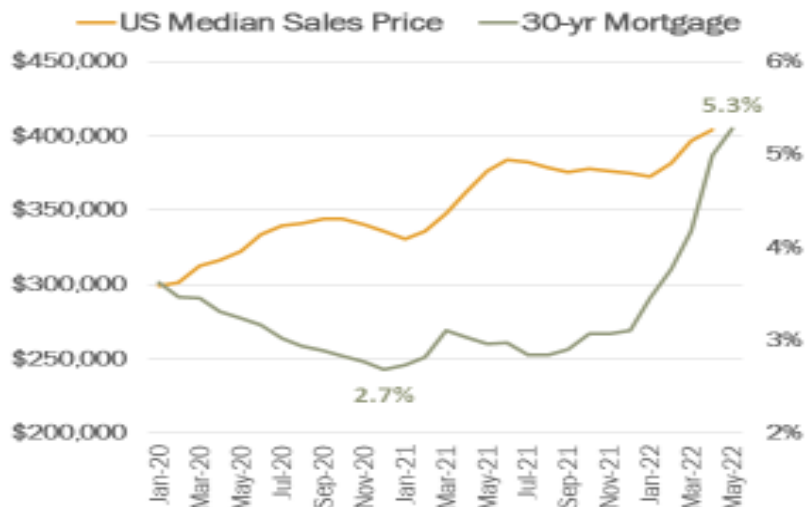


Home Prices, 2022 and 2020

Region (MSA)	Median Sales Price (April 2022)	% Increase Since January 2020
United States	\$404,241	35.1%
Sacramento	\$662,223	28.8%
San Francisco	\$987,222	16.9%
San Jose	\$1,421,444	33.9%
Fresno	\$428,725	22.2%
Los Angeles & Orange	\$999,916	15.3%
Riverside	\$579,000	37.5%
San Diego	\$916,268	18.5%

Housing Market in Near Future

Home Prices



Price of home with 30-yr loan and \$3,000 monthly payment

- 3% interest rate: \$712,000
- 6% interest rate: \$501,000

Housing Prices have been rising due to

- Low interest rates
- Limited housing supply during pandemic

Prices should fall (or slow) as interest rates rise

- Recent price increases suggest a persistent housing supply shortage



Record Volume: Too Much Cargo? Port Congestion



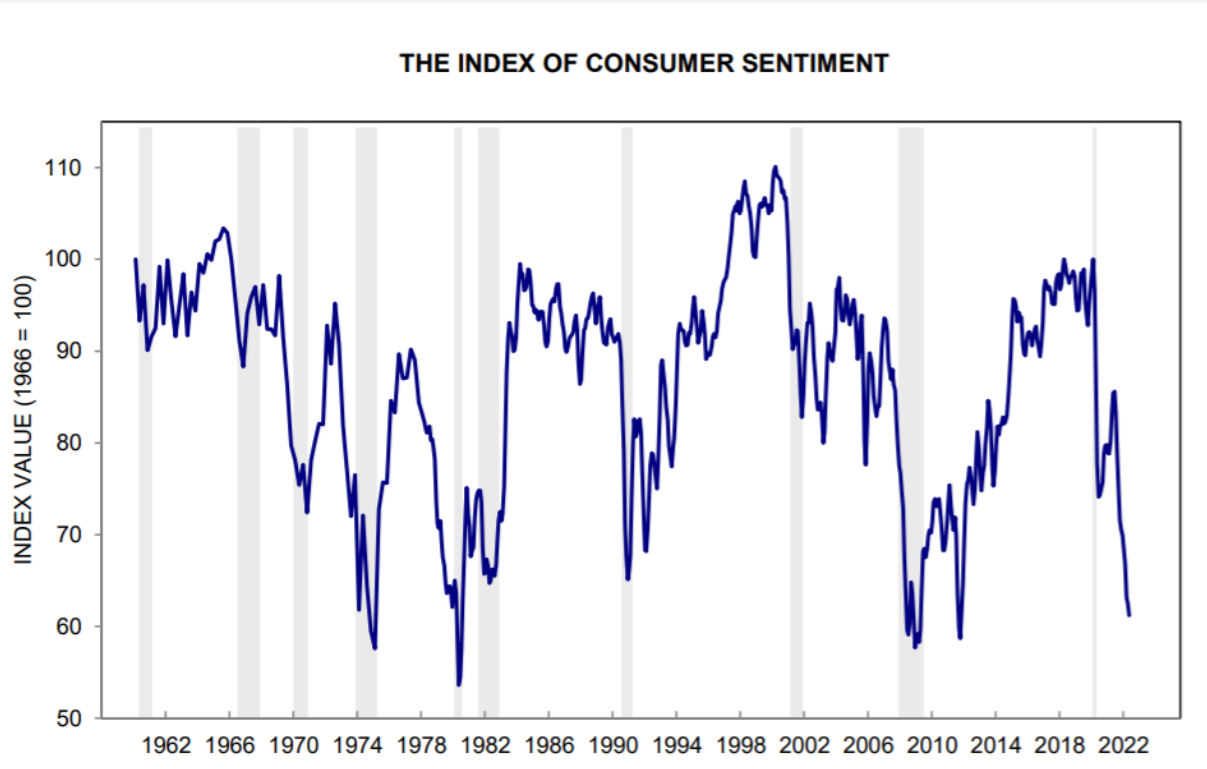
SHIPS AT ANCHOR IN SAN PEDRO BAY, SOUTHERN CALIFORNIA

PEOPLE LINING UP FOR BLACK FRIDAY DEALS THIS YEAR LIKE:





Consumer Sentiment Index University of Michigan, 1960-2022

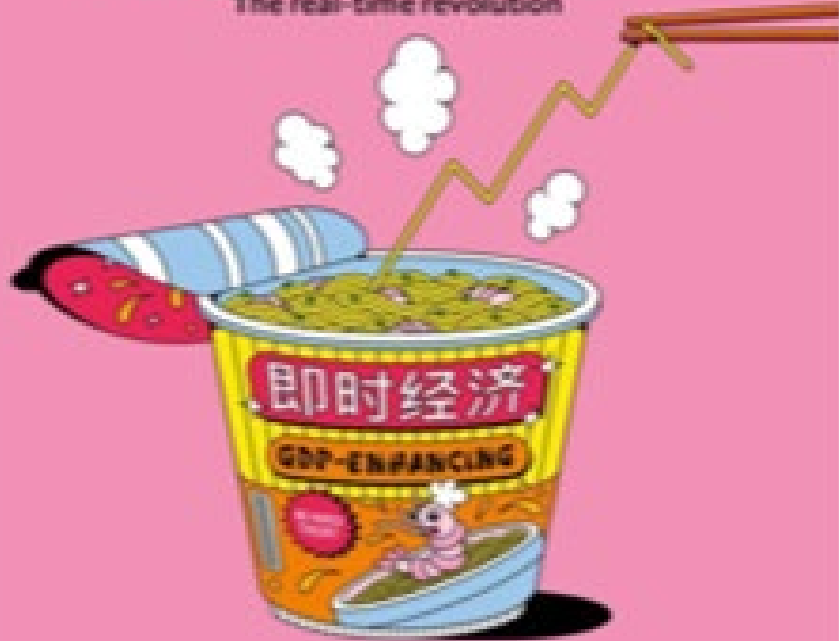


**The
Economist**

Is Nigeria ungovernable?
Samsung's big bet
A triple shock to China's growth
Andy Warhol in Iran
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Instant economics

The real-time revolution

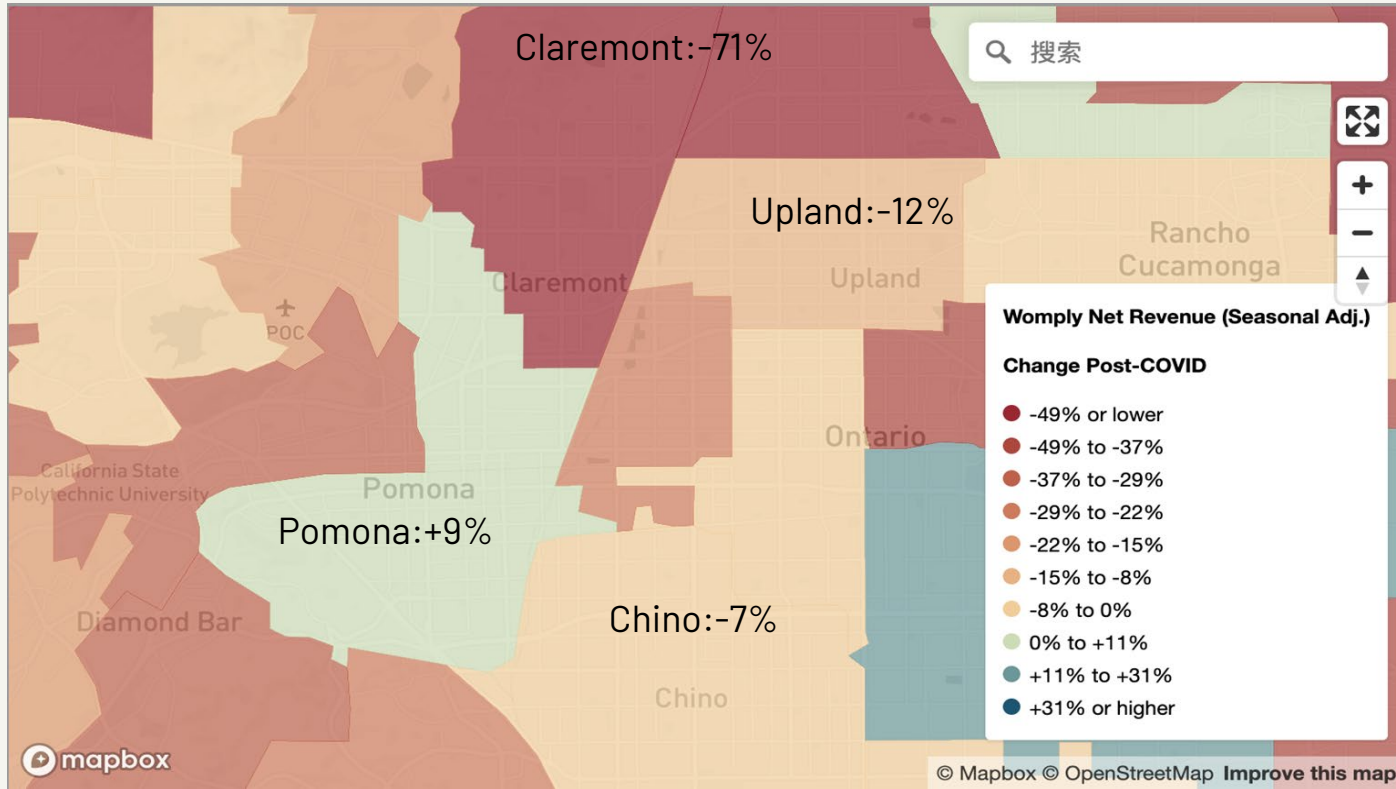


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The Economist Title Story Hints at New Data Collection Methods



Small Business Revenue Change, Jan 2020-May 2020

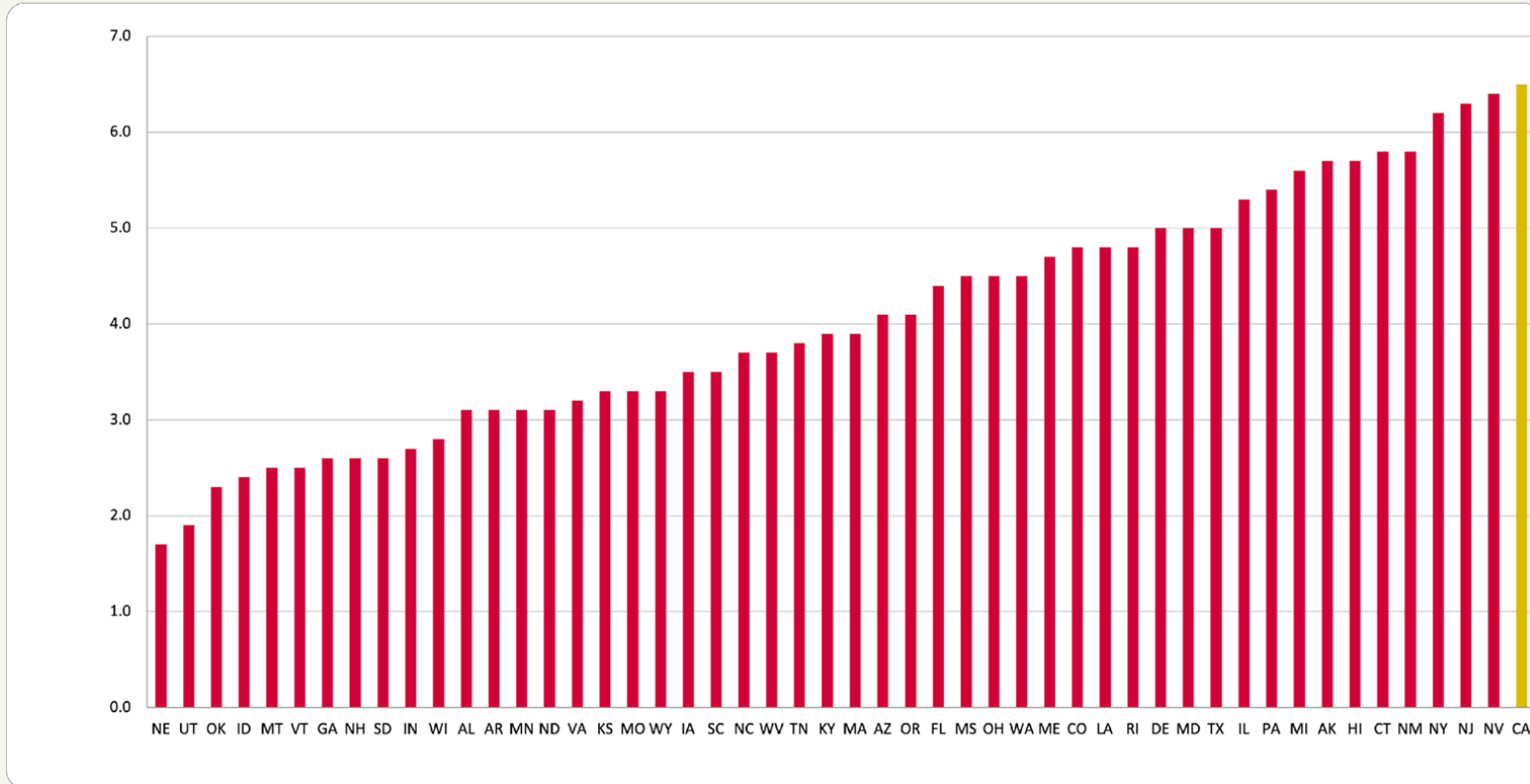




California Economy

The State

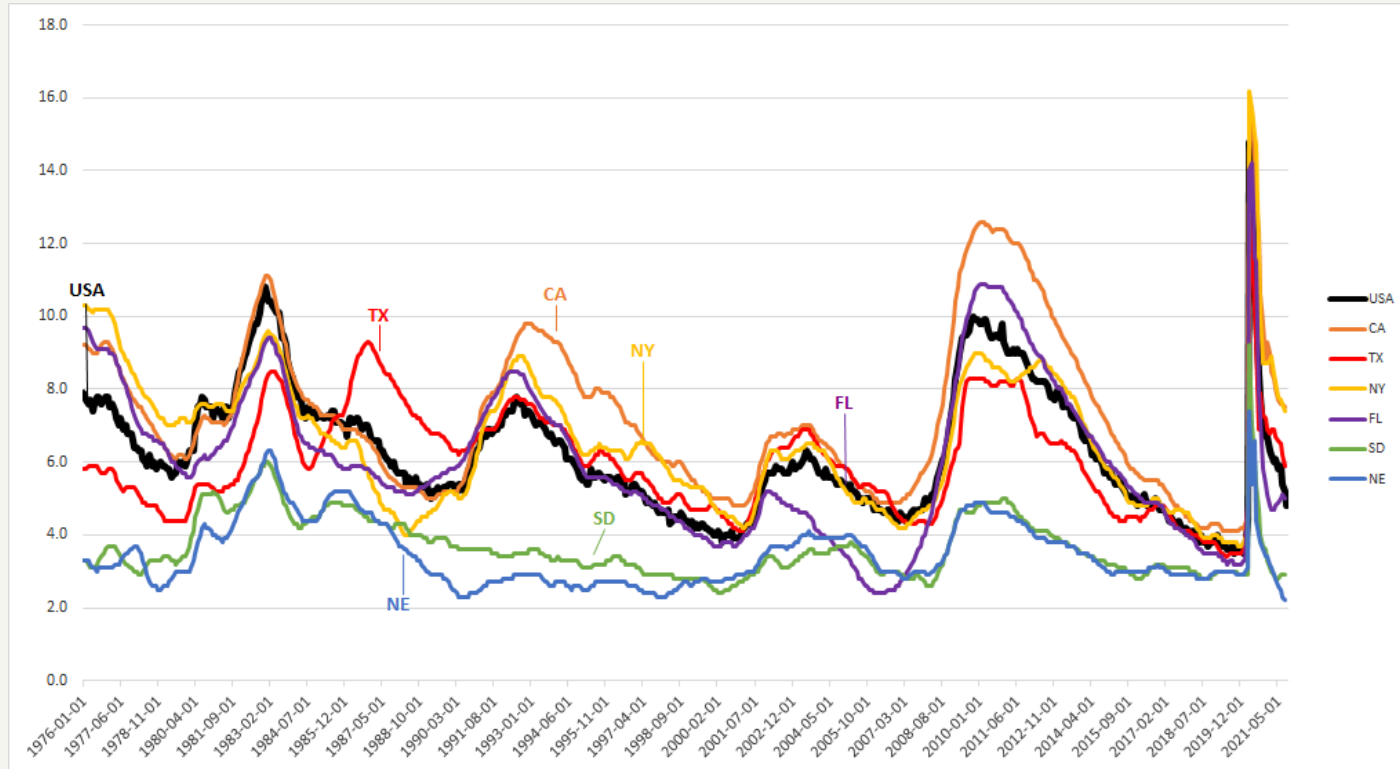
Unemployment Rate, U.S. and Selected States, SA, September 2021



Unemployment Rate, U.S. and

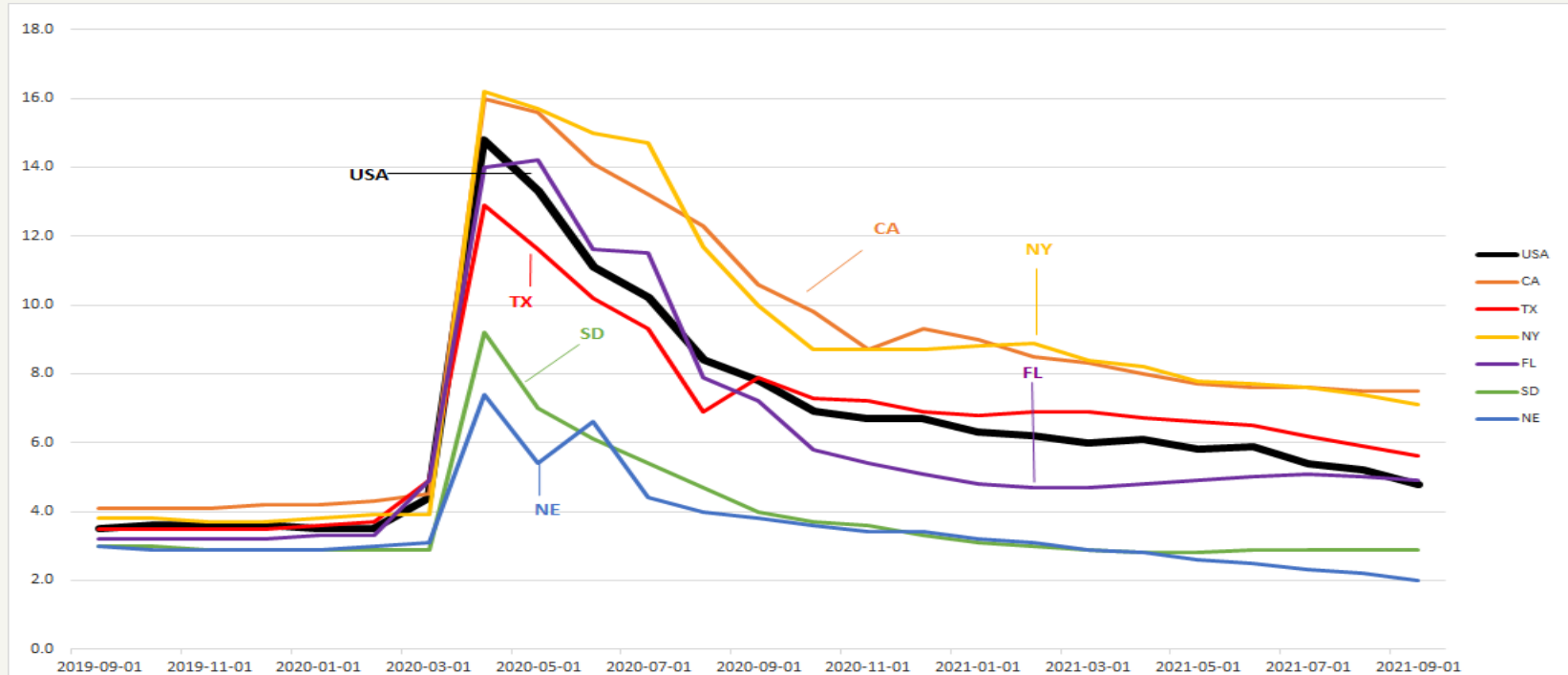


Selected States, SA, 2019:M9 to 2021:M9





Unemployment Rate, U.S. and Selected States, SA, 2019:M9 to 2021:M9

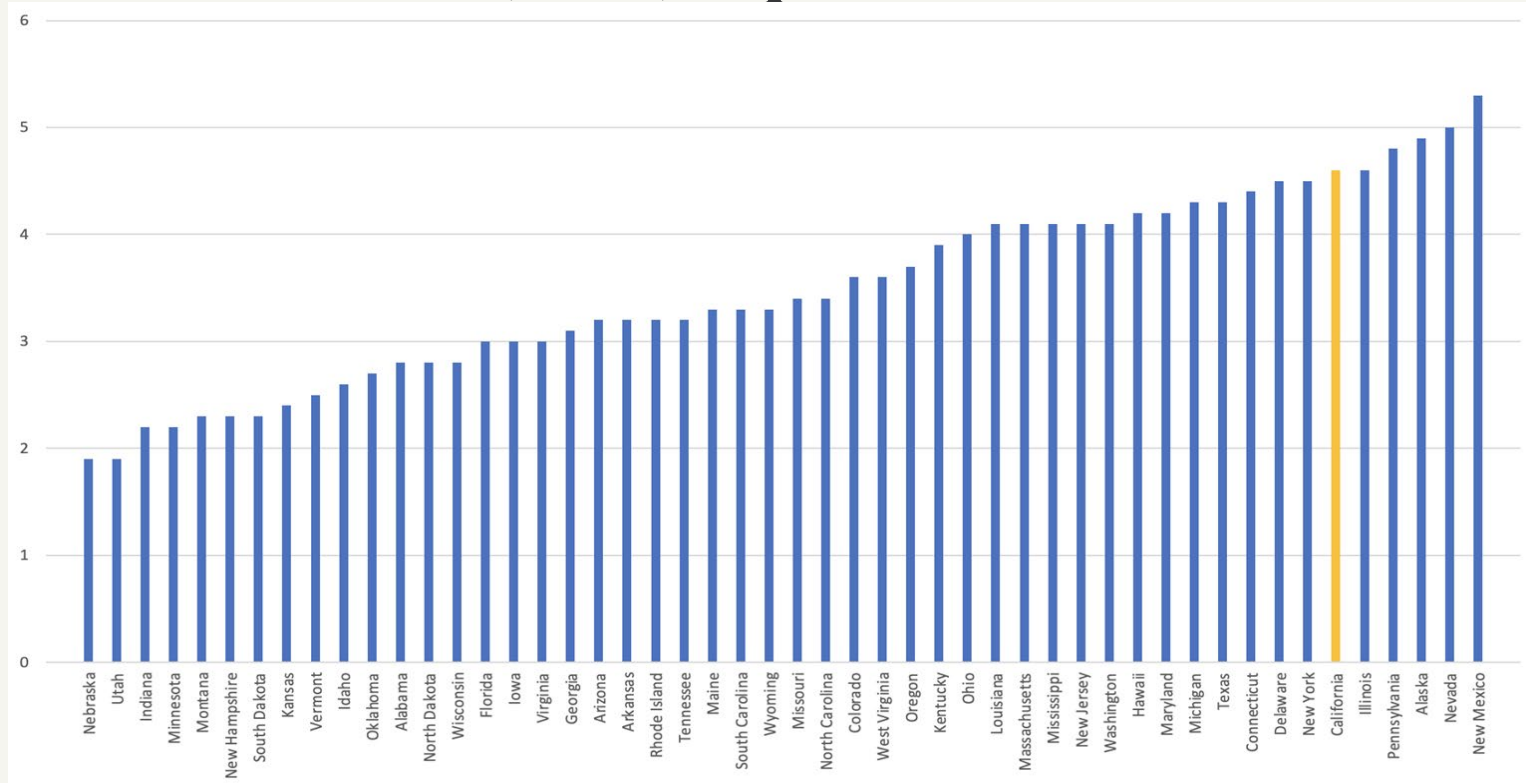


State Unemployment Rates, U.S., SA, April 2022



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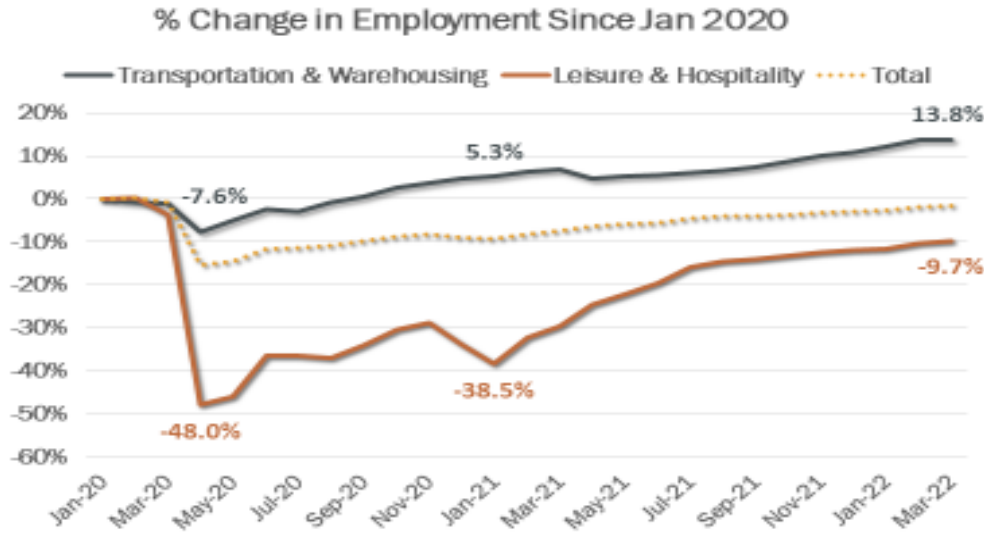
CA Employment April 22

	Feb-20	May-20	Dec-20	Apr-21	Mar-22	Apr-22	MTM	YTY%	%20:Feb
Total Nonfarm	17,691,900	15,107,300	16,090,700	16,526,800	17,410,600	17,452,000	41,400	5.6	98.6
Mining and Logging	22,500	19,100	19,000	19,400	19,400	19,300	-100	-0.5	85.8
Construction	910,200	828,800	873,500	885,700	915,900	902,700	-13,200	1.9	99.2
Manufacturing	1,329,700	1,227,100	1,259,500	1,271,200	1,299,100	1,301,700	2,600	2.4	97.9
Trade, Transportation & Utilities	3,064,800	2,657,900	2,964,700	3,013,200	3,134,700	3,144,700	10,000	4.4	102.6
Wholesale Trade	686,100	615,800	639,800	644,800	653,800	655,100	1,300	1.6	95.5
Retail Trade	1,646,900	1,342,800	1,553,500	1,596,300	1,644,400	1,648,900	4,500	3.3	100.1
Transportation, Warehousing & Utilities	731,800	699,300	771,400	772,100	836,500	840,700	4,200	8.9	114.9
Logistics	3,750,900	3,273,700	3,604,500	3,658,000	3,788,500	3,799,800	11,300	3.9	101.3
Information	591,500	508,600	536,400	551,900	590,600	592,800	2,200	7.4	100.2
Financial Activities	851,600	800,300	818,000	823,500	833,900	837,300	3,400	1.7	98.3
Professional & Business Services	2,773,600	2,497,000	2,622,300	2,685,200	2,805,500	2,816,900	11,400	4.9	101.6
Educational & Health Services	2,874,100	2,615,200	2,756,300	2,795,800	2,893,100	2,893,600	500	3.5	100.7
Leisure & Hospitality	2,060,600	1,112,800	1,358,300	1,550,300	1,861,900	1,882,000	20,100	21.4	91.3
Other Services	593,400	408,500	456,300	492,500	545,900	545,800	-100	10.8	92.0
Government	2,619,900	2,432,000	2,426,400	2,438,100	2,510,600	2,515,200	4,600	3.2	96.0

California Employment Recovery



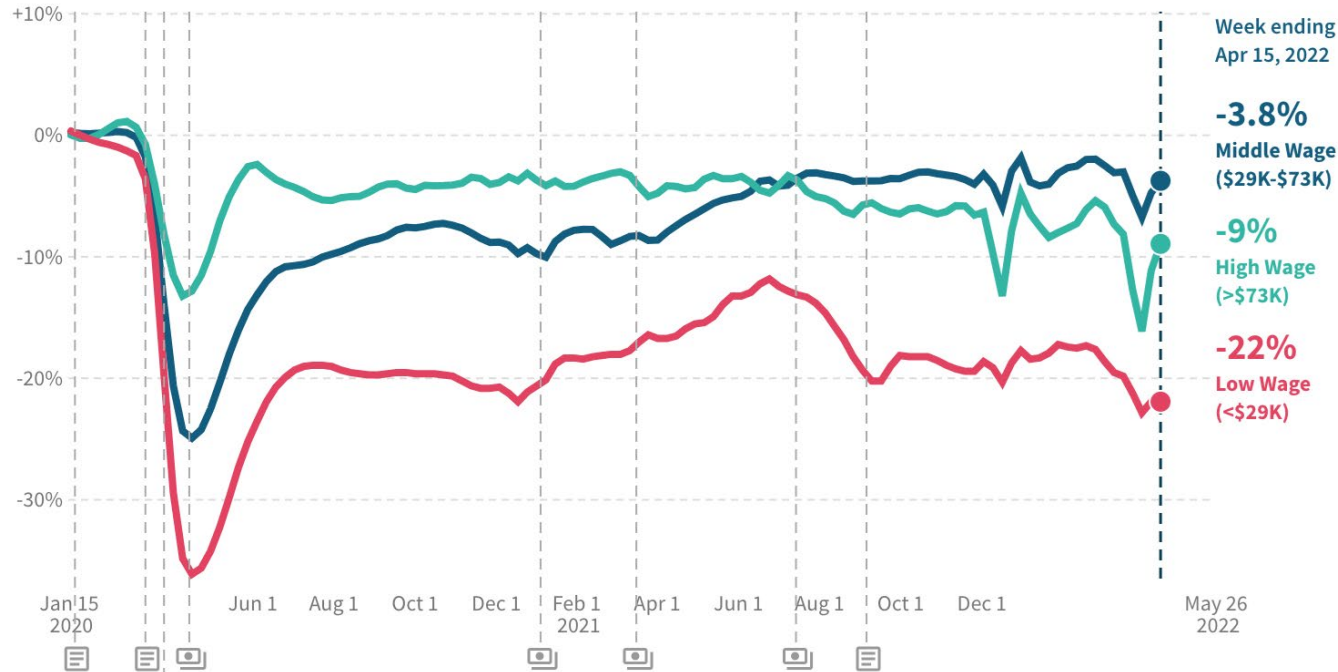
California Employment Recovery



They do want to work

- They just don't want to work for **you**
- e.g. Transportation & Warehousing Employment surged as we substituted in-person services for goods (especially online goods)
- Leisure & Hospitality earnings per job are up **29%** since Jan 2020
 - "Reshuffling" within the sector
- "Great Resignation" or "Great Renegotiation"?

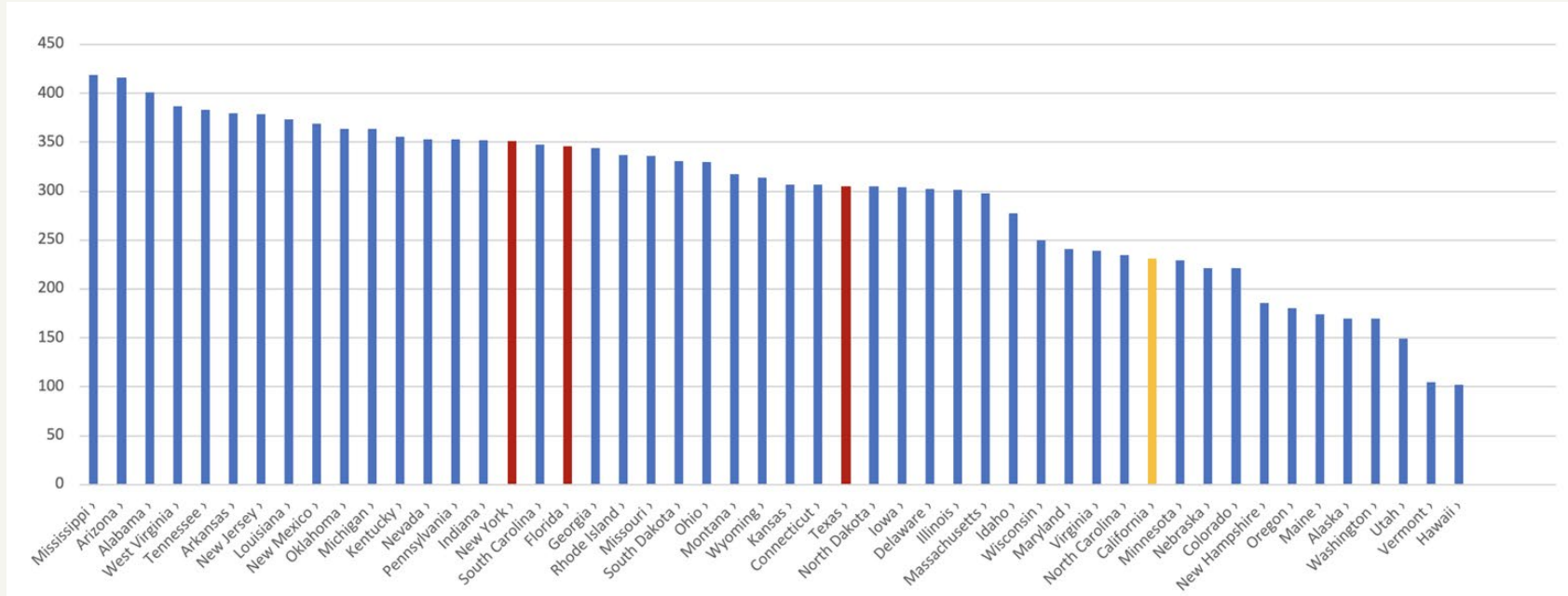
California: Change in Employment, High, Middle, and Low Wage, 2020:M1-2022:M4



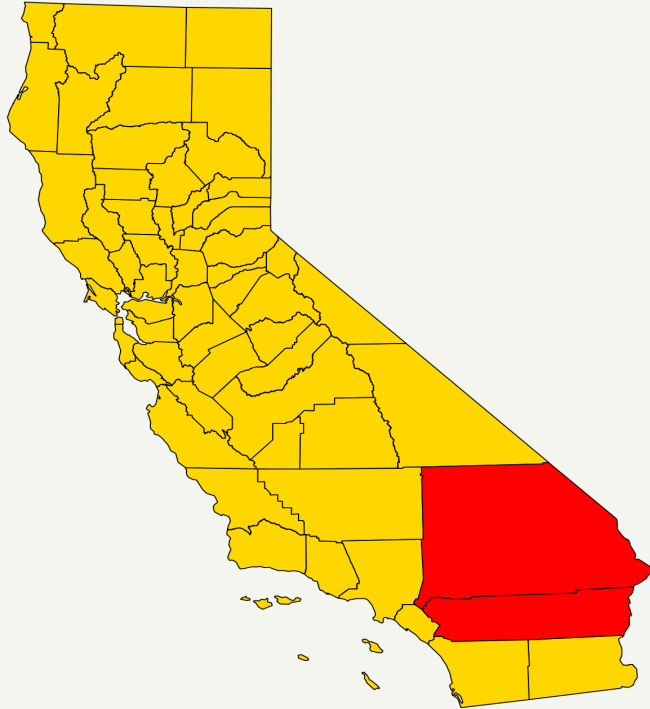
data source: **Earnin, Intuit, Kronos, Paychex**



Cumulative Deaths per 100,000 Population by U.S. State, May 2022



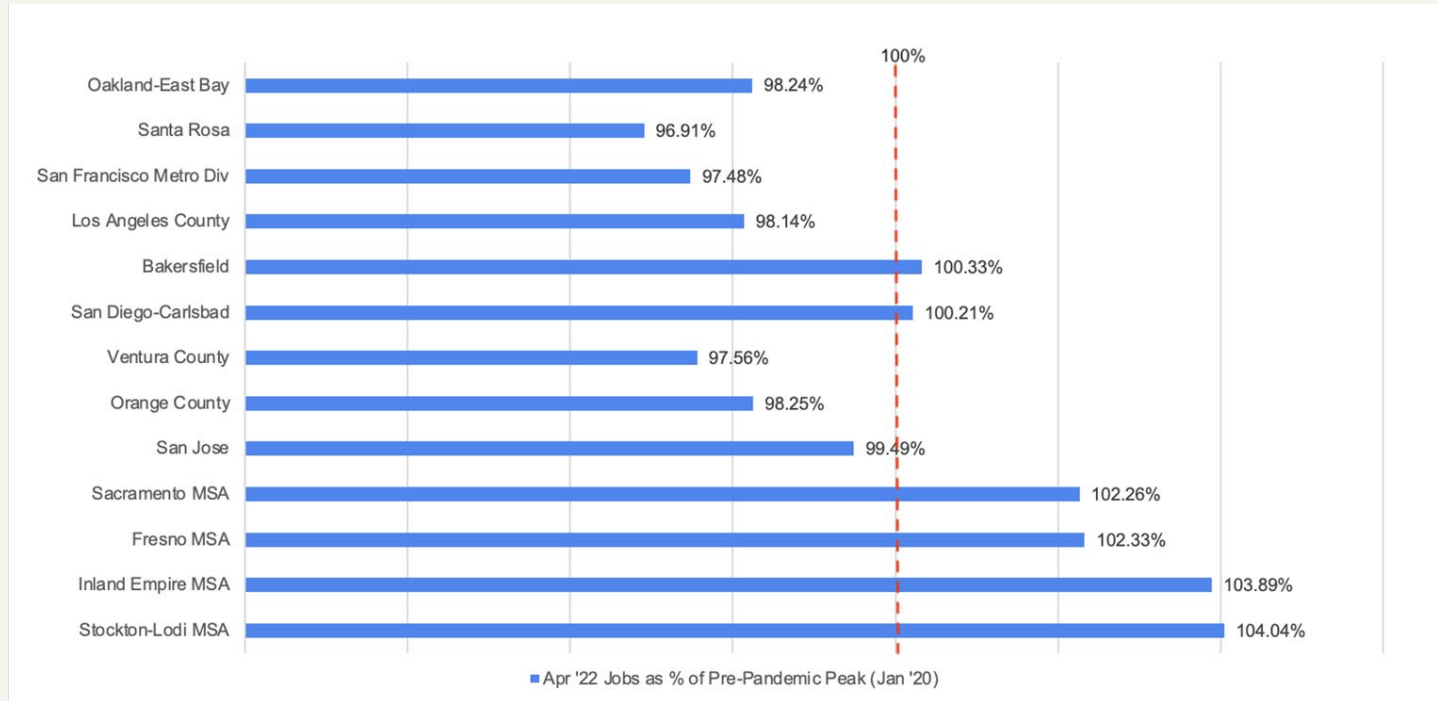
California Counties and the Inland Empire



Unemployment Rates by County



Jobs Recovery Varies Across Regions, Large Metros (April '22)



Unemployment Rates, U.S. (SA), California (SA), Southern California (NSA), 2020:M2, Peak Level, 2021:M9, in Percent



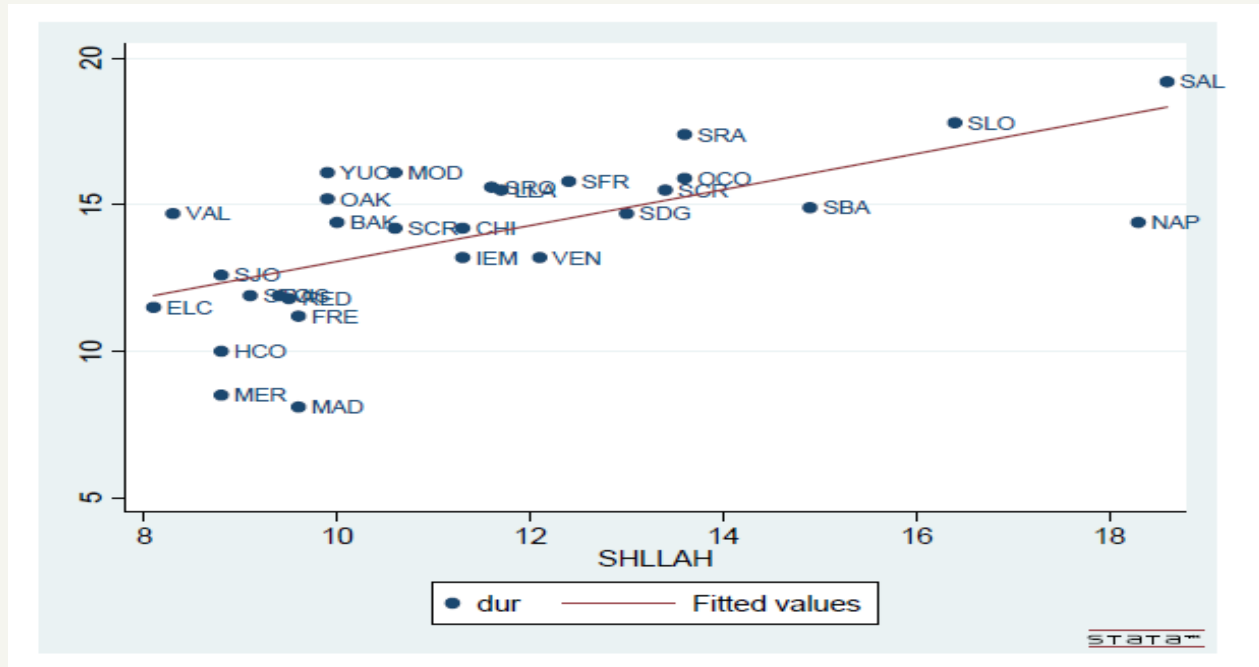
Area	2020:M2	Peak Level	2021:M9
U.S.	3.5	13.3	4.8
California	4.3	16.0	7.5
Inland Empire	3.9	15.2	6.6
Los Angeles	4.7	18.8	9.7
Orange County	2.8	14.9	6.0
San Diego	3.2	15.9	6.6
Ventura County	3.7	14.5	6.2
Imperial County	18.1	28.6	19.4

Change in California MSA Unemployment Rate, 2020,

2020,

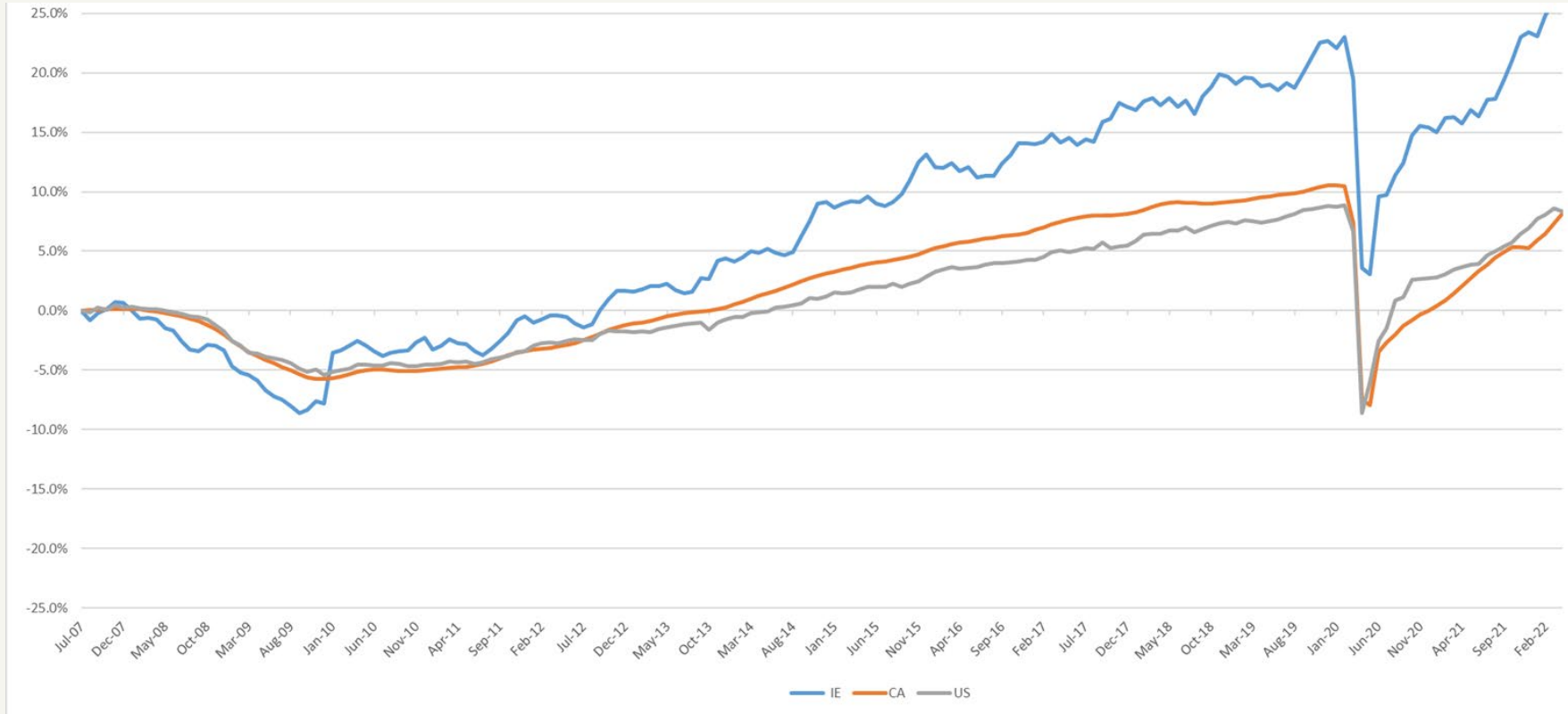


Labor Share Leisure and Hospitality, 2019

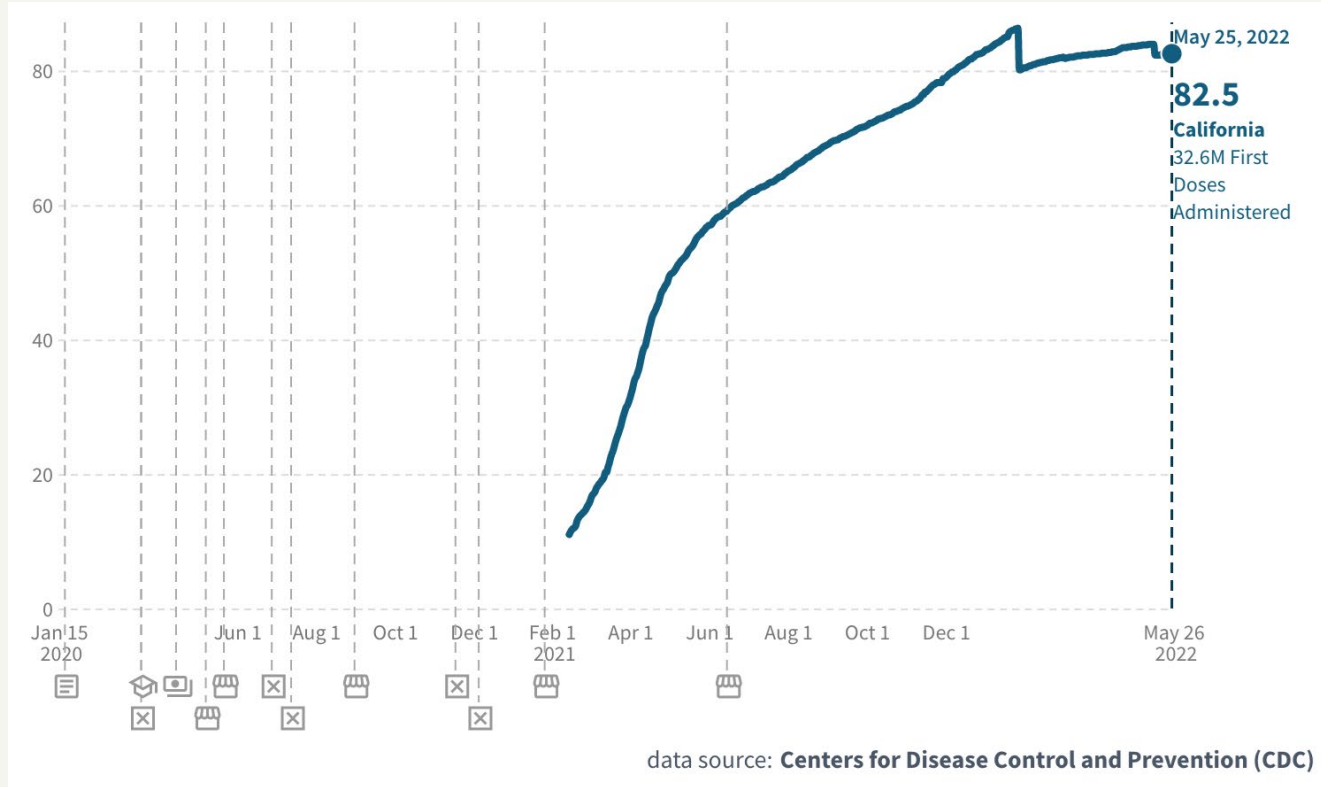




Employment Change, in %, since pre-Great Recession Level



California % of Population with at least One Dose of Vaccine





**Final Statement regarding the
Double-Dip Recession**

However...

(Keil lectures in Econ 125, Econometrics; this is called a “probit” - scary)

$$\Pr(1_Year_Before = 1 | spread_t) = \Phi(-2.71 - 3.65 \times spread_t - 6.06 \times spread_{t-3}) + 5.90 \left(\frac{1}{3} \sum_{i=0}^2 ur_{t-i} - \frac{1}{12} \sum_{i=0}^{12} ur_{t-i} \right)_t$$

(0.65) (1.03) (1.60) (2.99)

$$-10.18 \Delta_3(hrsManu \times shManu)_{t-9} - 0.0034 \Delta_{12} housstart_t + 0.0041(housstock_t - 10,000) \times DHS10$$

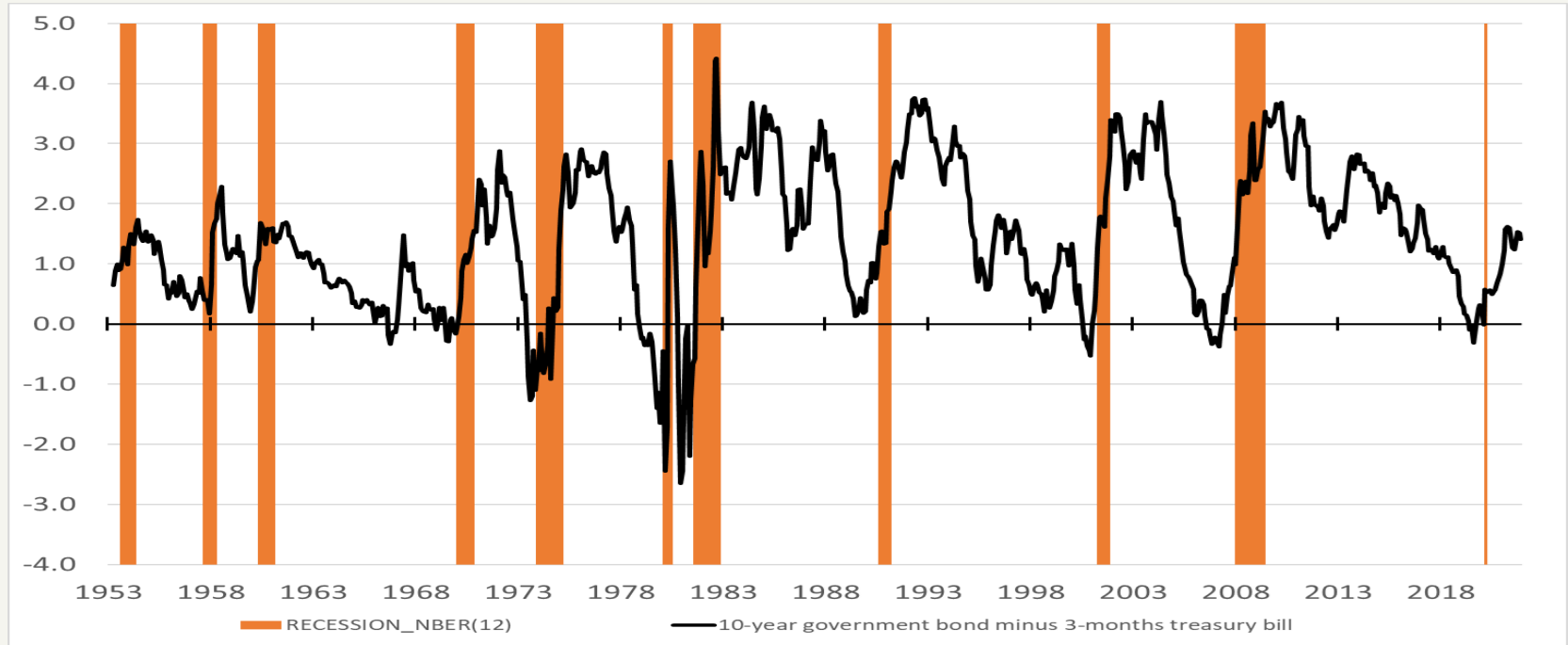
(4.86) (0.0012) (0.0009)

$$-0.184 \Delta_4(CSI)_t$$

(0.063)

McFadden $R^2 = 0.886$, $t = 1960:M1 - 2018:M12$ excluding recessions and recovery

Spread: (10-Y Gov Bond - 30-D Tbill)



Conclusion:

- very low probability of recession in 2023, even less for 2022 (pewh!)
- GDP growth 2022 Q2 around +2%
- Fed re-establishes credibility by getting inflation under control (less than 4% by end of the year)
- caveat: Ukraine, China, Coronavirus