



The Covid Recovery: *How long is the road to recovery?*

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Happy New Year!



The Pandemic Recession



■ Covid-19: A global natural disaster

- Approaching 100 million cases and 2 million deaths, ~20% here in the US
- In midst of largest surge to date, new waves of closures

■ The light at the end of the tunnel

- Context: Spanish flu 50m deaths in a smaller world population, 100x more deadly
- New treatments have lowered fatality rates
- 3 vaccines shown to have varying degrees of effectiveness
- Roll outs in progress, Others in the pipeline

■ The Economic Debate

- The macro debate, “U”, “V”, or whatever... most called “U”, slow recovery
- This is not the great recession
- Our outlook “V”—This is not the great recession situation, rapid movement back to normality

■ The Bounce

- Recession ended in April, 80% back
- Current surge having modest impact on economy
- Sufficient pent-up demand to drive close full recovery this year
- Real issues are post-pandemic: Federal debt, inflation issues, shifting land use needs

— Approaching 100 million cases and 2 million deaths, ~20% here in the US
— Evidence suggests a portion of survivors have long run complication
— Context: Spanish flu 50m deaths in a smaller world population, 100x more deadly

Miserabilism and the Pandemic

Carl Icahn Says Commercial Real Estate Market Will 'Blow Up'

Percentage of Potential GDP

CBO Forecast: Gap between actual and potential US output

CBO: Corona: the next dec

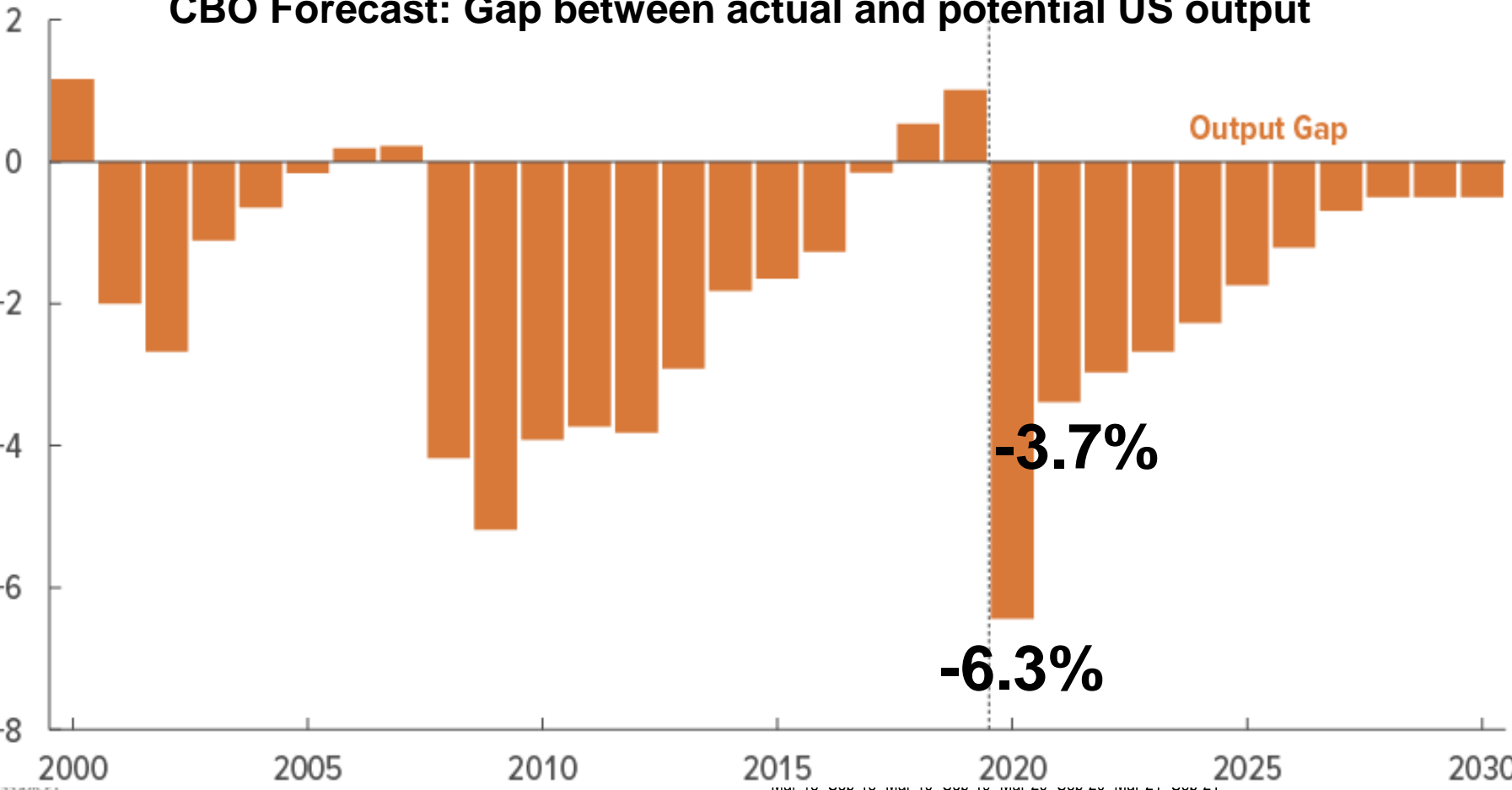
The agency is predicting that this year.

Coronavirus to Great Depression

Ho like

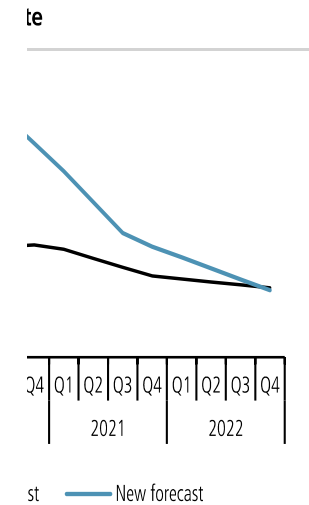
'Make no morphed says UCL U.S. econ coronavir

Published: June 26, 2020 at 11:22 AM EST



ing by 40% in ching 20%

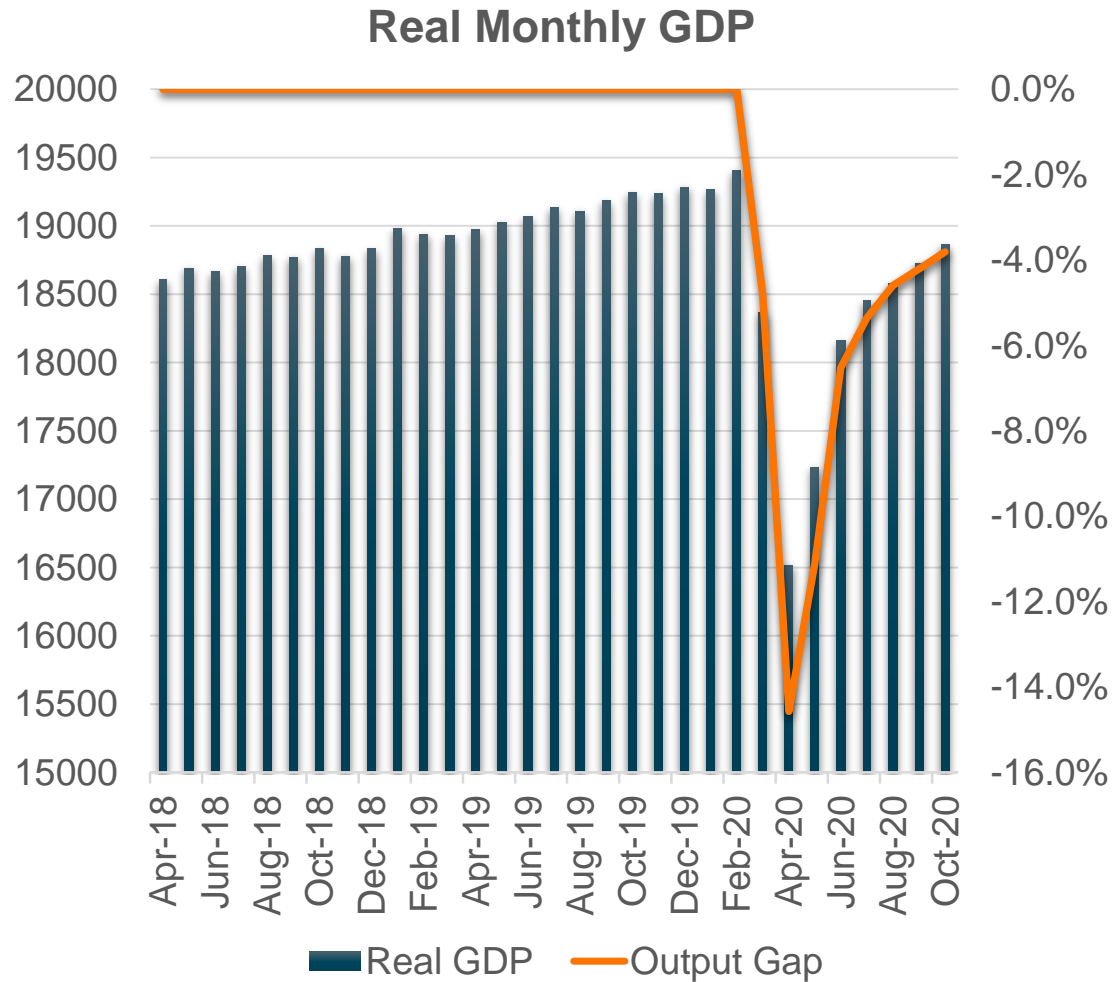
ne loans — top paying if gh the mate by s Analytics.



Source: BoFA Global Research, Bureau of Economic Analysis

Source: BLS, UBS estimates

The Recession Ended in April



	2020			Diff from 19Q4
	Q1	Q2	Q3	
GDP	-5	-31.4	33.1	-3.5%
Consumption	-4.75	-24.01	25.27	-3.3%
Goods	0.03	-2.06	9.24	6.7%
Services	-4.78	-21.95	16.04	-7.7%
Fixed investment	-0.23	-5.27	4.96	-2.7%
Structures	-0.11	-1.11	-0.43	-14.0%
Equipment	-0.91	-2.03	3.34	-1.9%
Intellectual property	0.11	-0.53	-0.03	-2.6%
Residential	0.68	-1.6	2.09	5.1%
Inventories	-1.34	-3.5	6.62	
Net exports	1.13	0.62	-3.09	
Exports	-1.12	-9.51	4.9	-15.3%
Imports	2.25	10.13	-7.99	-7.1%
Government	0.22	0.77	-0.68	-0.2%

Evolution of forecasts



GDPNow

Evolution of Atlanta Fed GDPNow real GDP estimate for 2020-21
 Quarterly percent change (SAAR)

GDPNow is not an official forecast

12

Table 1 Comparative Surveys (Median Forecast Reported)

Real Gross Domestic Product, % change, Q4/Q4
 Real Gross Domestic Product, % change, annual average
 Personal Consumption Expenditures, % change, annual average
 Nonresidential Fixed Investment, % change, annual average
 Residential Fixed Investment, % change, annual average

ACTUAL	FORECASTS				
	2019	2020			2021
	June 2020	October 2020	December 2020	October 2020	December 2020
2.3	-5.6	-3.8	-2.6	3.6	3.4
2.2	-5.9	-4.3	-3.5	3.6	3.8
2.4	-6.4	-4.6	-3.8	4.0	4.6
2.9	-10.8	-6.0	-4.8	2.4	3.7
-1.7	-6.6	1.1	4.4	3.4	6.8

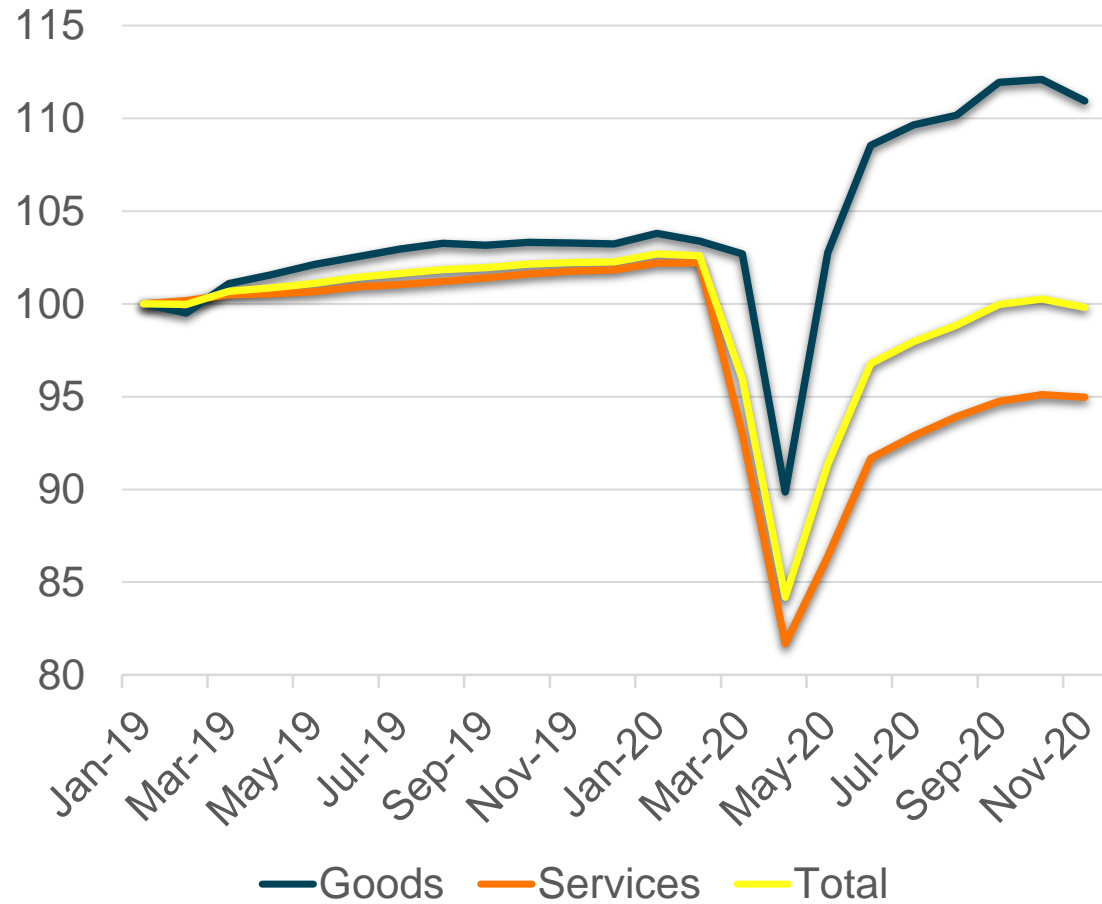
Sources: Blue Chip Economic Indicators and Blue Chip Financial Forecasts

Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the Blue Chip survey.

Consumers Leading the Way



Real Consumer Spending



Retail Sales Numbers

	20/19	N/N
Total	0.3	4.1
Nonstore retailers	22.6	29.2
Sporting goods, hobby, musical	4.3	19.6
Building material & garden eq &	13.4	18.7
Food & beverage stores	11.6	10.9
Motor vehicle & parts dealers	0.0	6.0
Furniture & home furn stores	-6.4	3.6
Health & personal care stores	1.1	3.5
General merchandise stores	3.1	3.4
Electronics & appliance stores	-14.1	-8.3
Clothing & clothing accessories	-28.5	-16.1
Gasoline stations	-16.4	-17.1
Food services & drinking places	-19.4	-17.2

A third US surge



----- Dashed line represents National 7-day average

—— Solid line represents California 7-day average

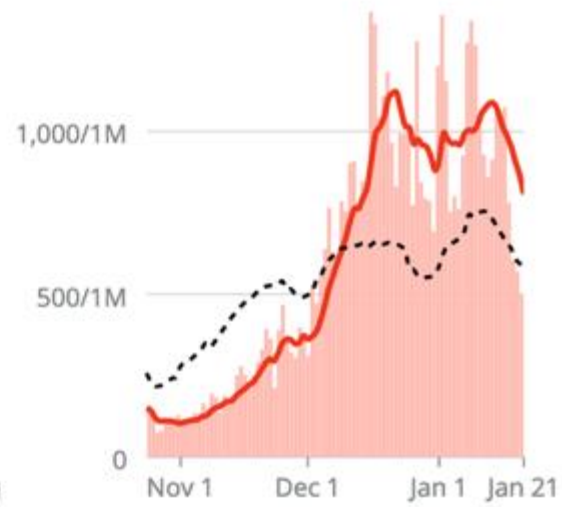
New tests

Total PCR tests (specimens)



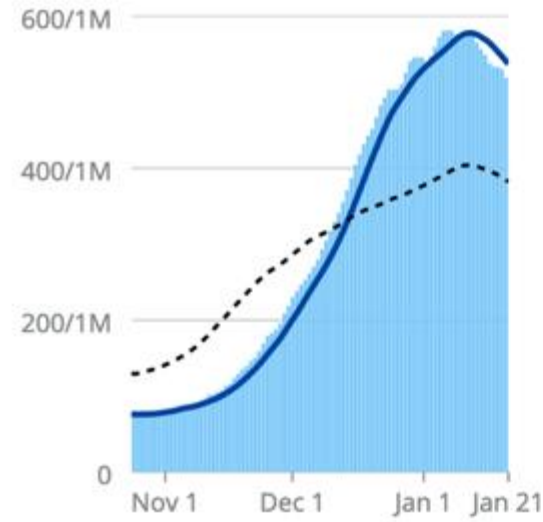
Mar. 2020 Apr. May

New cases



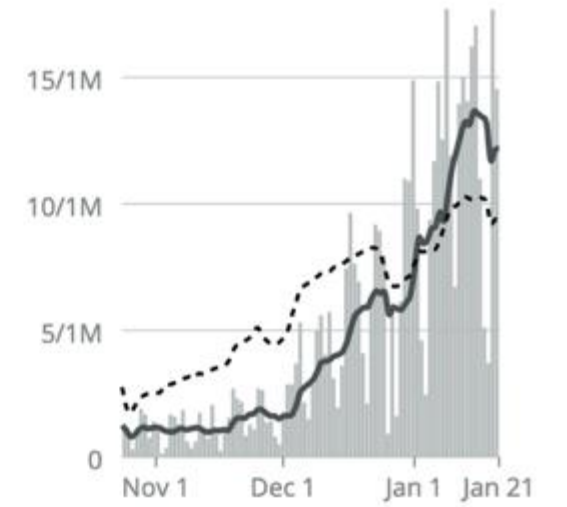
Jun. Jul. Aug.

Current hospitalizations



Sept. Oct. Nov.

New deaths

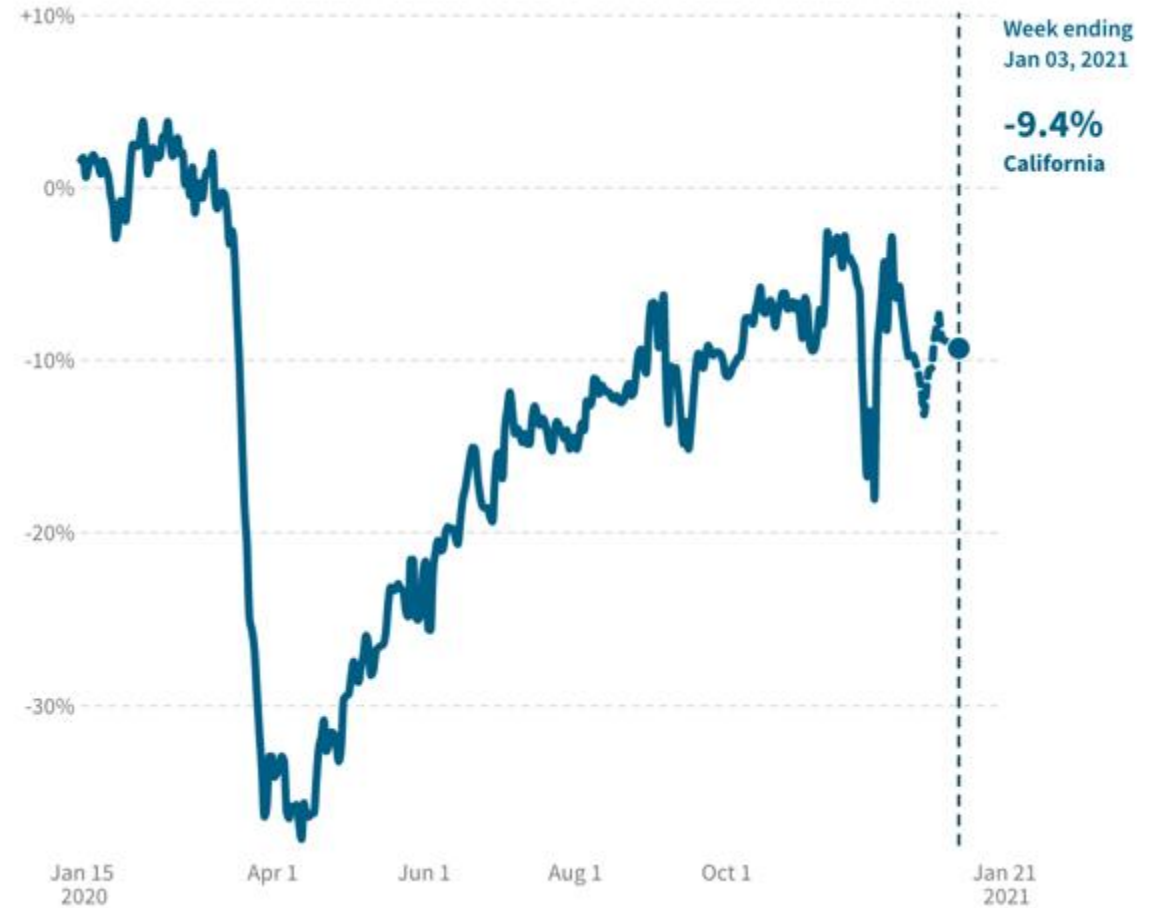
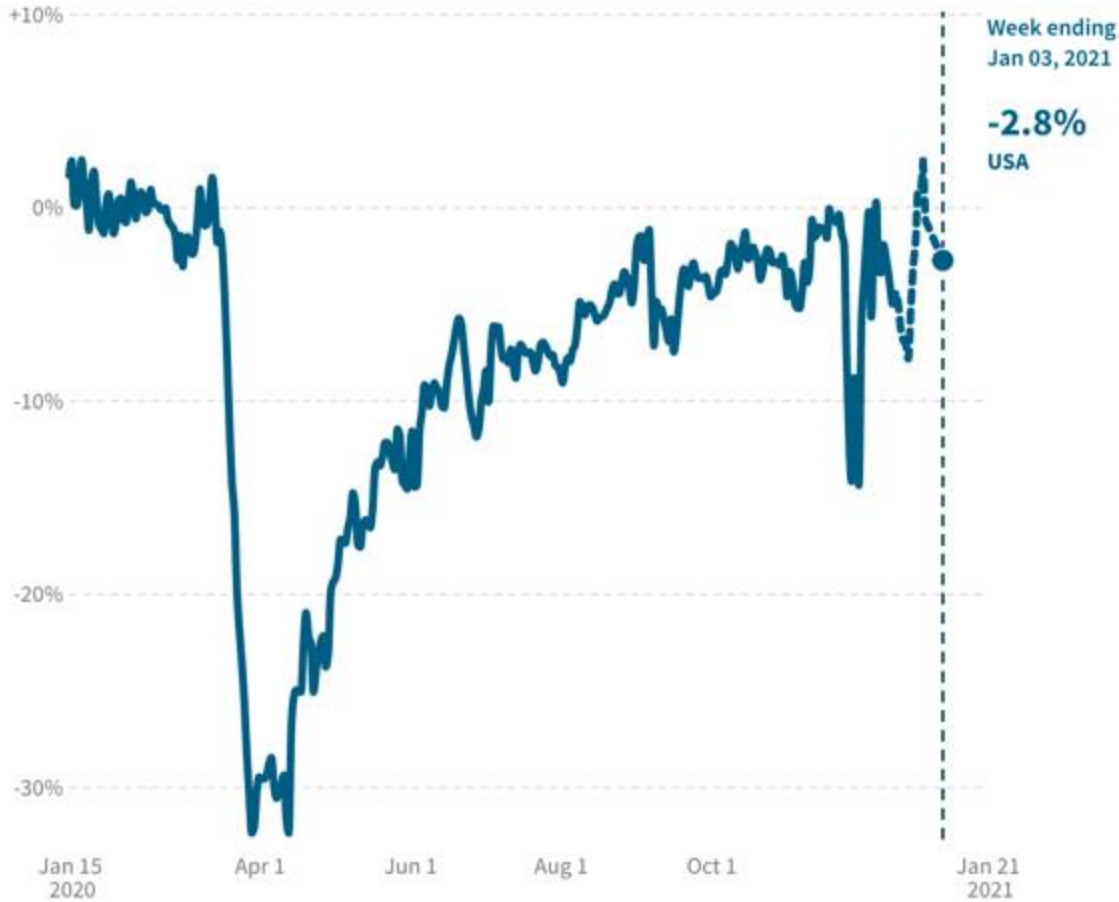


Dec. Jan. 2021

Consumer Mitigation



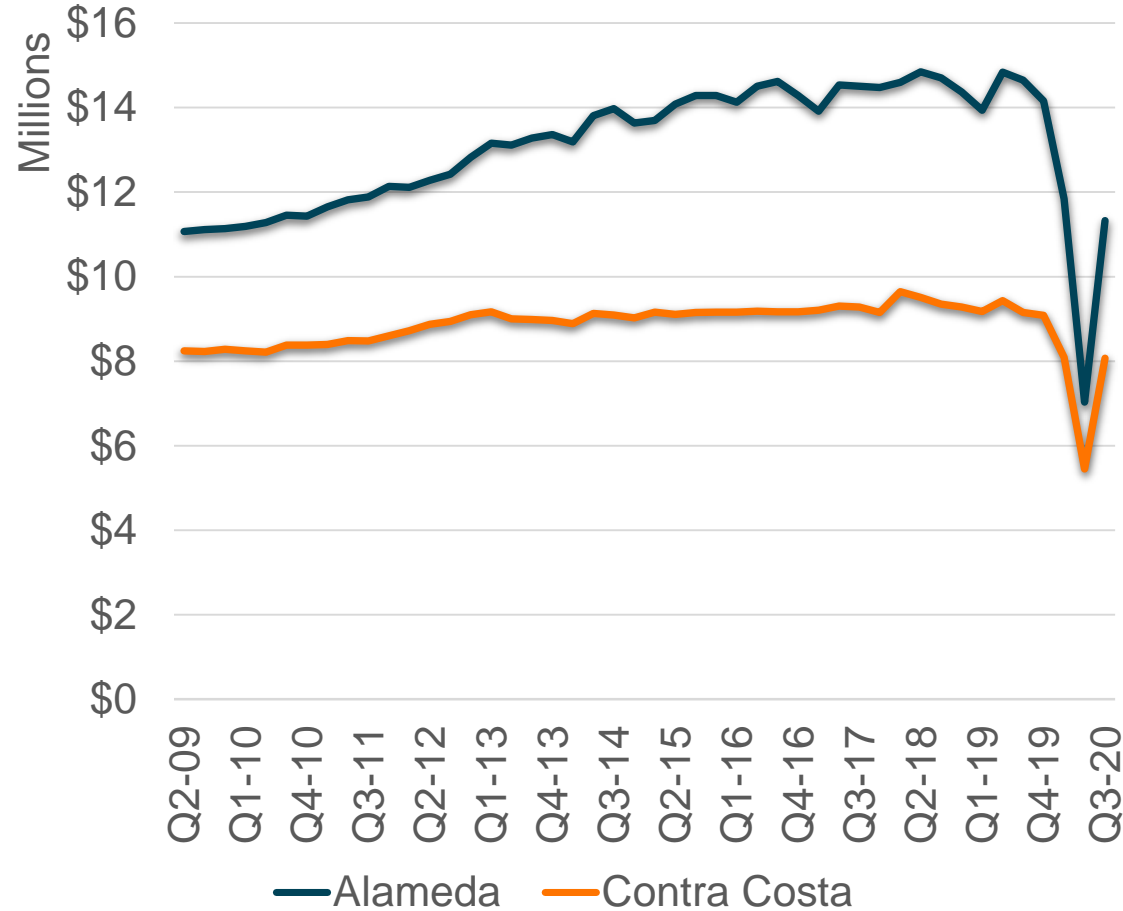
Opportunity Insight: Consumer Spending for US / California



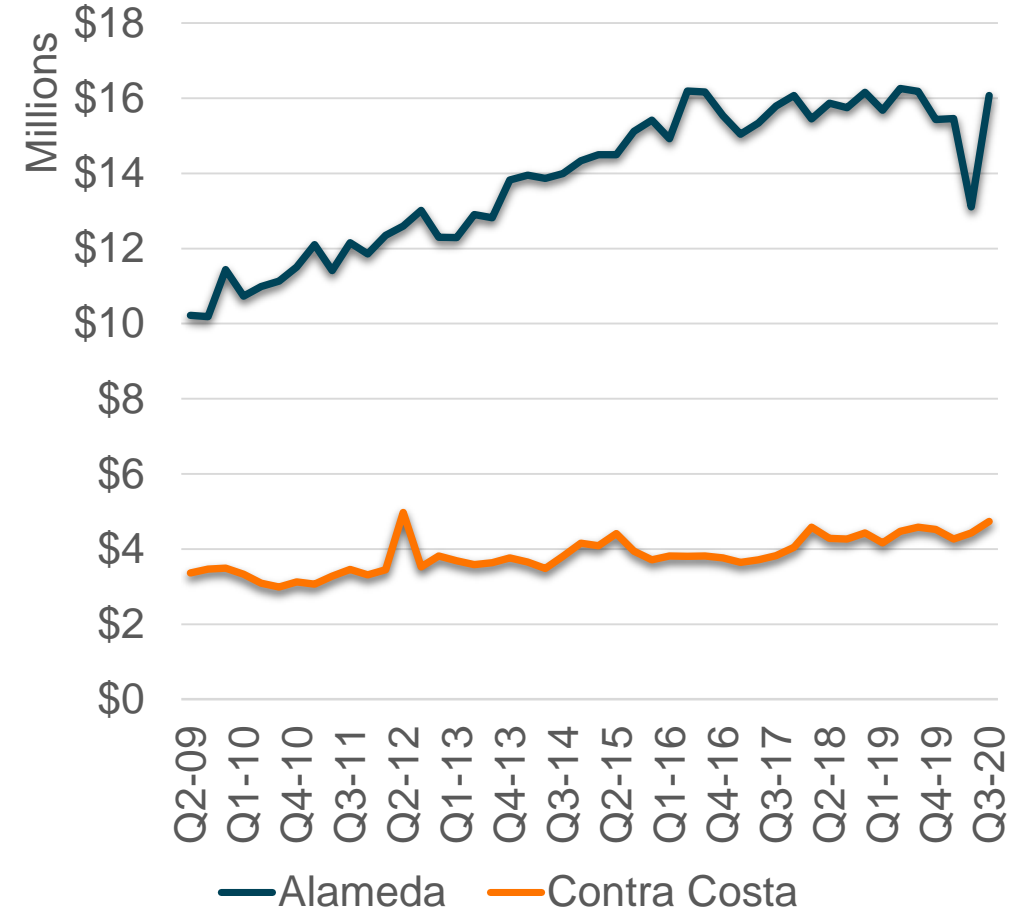
Local Sales Taxes



Consumer Goods



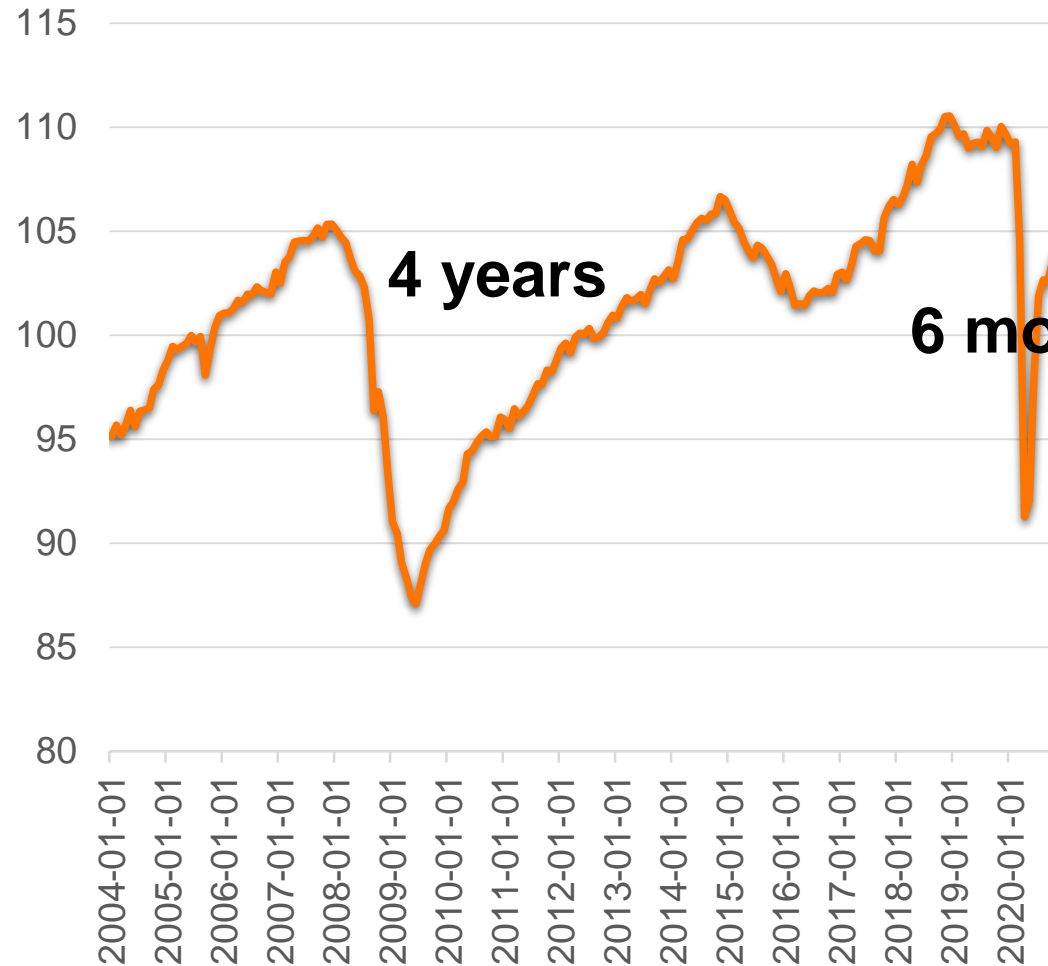
Business and Industry



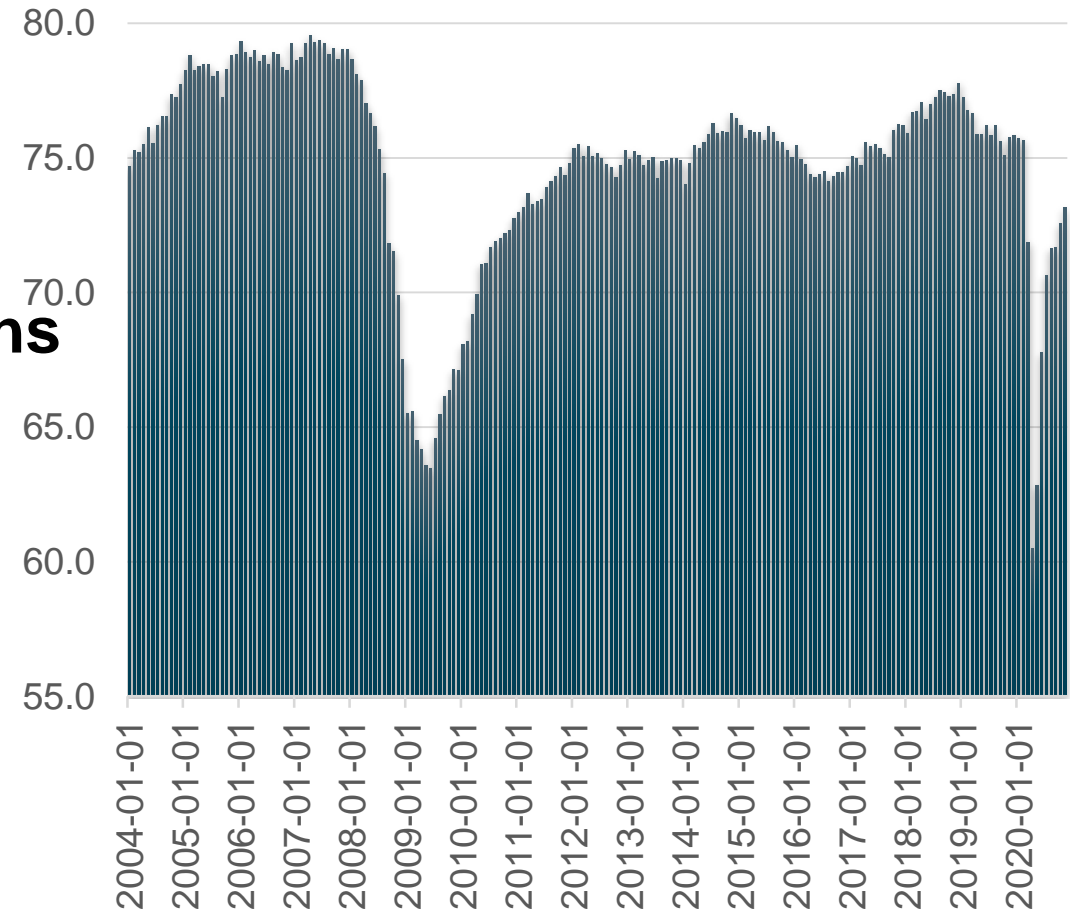
Production Trends



Industrial Production Indexes



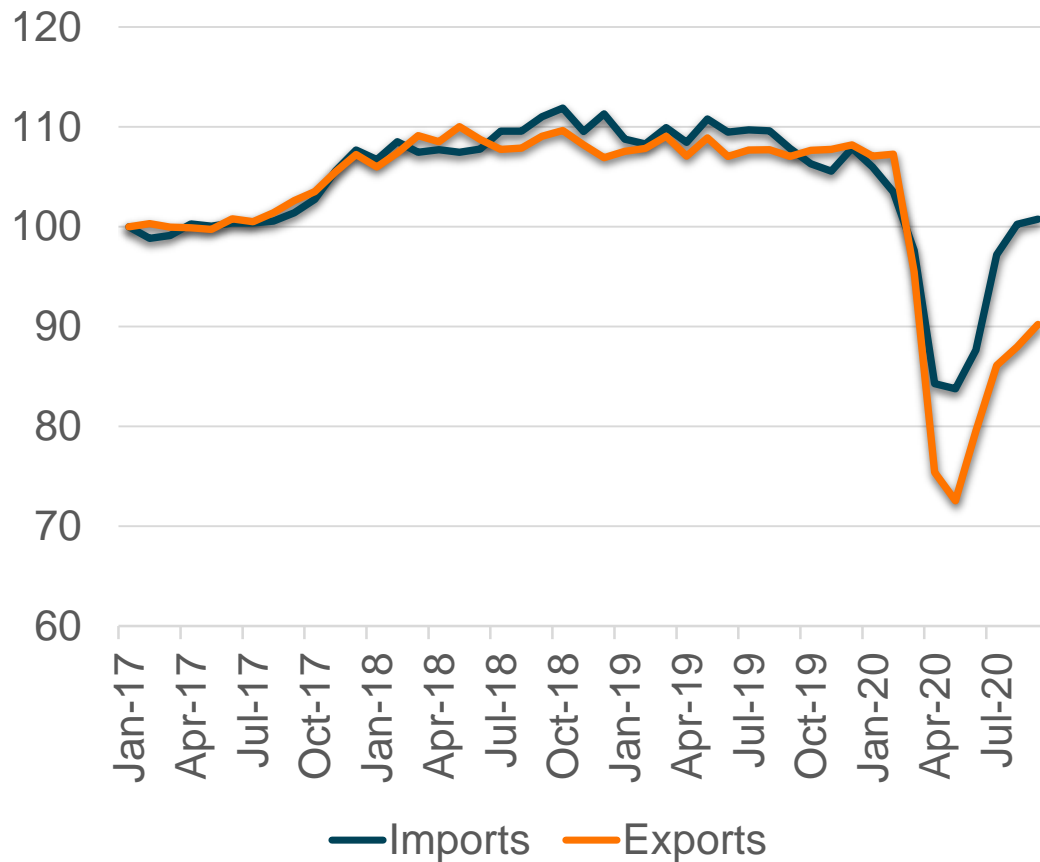
Capacity Utilization



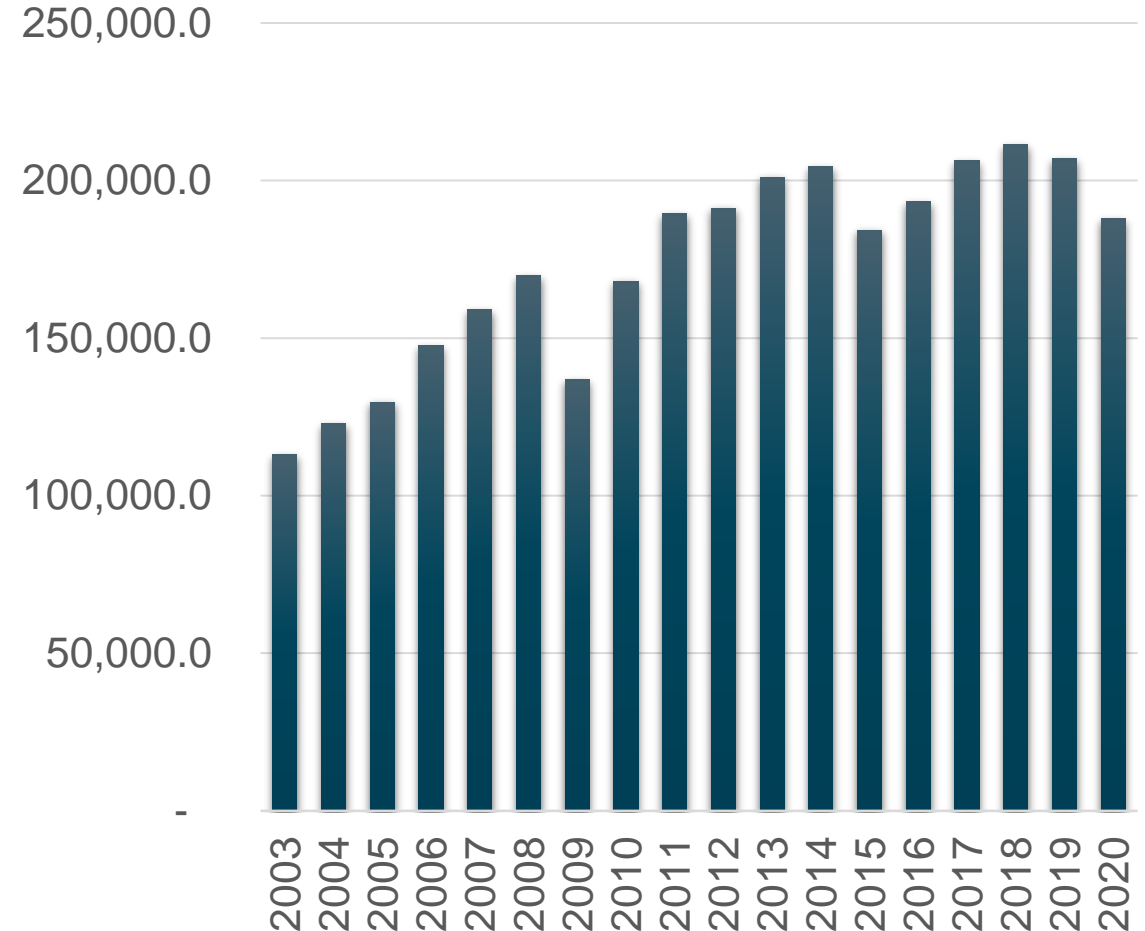
Trade Flows



Nominal Imports and Exports (Indexed)



California Exports



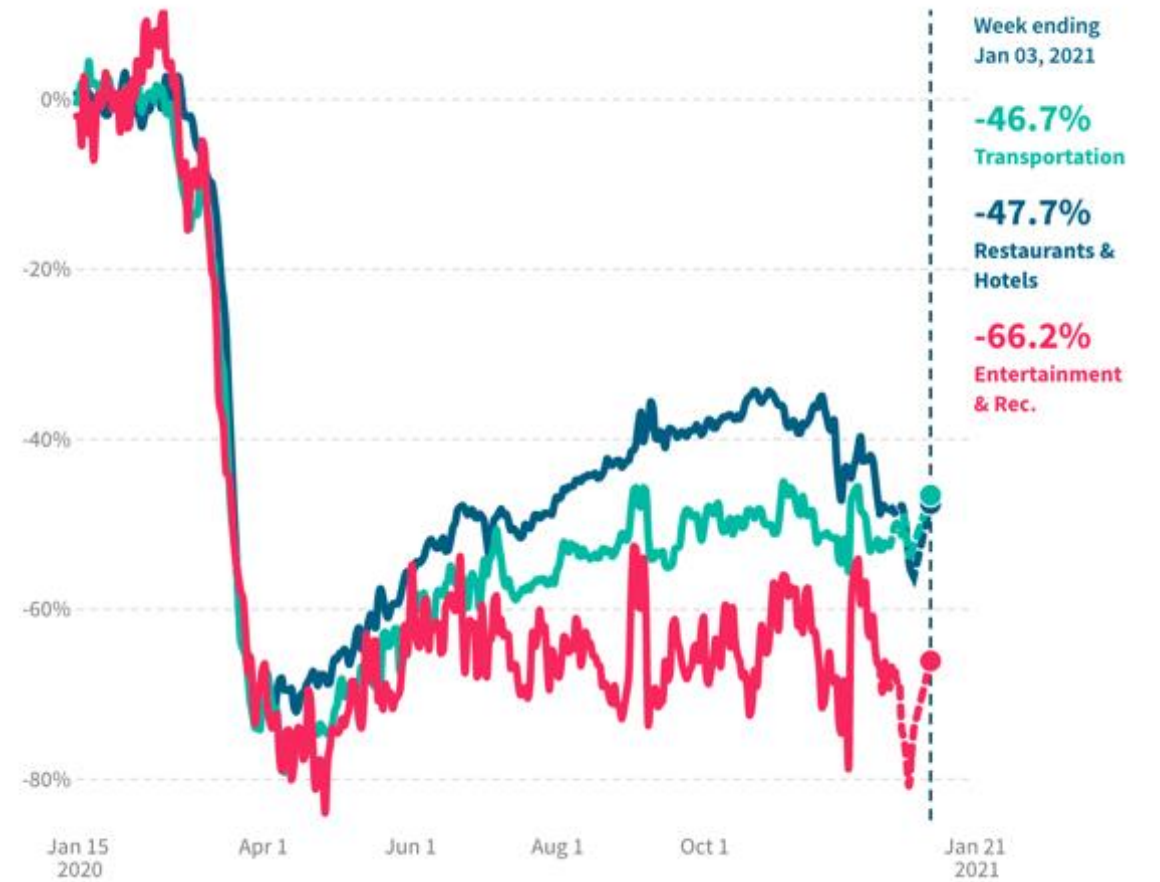
Lagging Sectors



US Total



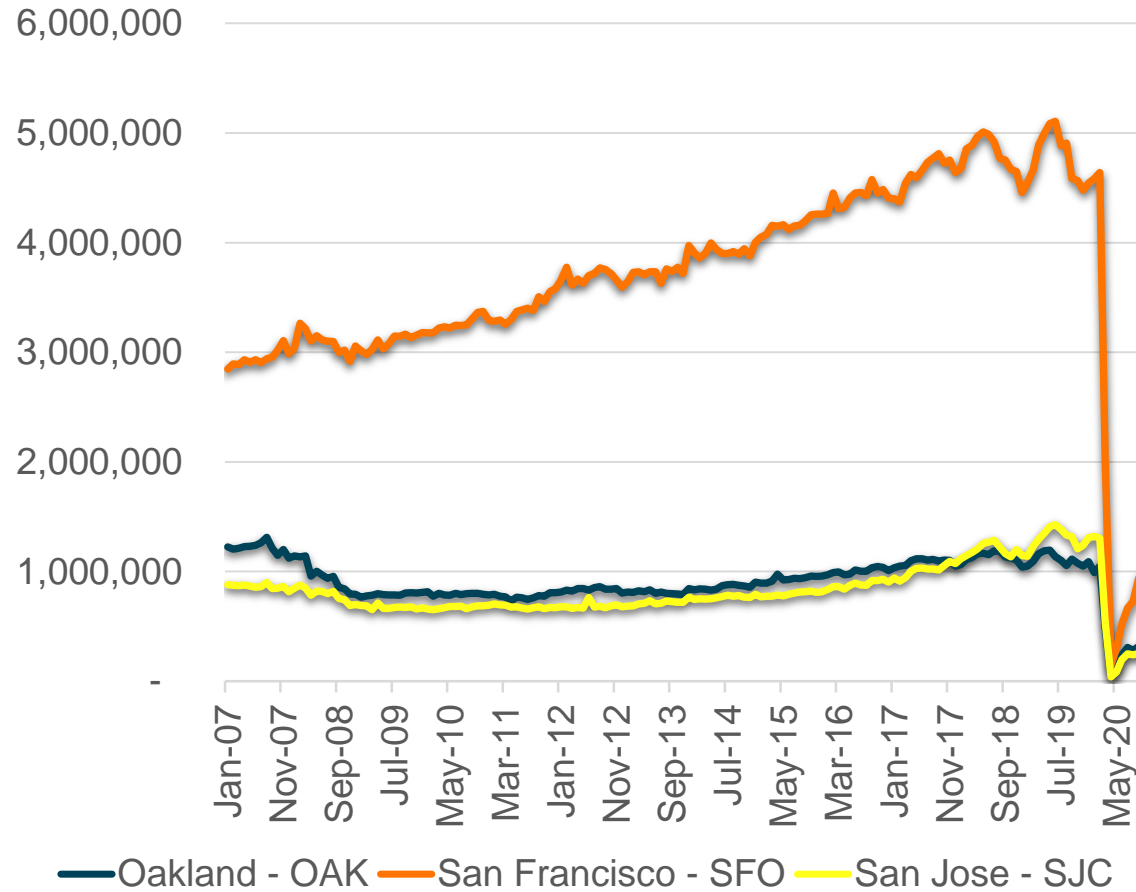
California



Travel Activity



Airport Passengers



	% December 2019-2020		% 2019-2020	
	Occ	RevPAR	Occ	RevPAR
United States	-32.3	-51.0	-33.3	-47.5
California	-41.8	-60.4	-34.6	-50.1
Central Coast+	-41.2	-52.7	-30.7	-39.8
Central Valley+	-11.9	-16.8	-15.5	-20.9
Deserts+	-34.9	-47.0	-23.3	-33.9
Gold Country+	-28.7	-45.0	-27.6	-41.2
High Sierra+	-37.7	-62.0	-24.7	-32.5
Inland Empire+	-13.2	-22.1	-16.2	-23.9
Los Angeles County+	-46.4	-63.5	-38.6	-52.6
North Coast+	-17.3	-25.4	-14.1	-18.1
Orange County+	-54.9	-71.0	-43.4	-53.7
Shasta Cascade+	-10.2	-12.4	-19.4	-24.1
San Diego County+	-49.1	-62.2	-36.9	-50.8
San Francisco Bay Area+	-49.4	-70.9	-43.6	-60.9

The Final Fix

Lead

U.S. Vaccine Campaign

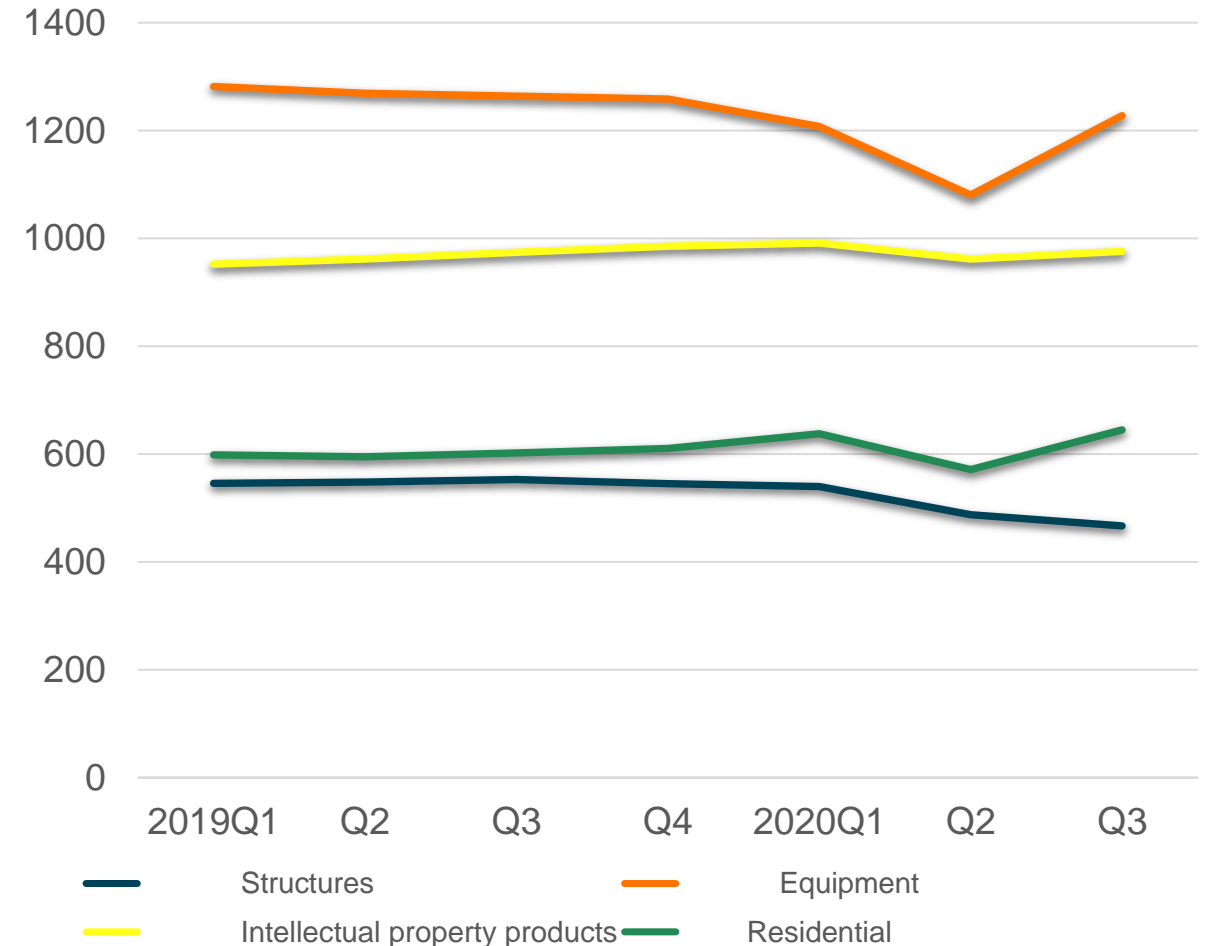
Jurisdiction	Doses distributed	Doses administered ▼	% shots used
<i>U.S. totals</i>	37,960,000	18,449,288	48.6
California	4,379,500	1,633,875	37.3
Texas	2,754,800	1,544,551	56.1
Florida	2,546,050	1,306,983	51.3
New York +	2,213,975	1,251,806	56.5
Federal Entities +	2,023,975	939,866	46.4
Pennsylvania	1,344,375	642,789	47.8
Michigan	1,059,275	598,127	56.5
North Carolina	1,157,100	573,130	49.5

Investment Trends



	2019	2020
Private fixed investment	1.5%	-2.7%
Nonresidential	1.4%	-4.9%
Structures	1.9%	-14.0%
Commercial and health care	2.3%	-4.1%
Manufacturing	3.4%	-9.1%
Power and communication	20.5%	-4.7%
Mining exploration, shafts, wells	-11.0%	-49.8%
Equipment	-1.3%	-1.9%
Information processing eq	1.9%	14.5%
Industrial equipment	-2.6%	-3.7%
Transportation equipment	-5.1%	-21.9%
Intellectual property products	4.6%	-2.6%
Software	6.8%	1.4%
Research and development	3.6%	-4.2%
Entertainment, literary, artistic	1.1%	-12.2%
Residential	1.6%	5.1%

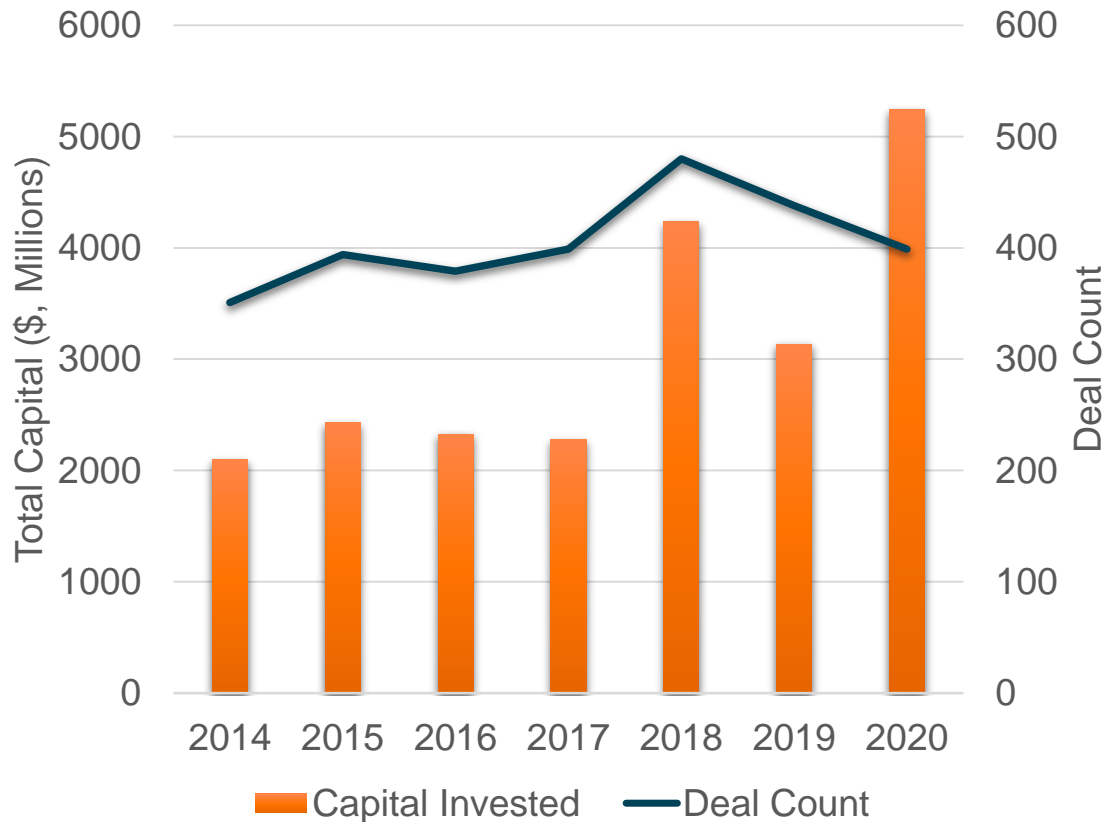
Real Investment Trends to Q3



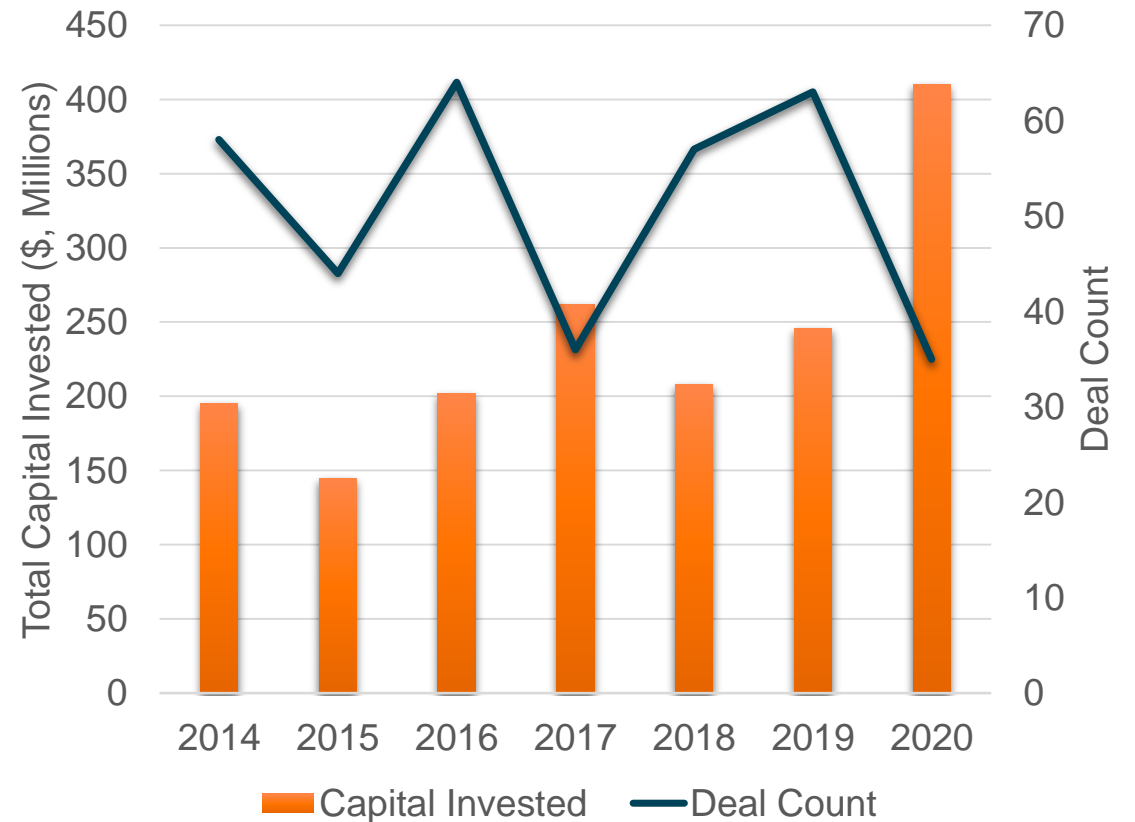
Venture Capital: Capital and Deal Counts in the East Bay



Deal Count and Capital Invested
Alameda County



Deal Count and Capital Invested
Contra Costa County



Venture Capital: 2020's Top Deals in the East Bay



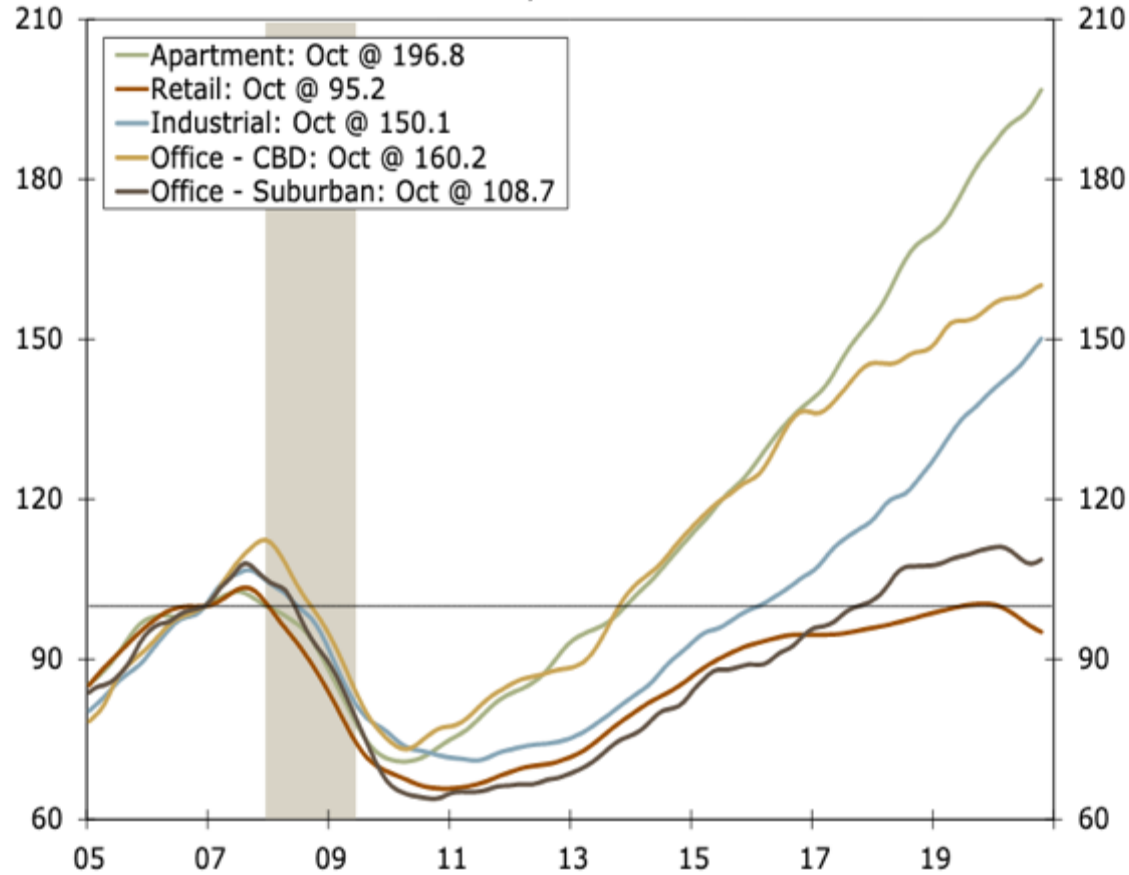
Company	Deal Size (\$, Mil.)	Date of Deal	Primary Industry
Pony.ai	462	2/25/20	Automotive
Zymergen	350	10/13/20	Biotechnology
Perfect Day	300	7/8/20	Food Products
Pony.ai	267	10/27/20	Automotive
Memphis Meats	186	4/10/20	Food Products
Tanium	151	10/5/20	Network Management Software
Marqeta	150	5/28/20	Financial Software
Tekion	150	10/21/20	Business/Productivity Software
Astra (Aerospace and Defense)	100	2/27/20	Aerospace and Defense
Fivetran	100	6/30/20	Business/Productivity Software

Commercial RE Markets

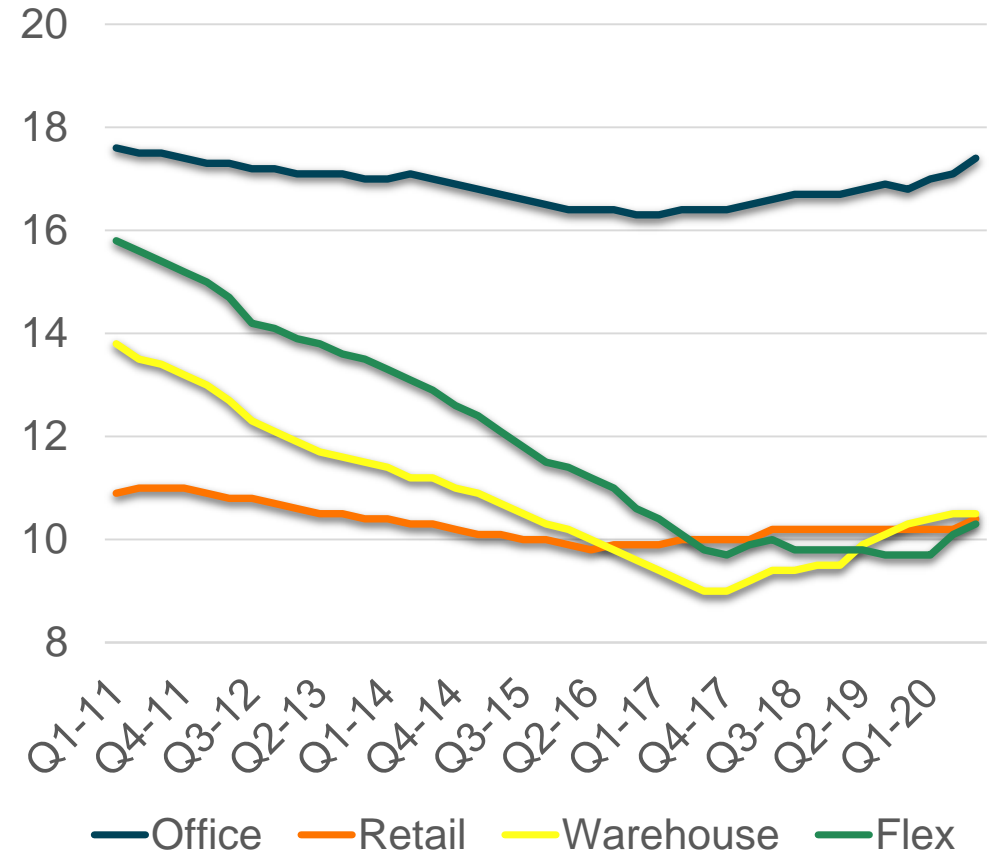


Commercial Property Price Index

Index, 100=2006



US Vacancy Rates (REIS)



Nonresidential Rents and Vacancies



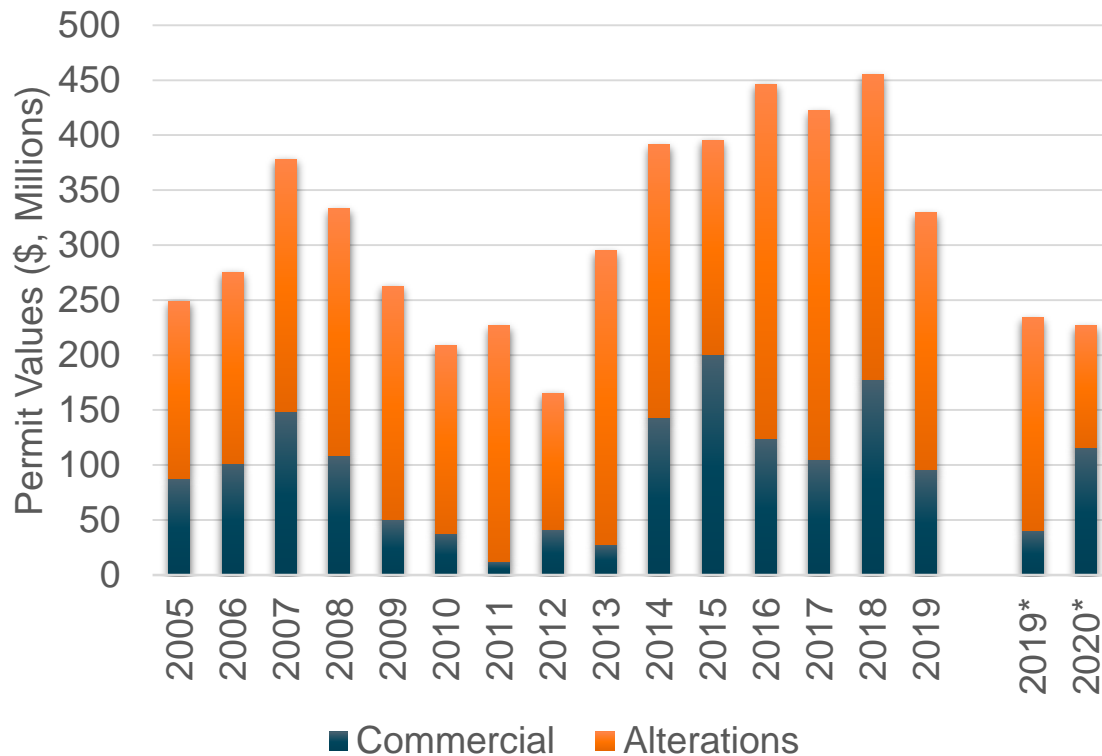
Cost of Rent	East Bay		South Bay		San Francisco	
	Q3-20	1-Yr % Gr	Q3-20	1-Yr % Gr	Q3-20	1-Yr % Gr
Office	35.5	2.2	47.0	0.9	65.8	2.5
Flex/R&D	11.9	2.0	17.8	1.2	16.9	0.5
Warehouse/Distribution	6.8	0.9	8.5	0.5	10.3	0.1
Retail	31.9	-0.7	37.6	-0.6	41.3	0.3

Vacancy Rate	East Bay		South Bay		San Francisco	
	Q3-20	1-Yr % Gr	Q3-20	1-Yr % Gr	Q3-20	1-Yr % Gr
Office	16.4	1.1	18.3	0.1	9.9	1.1
Flex/R&D	13.2	0.8	13.6	2.0	6.8	-1.8
Warehouse/Distribution	8.3	0.3	5.7	0.3	4.8	0.6
Retail	8.9	-0.1	9.1	1.3	5.1	-0.5

Nonresidential Real Estate – Contra Costa



Permit Values
Contra Costa County



*YTD as of Q3-2020

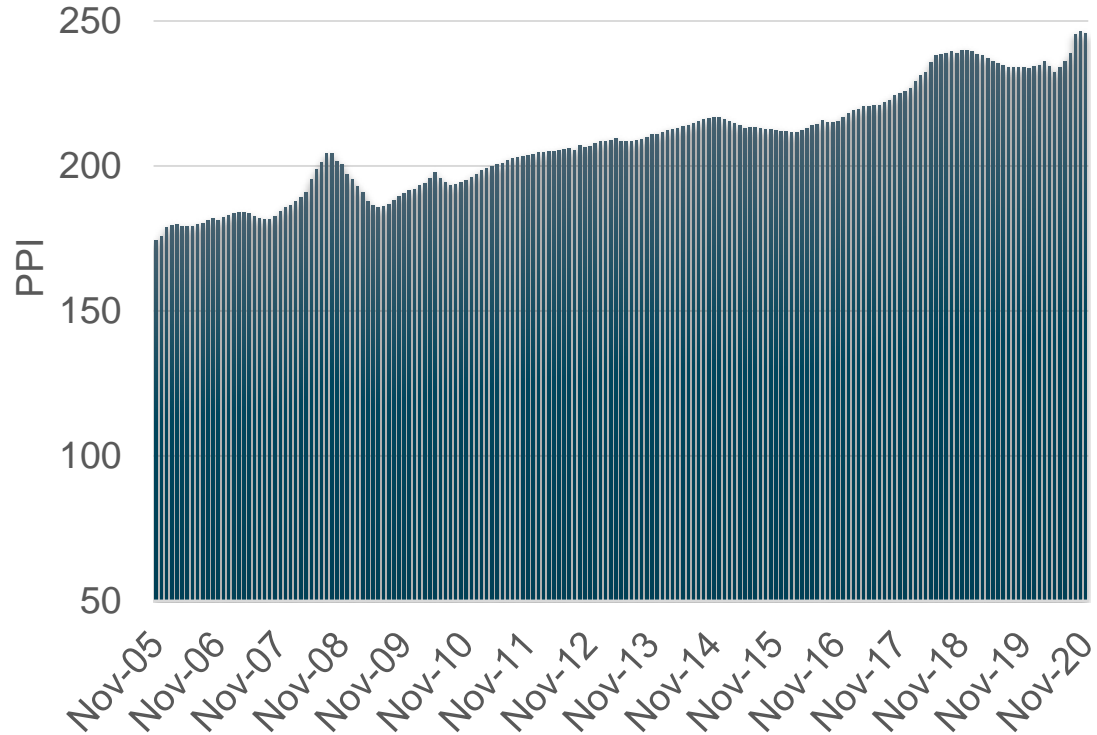
Contra Costa	Value of Permits (\$, Millions)		
	2020*	2019*	1-Yr Change
Commercial	116	40	76
Retail	113	17	96
Alterations	110	194	-83
Office	1	21	-19

East Bay Totals	Value of Permits (\$, Millions)		
	2020*	2019*	1-Yr Change
Alterations	607	911	-304
Commercial	250	601	-350
Retail	138	319	-181
Office	59	141	-83
Hotel	20	83	-64

Construction Costs – National



**PPI Construction Materials
Total US**

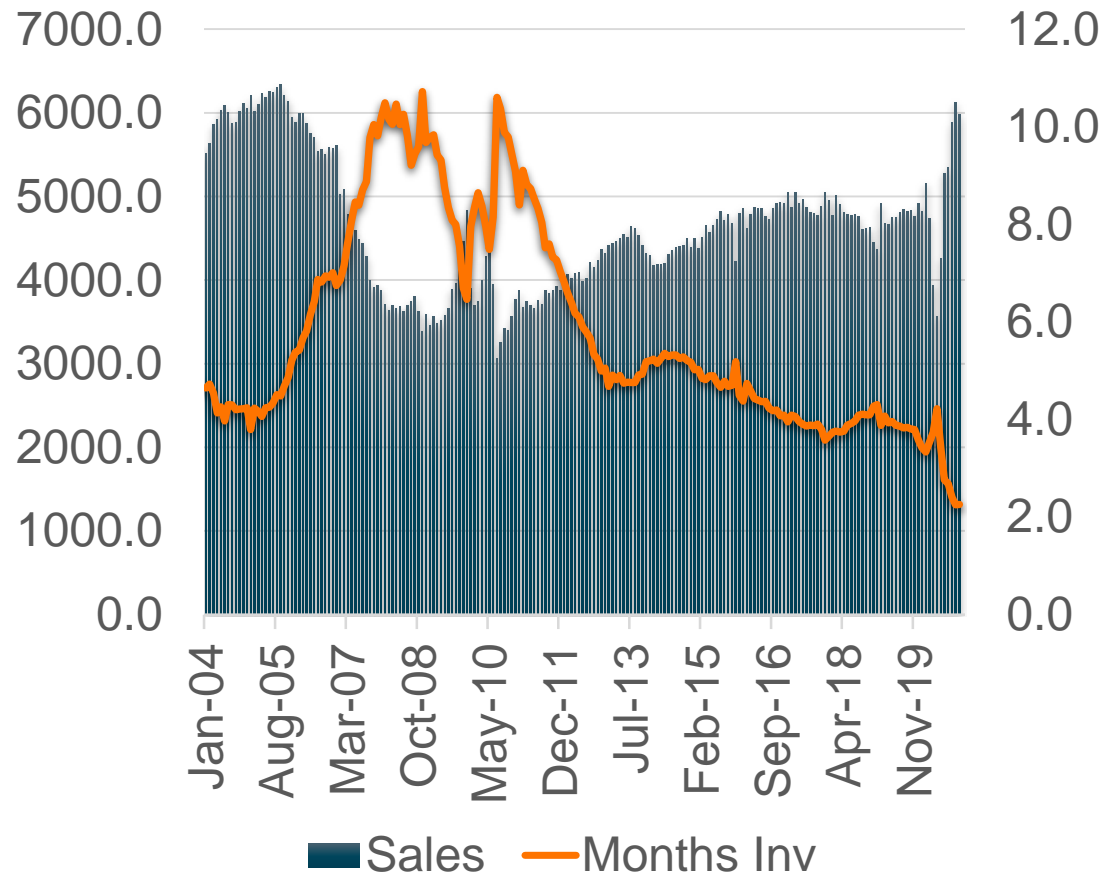


Commodity	PPI Nov-20	% Growth		
		Apr-Nov	1-Yr	5-Yr
Lumber	264.2	29.2	26.8	35.2
Natural gas	129.7	110.9	19.9	21.0
Iron & steel	210.4	2.8	2.6	20.1
Construction machinery	236.7	0.0	1.2	8.9
Coal	192.7	1.0	-1.3	1.0
Petroleum	147.6	63.5	-23.2	-5.5
Asphalt	148.7	0.5	-25.7	-6.8

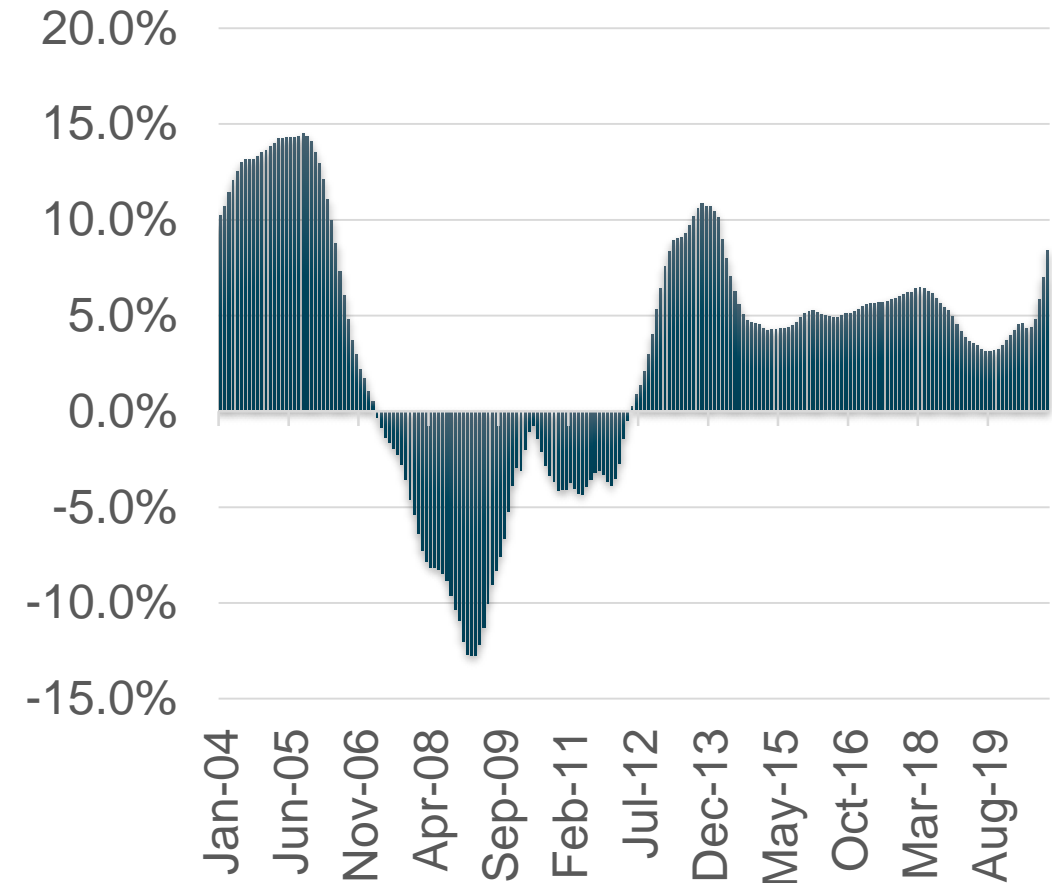
Housing – U.S.



Existing Home Market



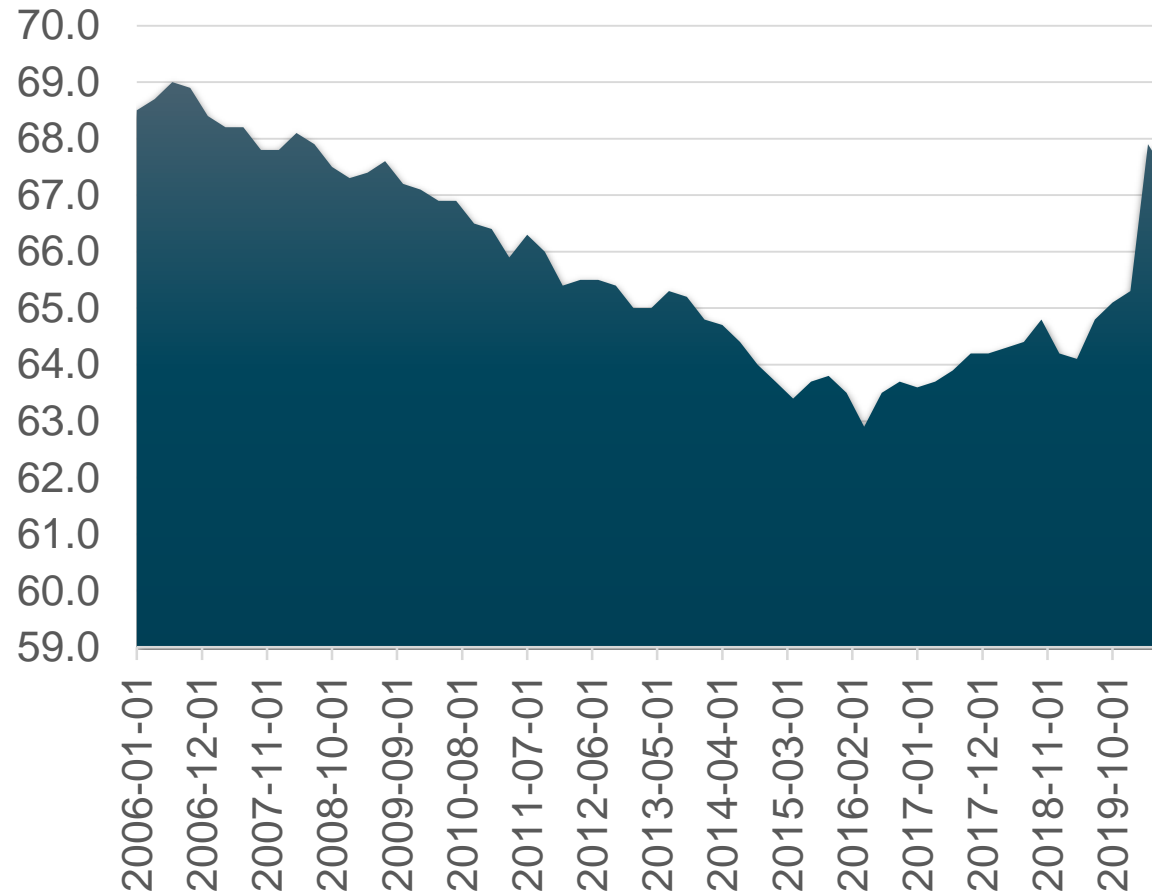
Case Shiller National HPA



The Big Shift



US Homeownership Rate

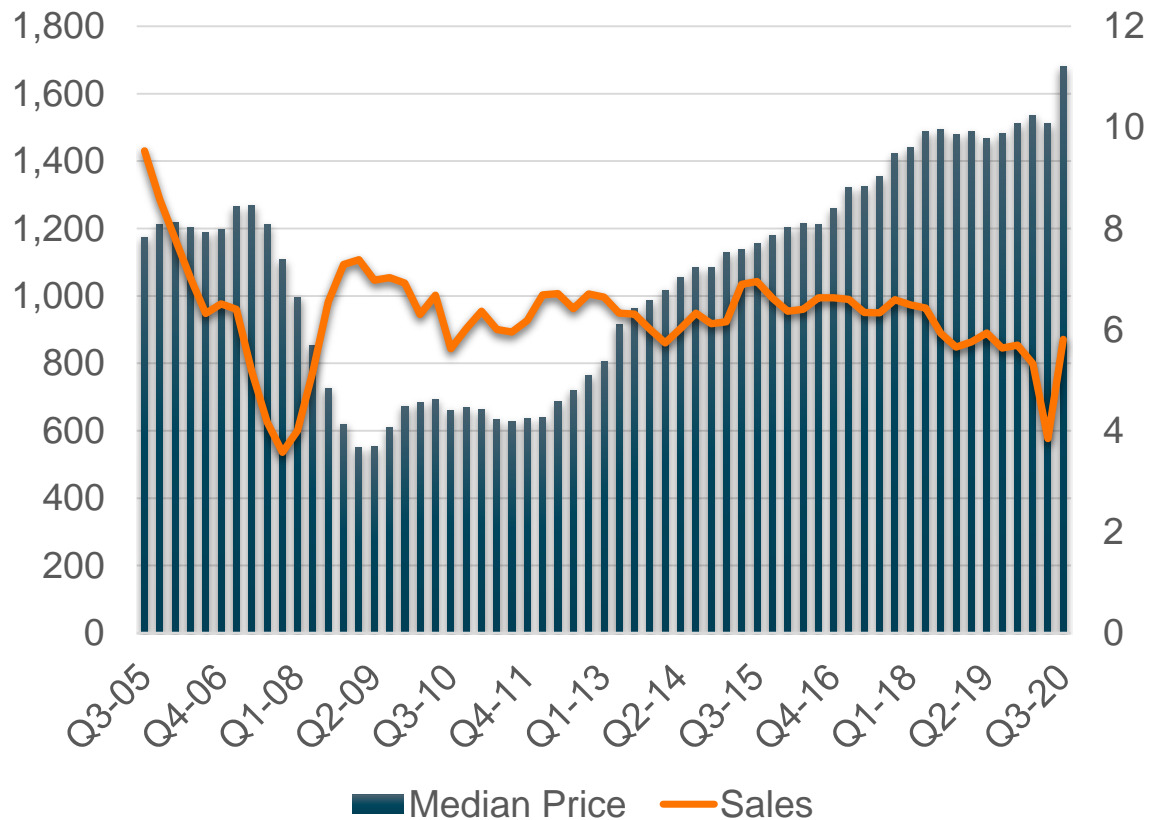


	Third Quarter 2019 (r)	Third Quarter 2020
Occupied	122,731	126,703
Owner	79,489	85,440
Renter	43,241	41,262
Vacant	17,051	14,246

Residential Real Estate – East Bay



Existing Single Family Homes
East Bay

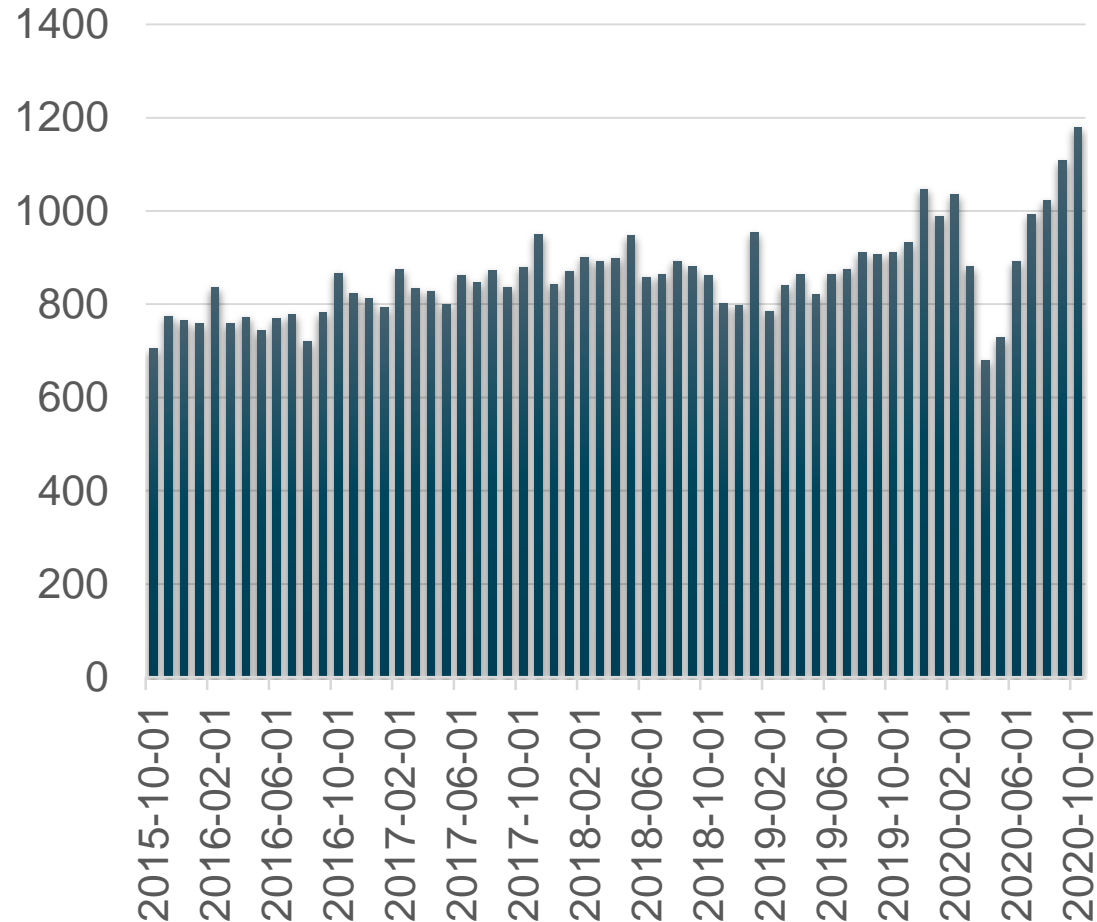


County	Median Prices (\$000s)		Sales	
	Q3-20	1-Yr Growth	Q3-20	1-Yr Growth
Contra Costa	750	17.7	3,804	17.1
Alameda	965	10.3	2,647	-12.3
Santa Clara	1,320	11.2	3,446	17.5
San Francisco	1,601	6.7	725	18.5

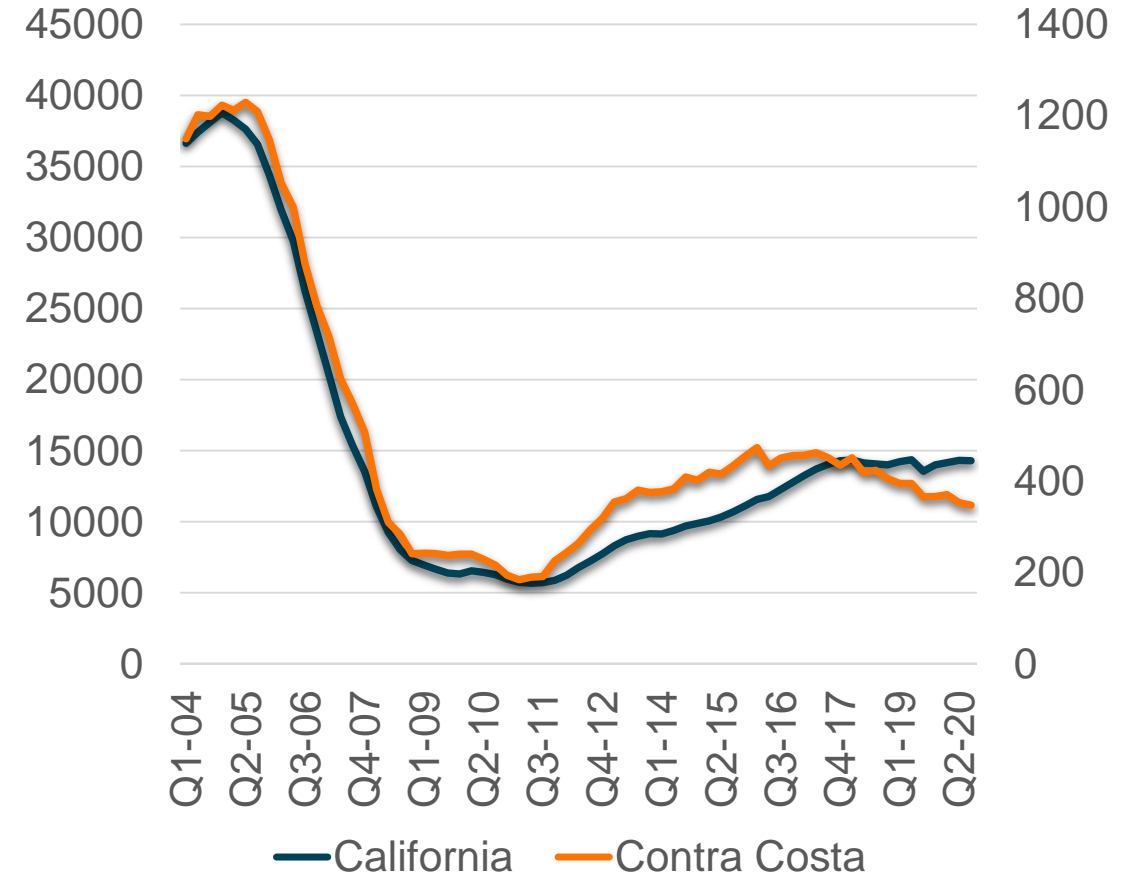
Housing Starts



SF Housing Starts



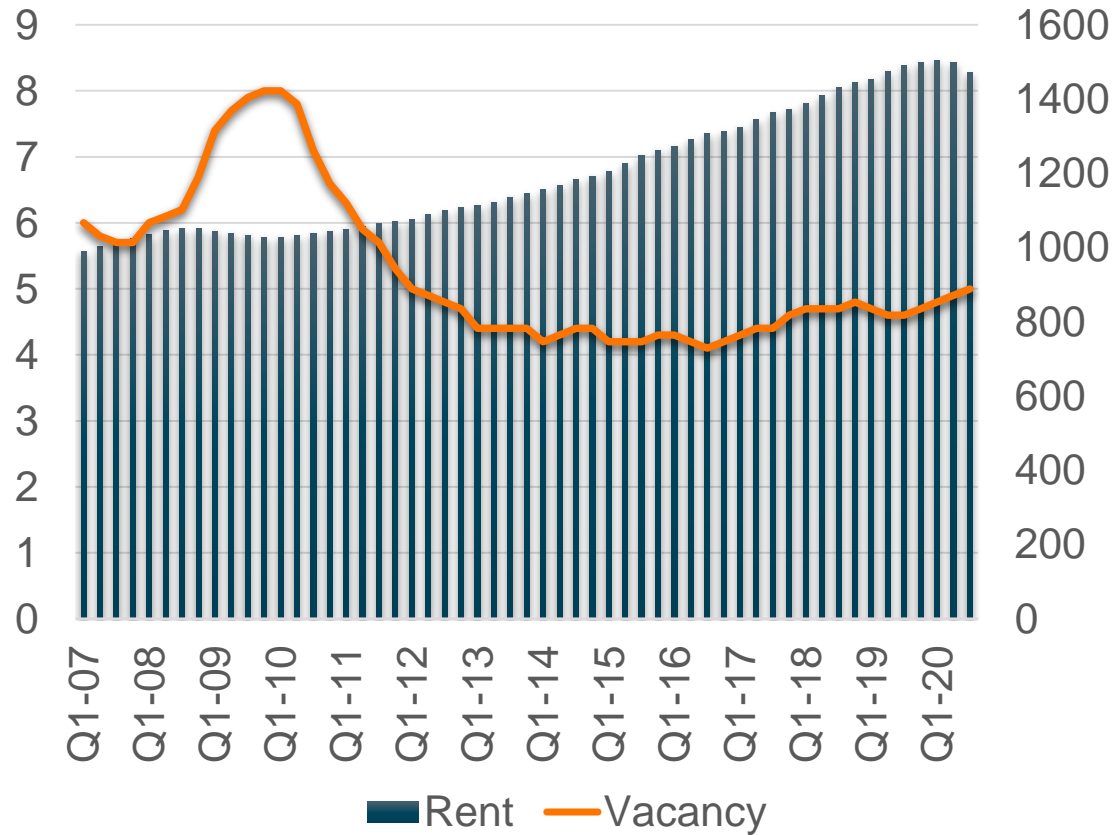
SF Permits in CA



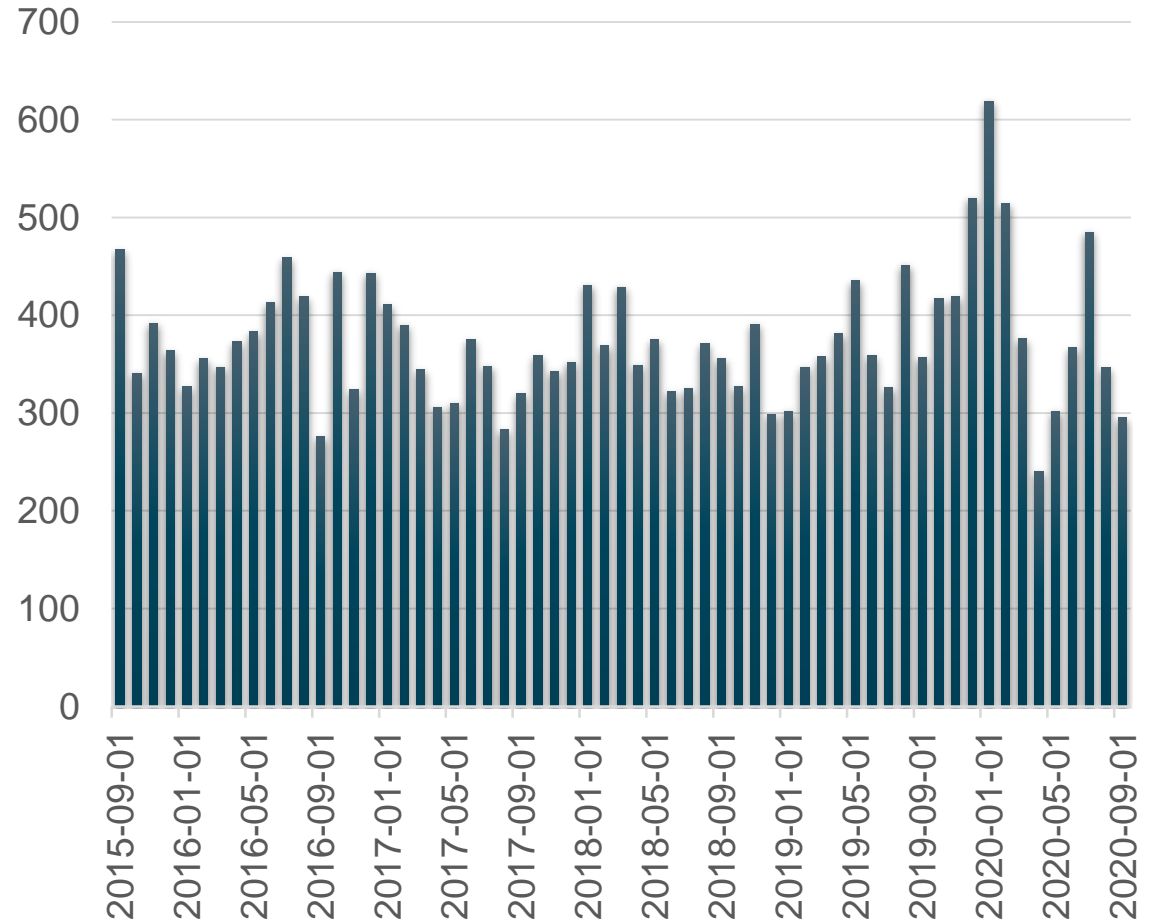
Apartments?



US Apartment Markets



MF Housing Starts



Apartments?

STATELINE

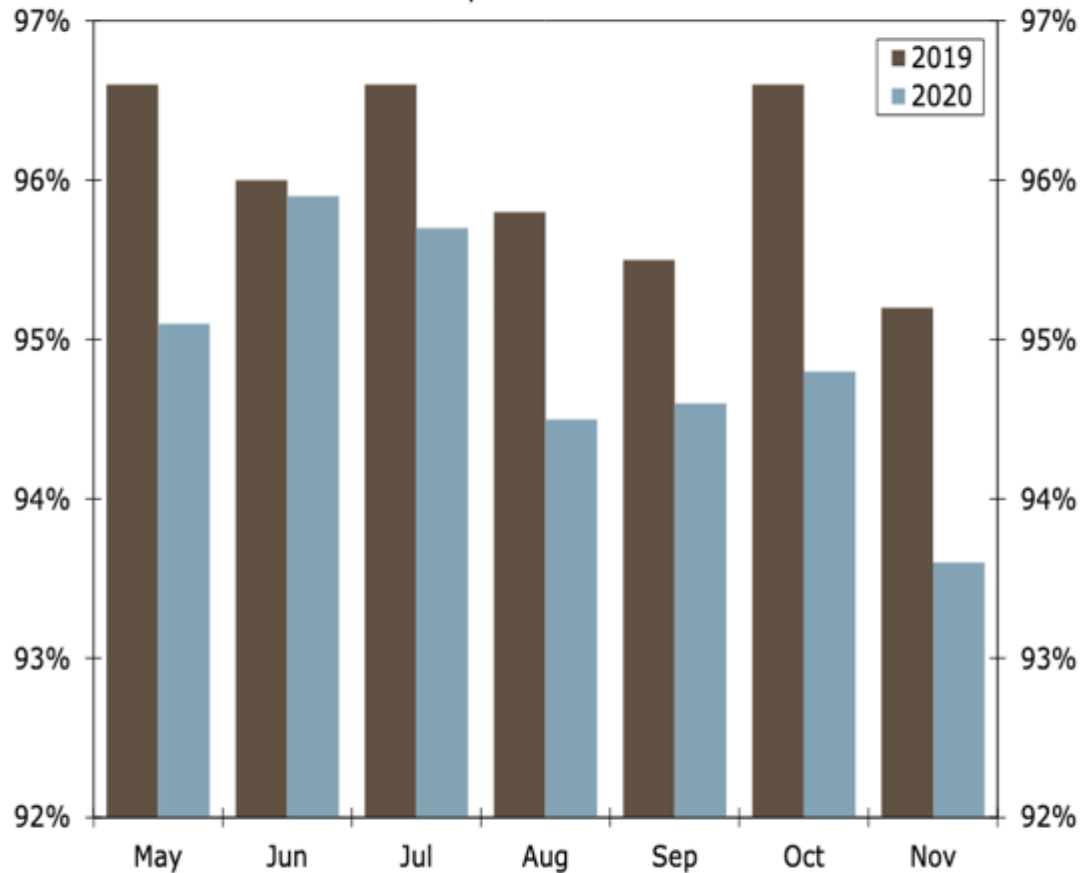
Eviction looms for millions despite new federal aid package

An estimated 30 million to 40 million renters are in danger of eviction. Millions have been unable to pay their rent for months because of the pandemic. Job losses, illnesses, kids in virtual school who need to be supervised at the expense of work—the combination of these stressors has produced about \$70 billion owed in back rent, according to the National Apartment Association, which represents landlords.

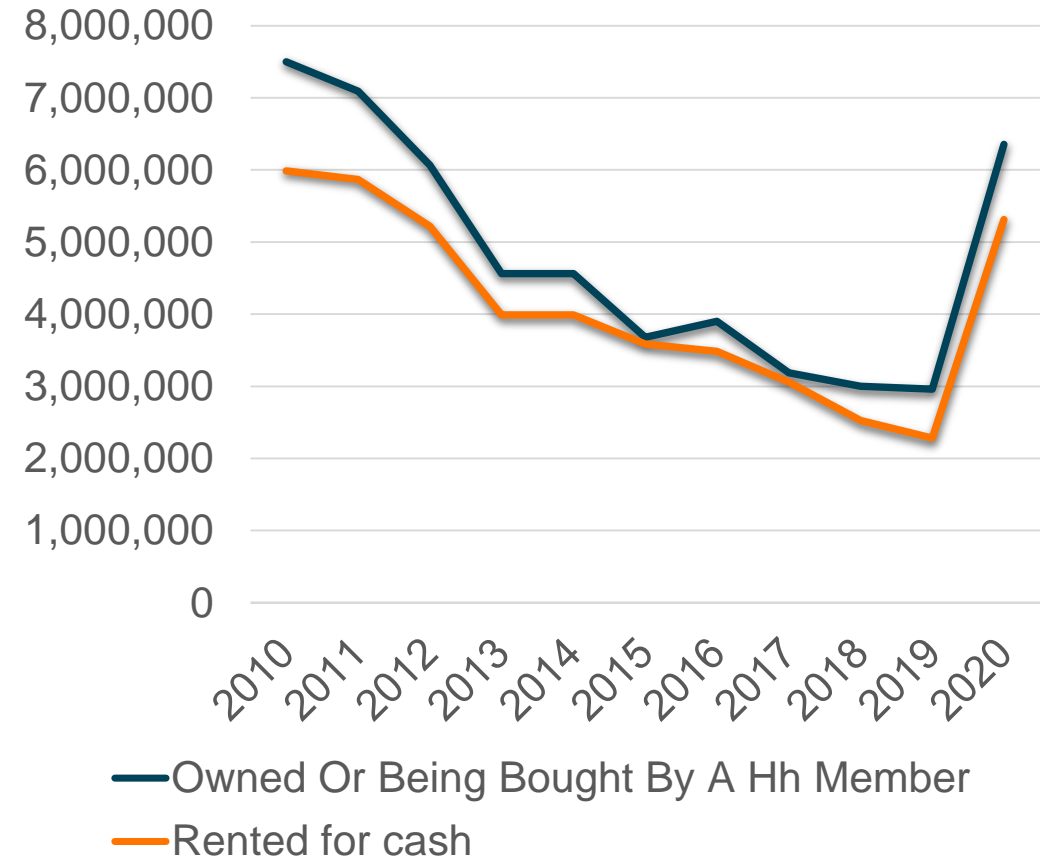
Apartment Market



NMHC Rent Payment Tracker
Percent of Payments Made Each Month



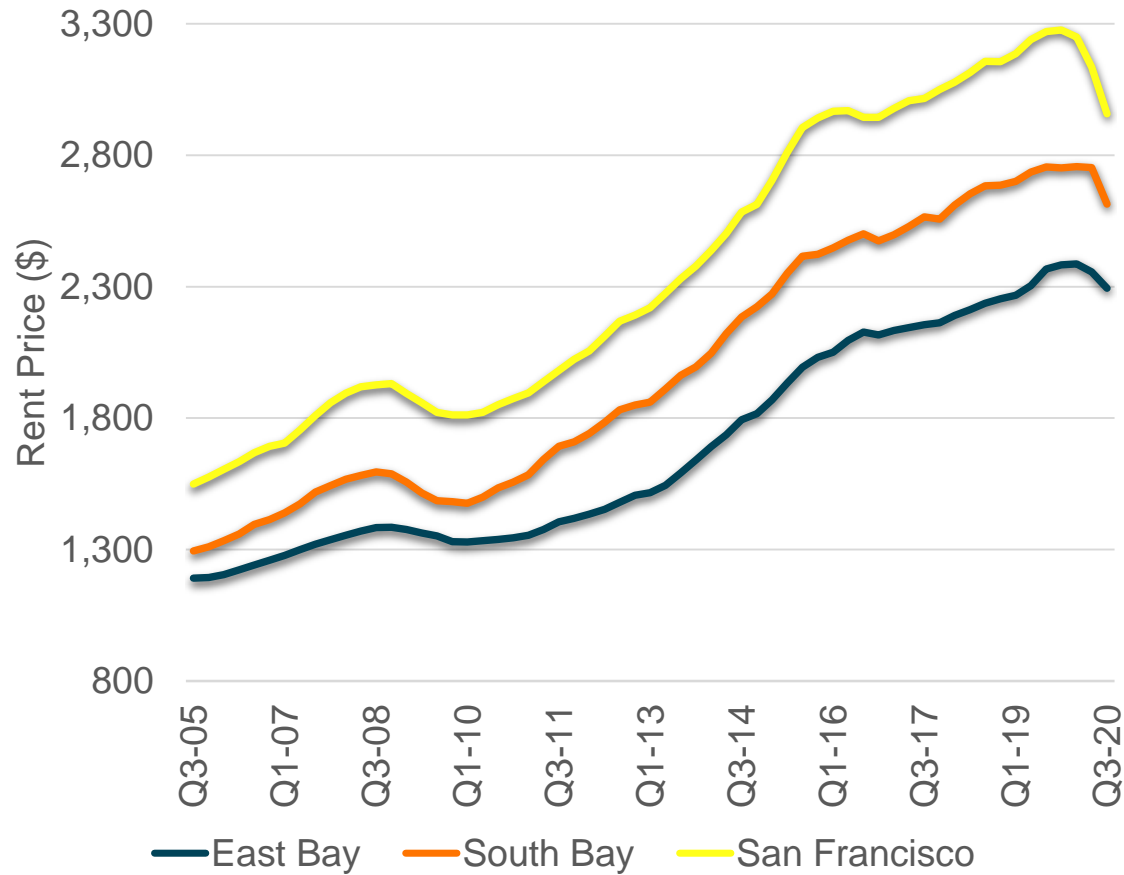
Unemployment by Tenure



Rent and Vacancies



Cost of Rent



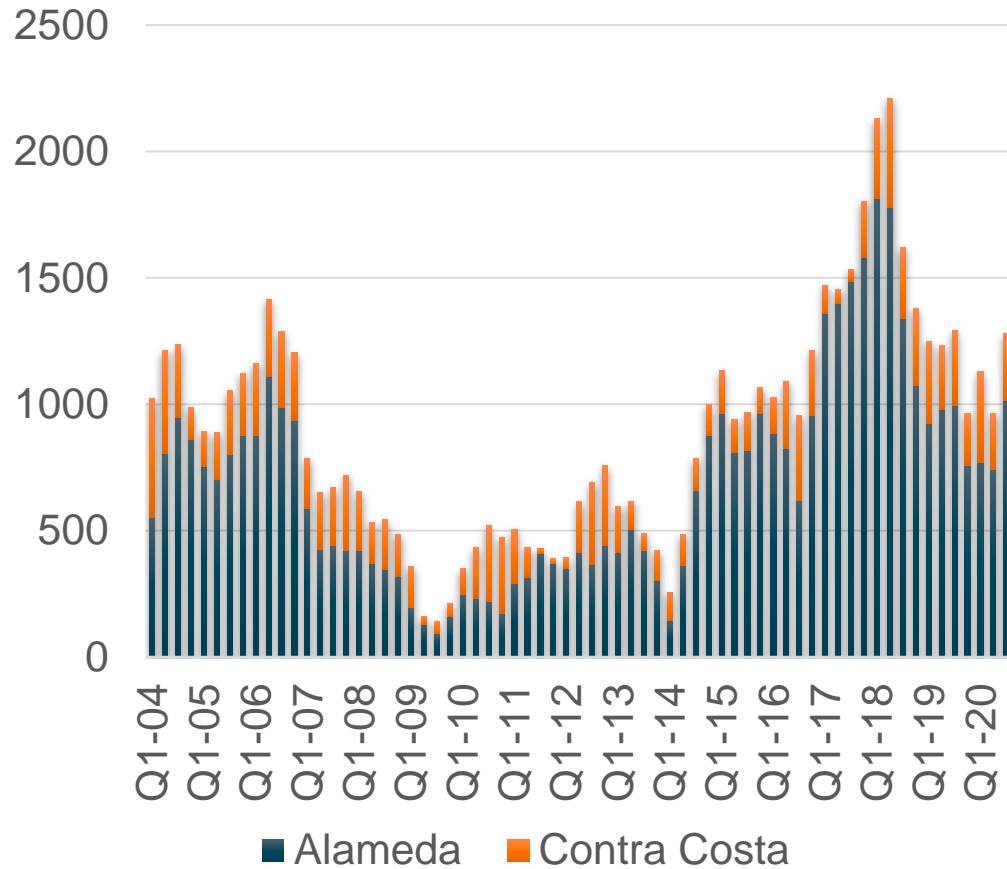
Vacancy Rate



MF Residential Permits

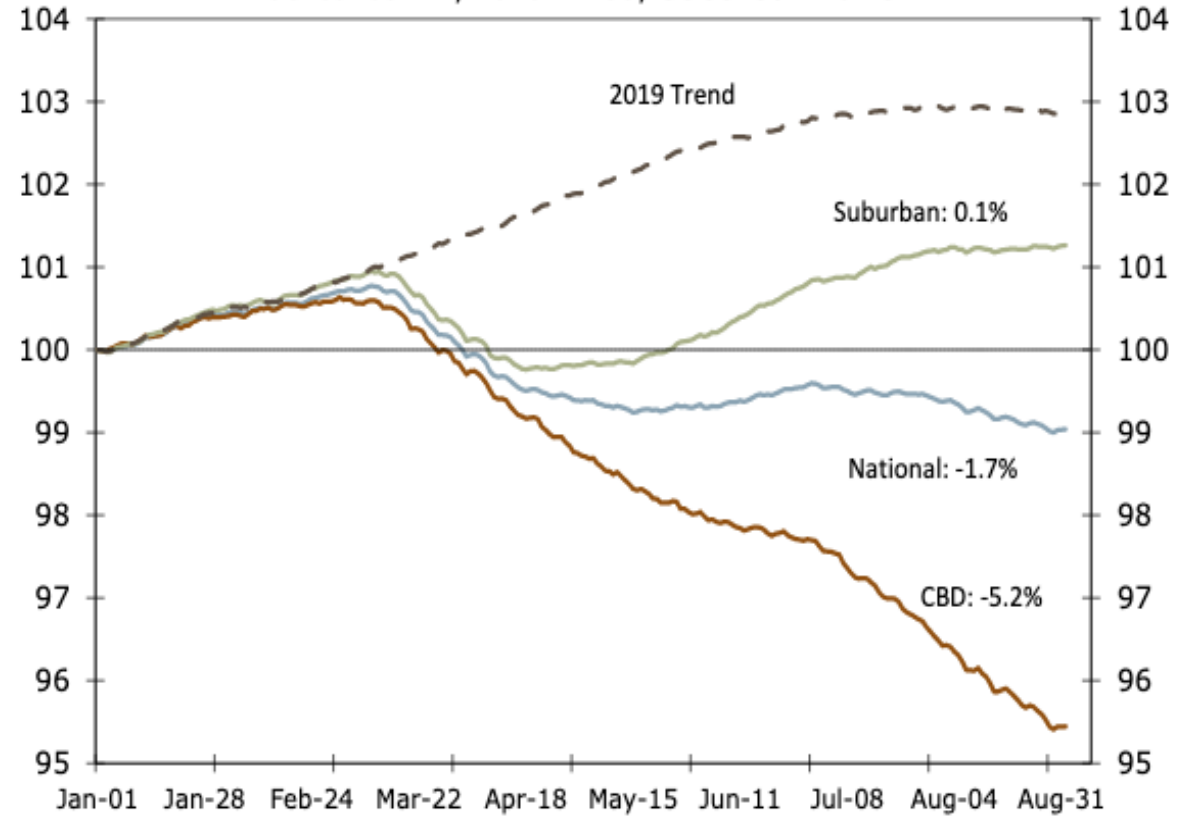


East Bay Permits



One-Bedroom Rent Trends

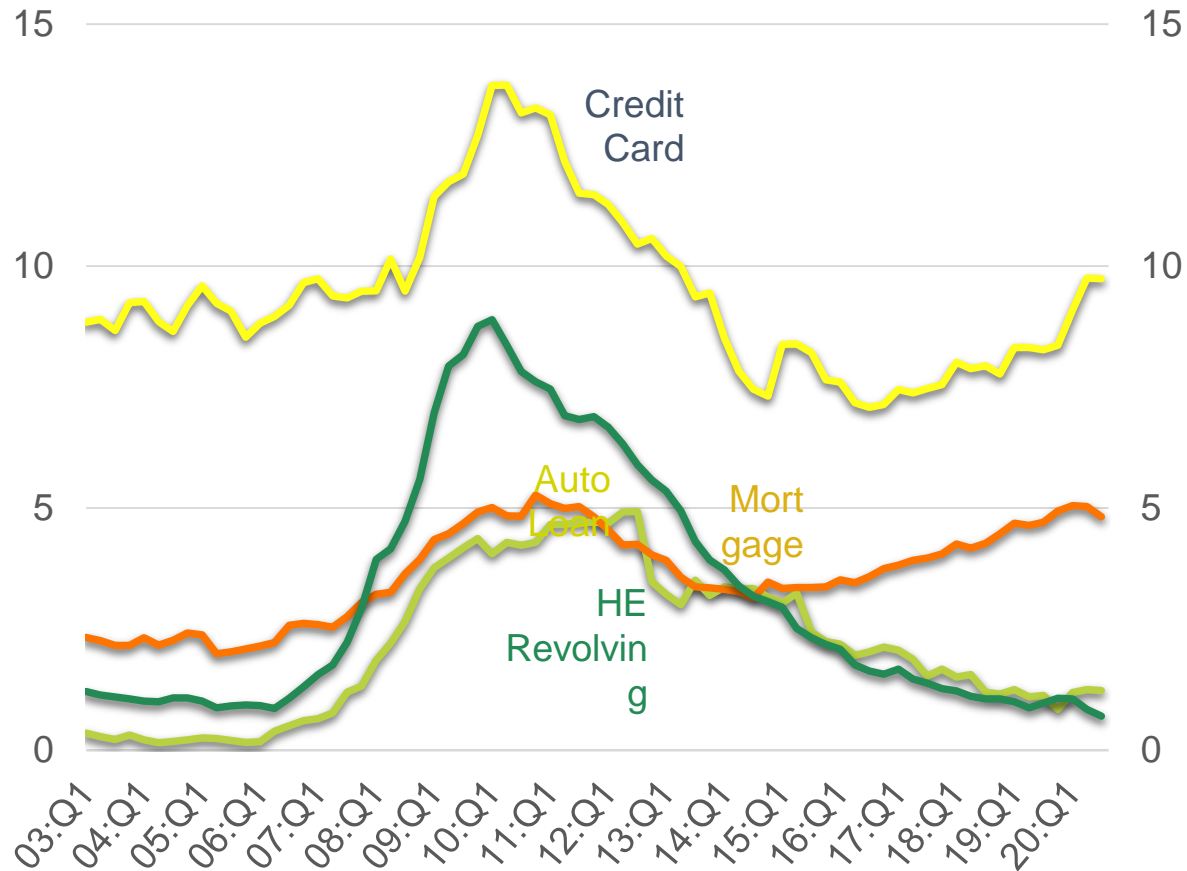
Indexed: Jan. 1, 2020 = 100; Suburban vs. CBD



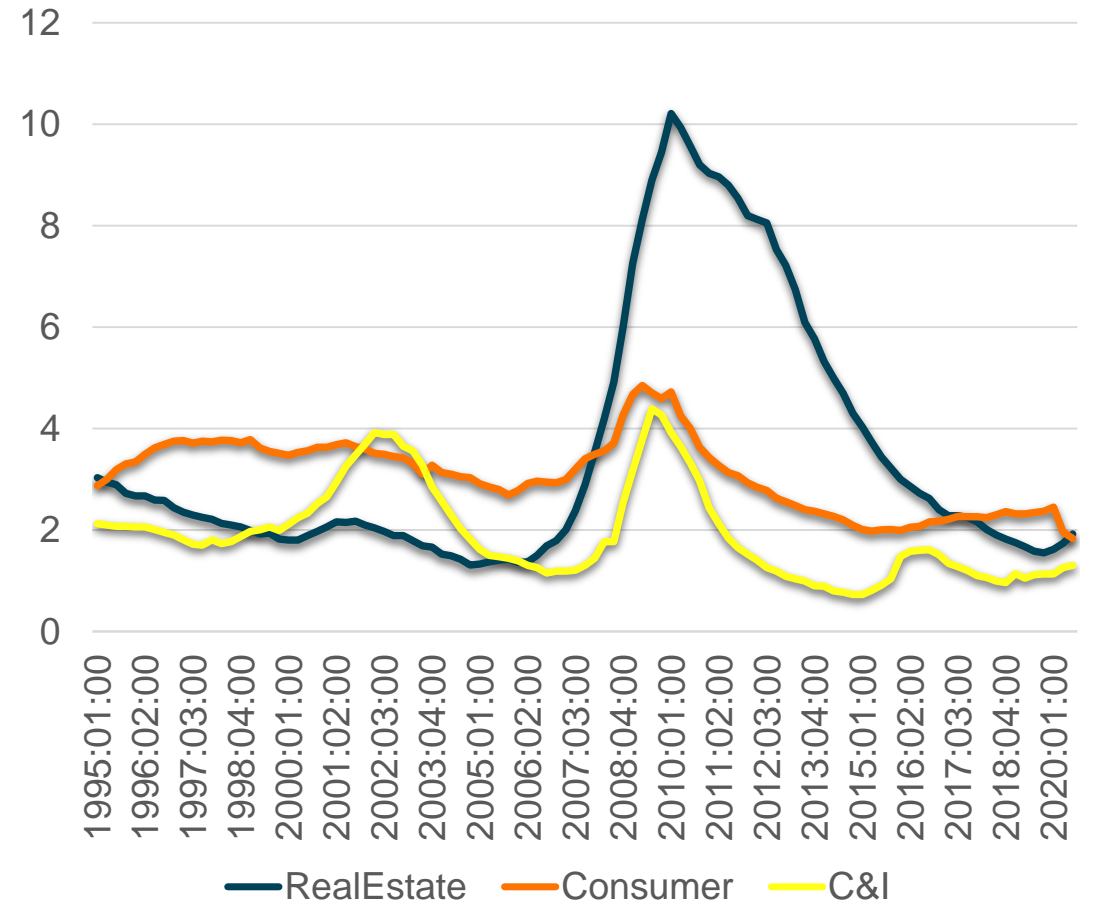
Credit issues?



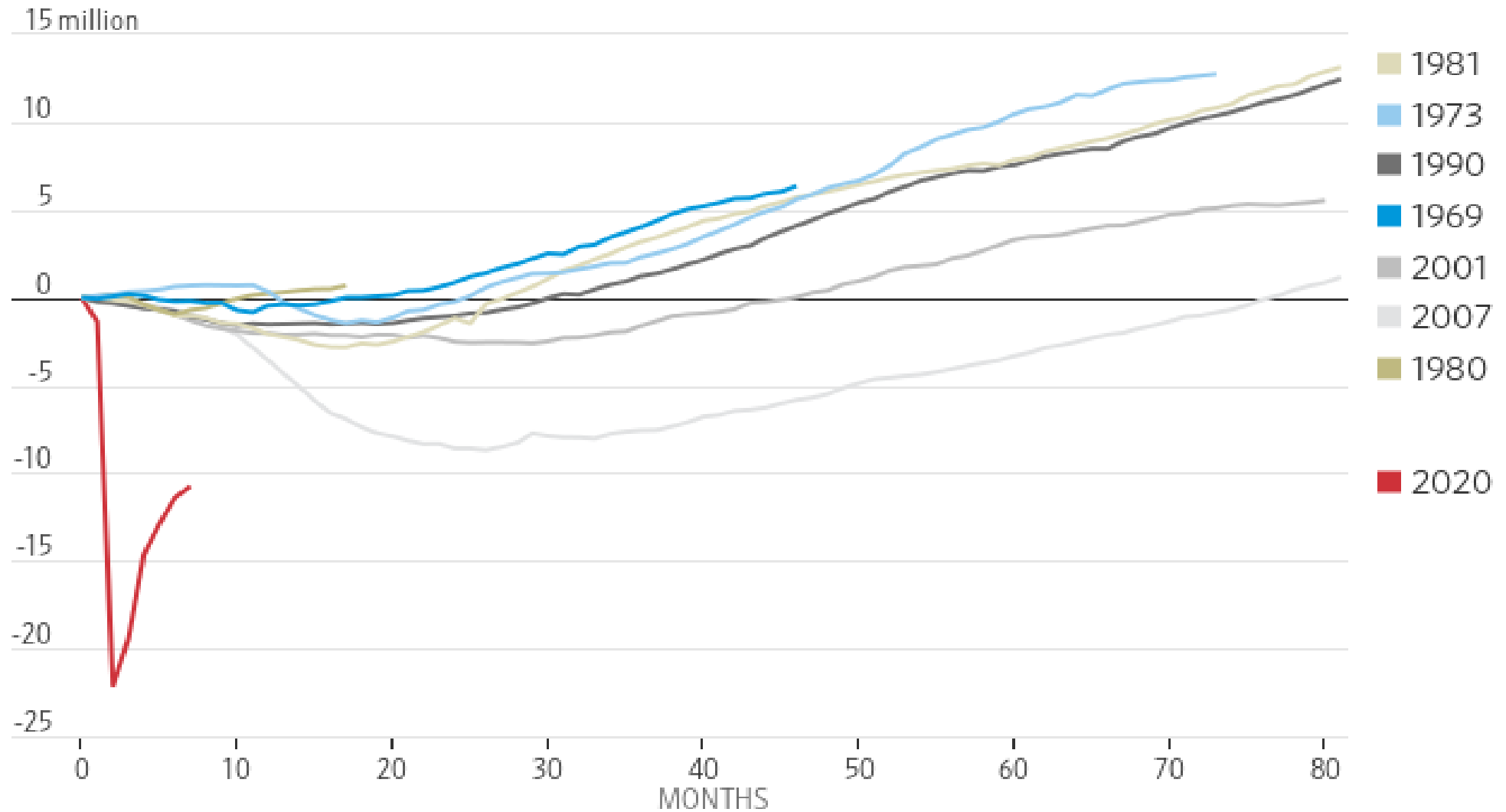
Percent of Balance 90+ Days Delinquent by Loan Type



Commercial Bank Delinquencies to Q3



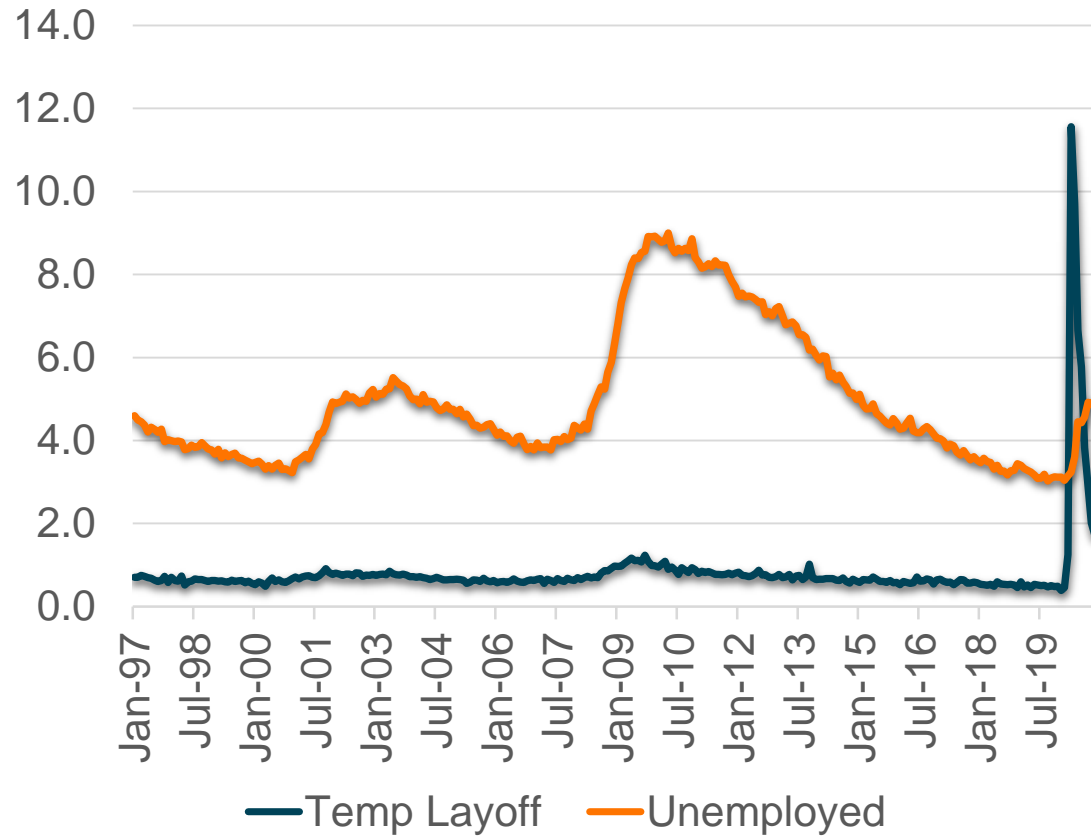
The biggest lagging indicator: Jobs



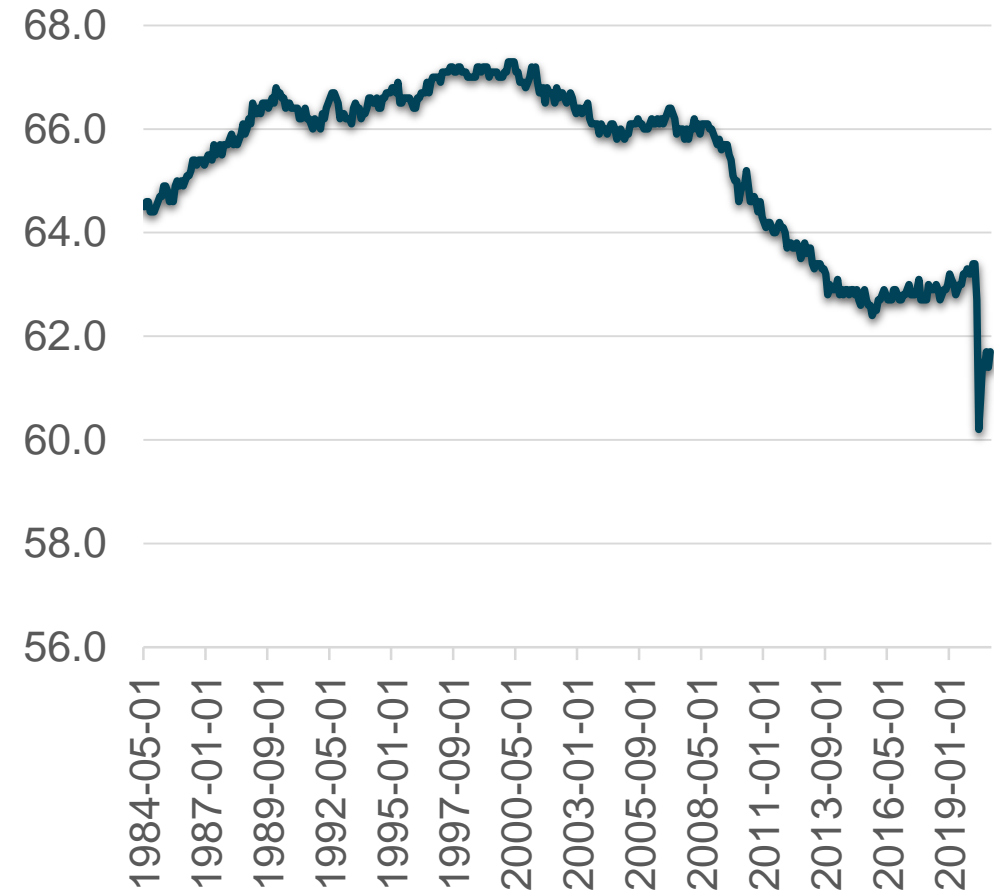
Misreading Unemployment



Unemployment Rate by Reason



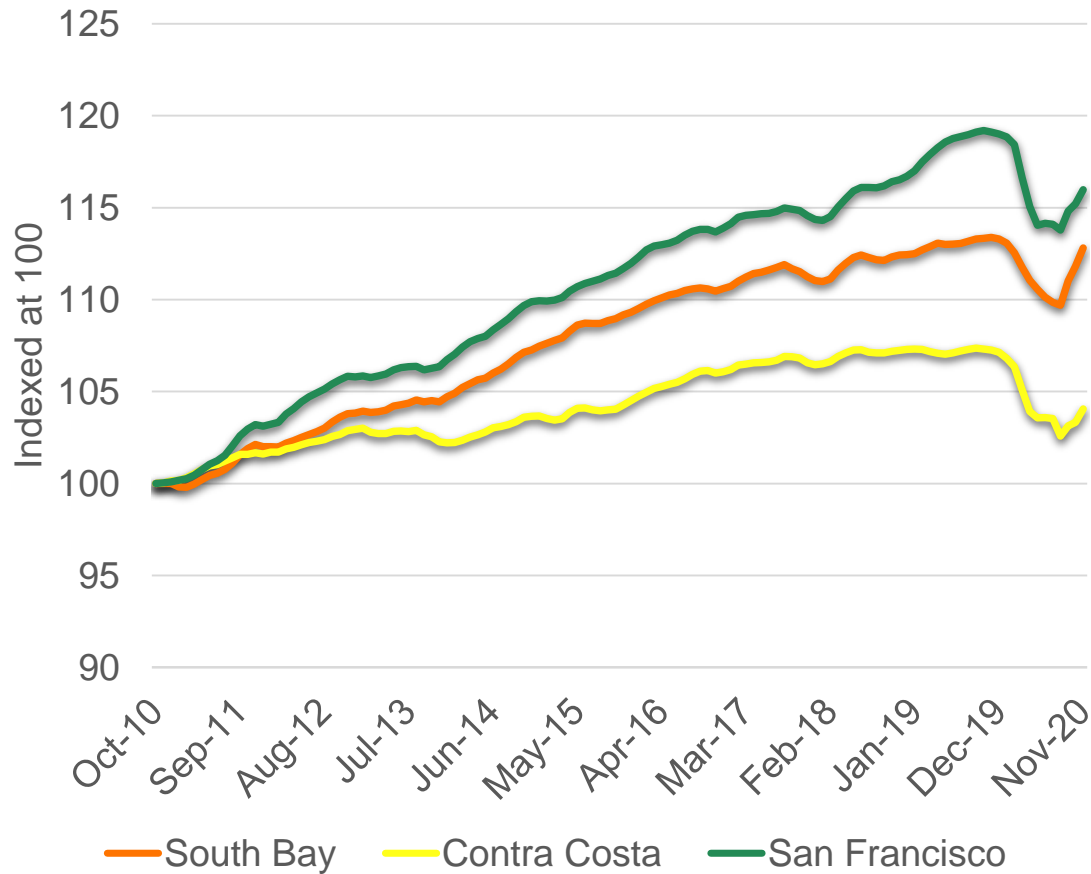
US Participation Rate



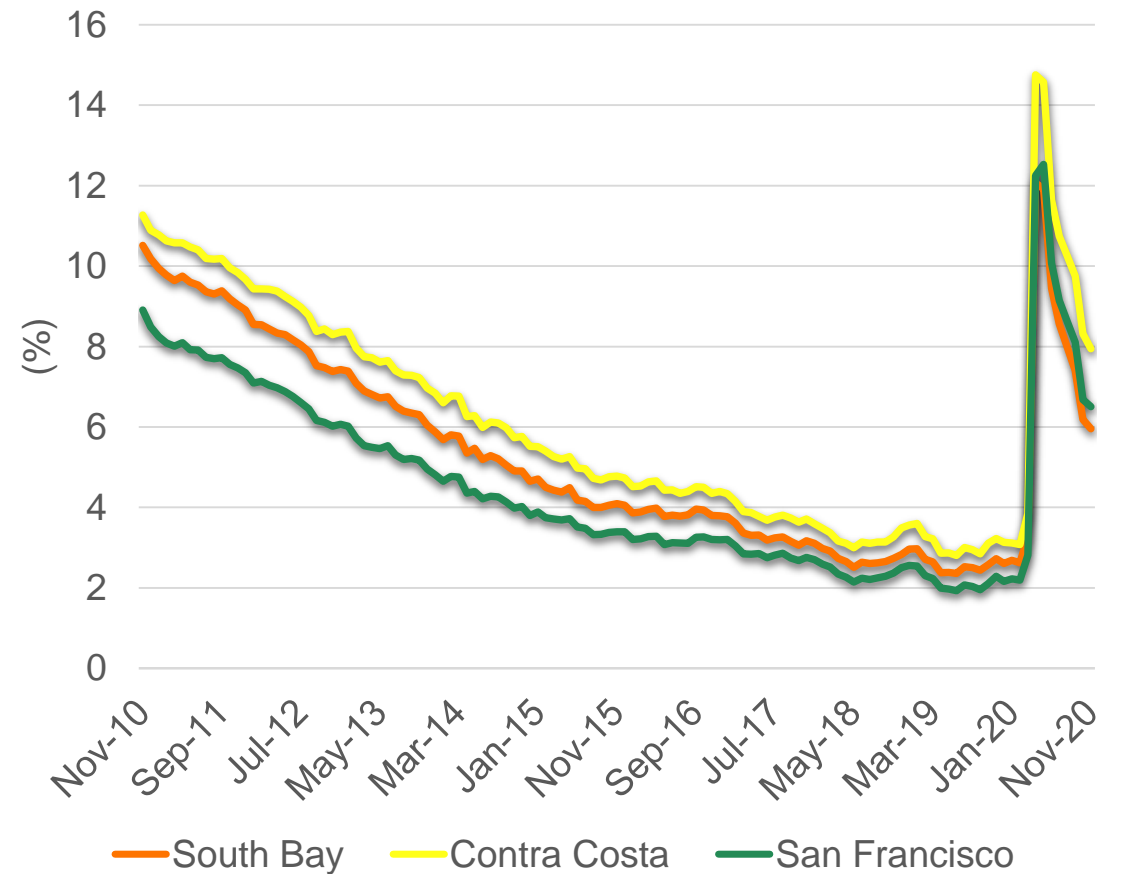
Labor Market



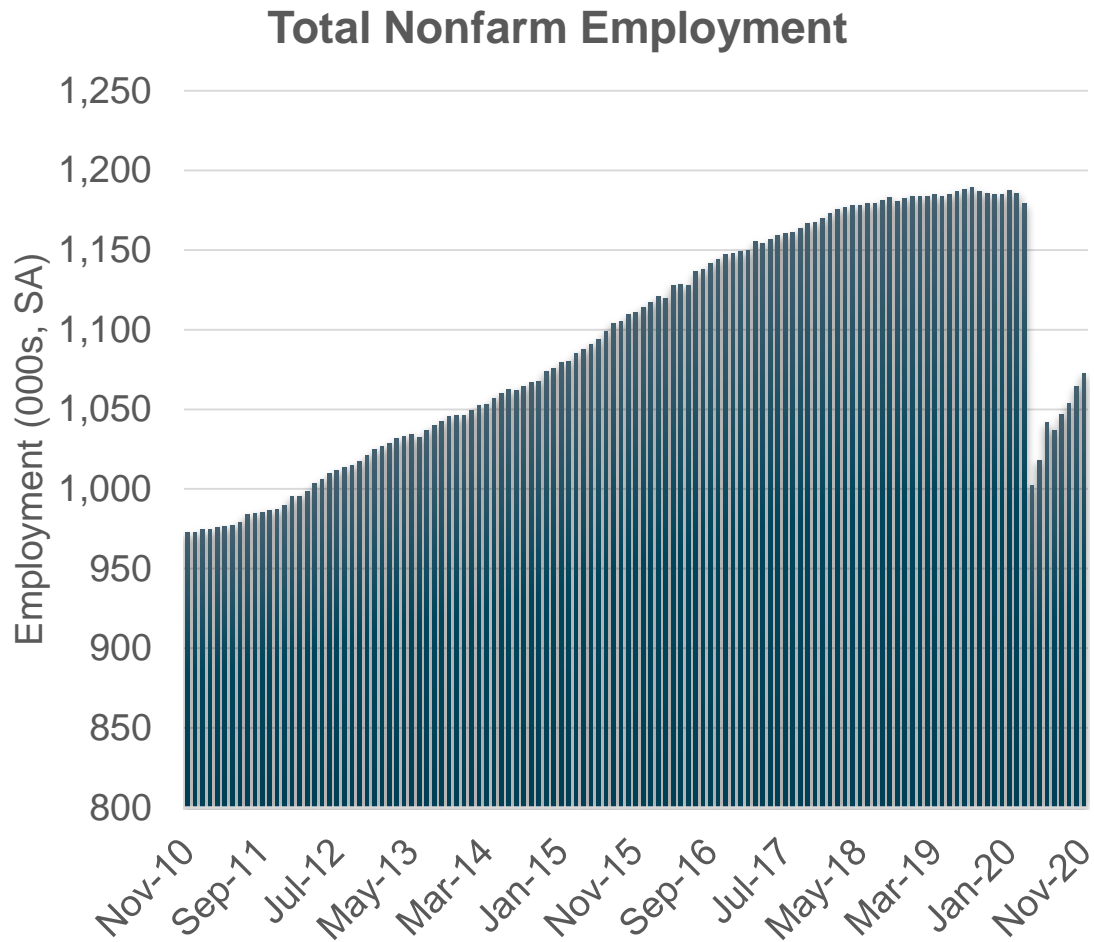
Labor Force Growth



Unemployment Rate



Employment – East Bay

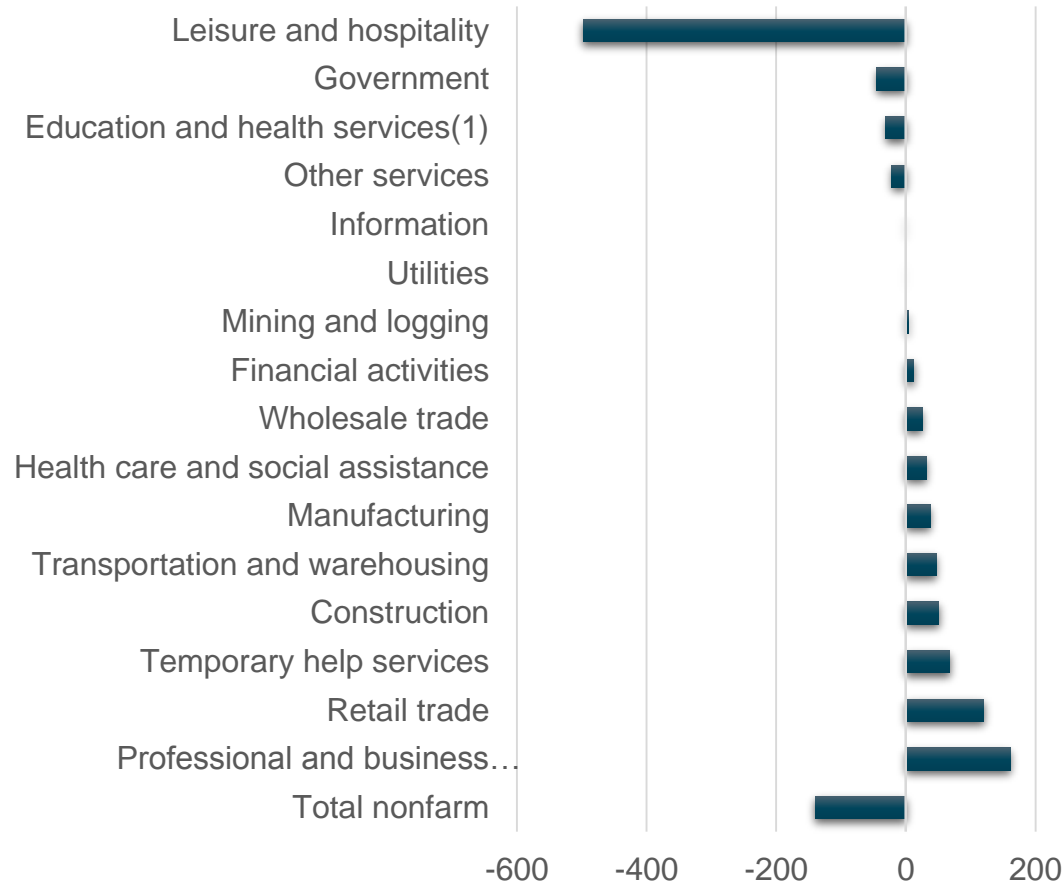


Industry	East Bay		
	Nov-20	Feb-Nov % Chg	Feb-Nov Abs. Chg
Total Nonfarm	1,073	-9.5	-133.2
Finance	55	-0.2	-0.1
Prof/Tech/Sci	100	-1.2	-1.2
Information	27	-4.2	-1.2
Logistics	190	-5.0	-10.0
Wholesale Trade	43	-6.1	-2.8
Retail Trade	105	-6.7	-7.6
Education/Health	185	-6.9	-13.7
Admin Support	60	-7.9	-5.2
Government	158	-9.7	-17.0
Manufacturing	86	-13.2	-13.0
Leisure and Hospitality	86	-28.2	-33.6

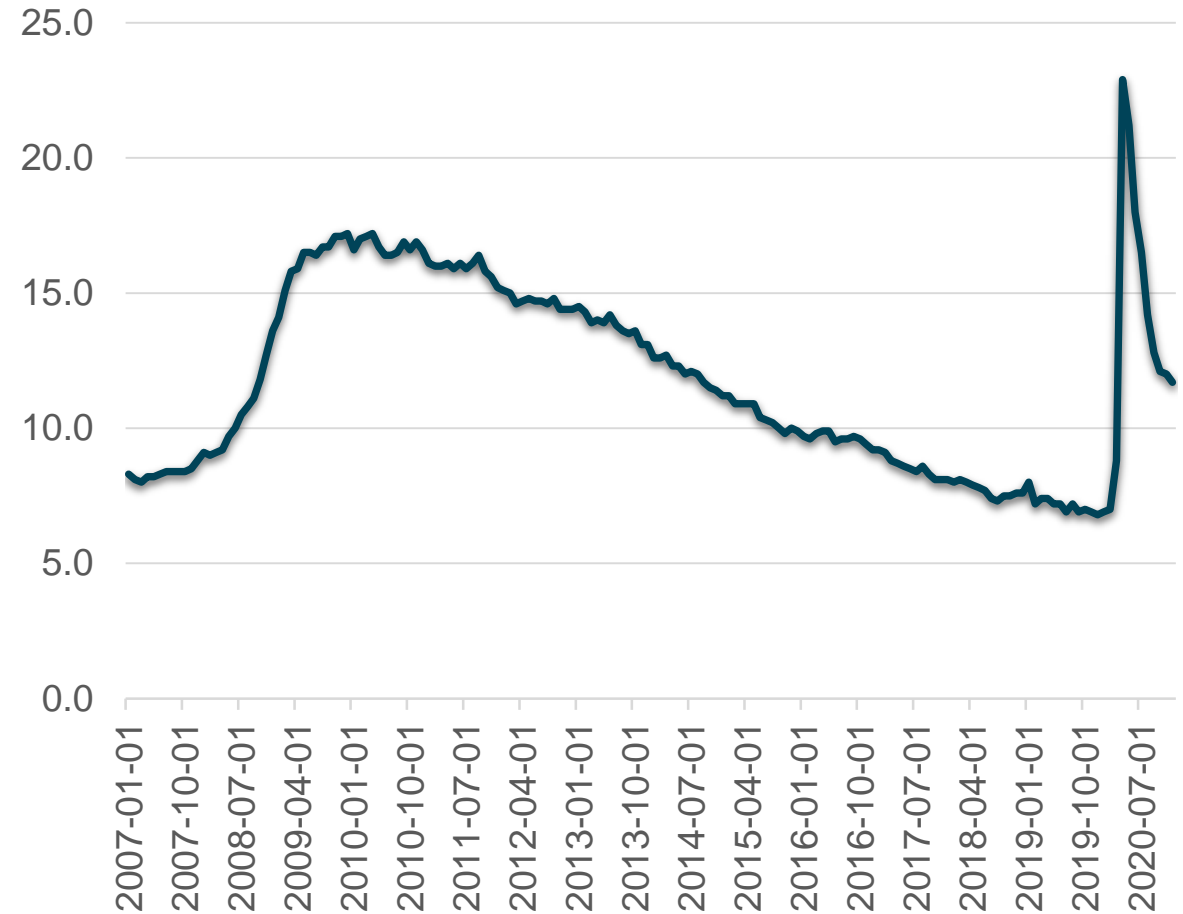
Silver Linings to a Cloudy December



Nov-Dec Job Losses



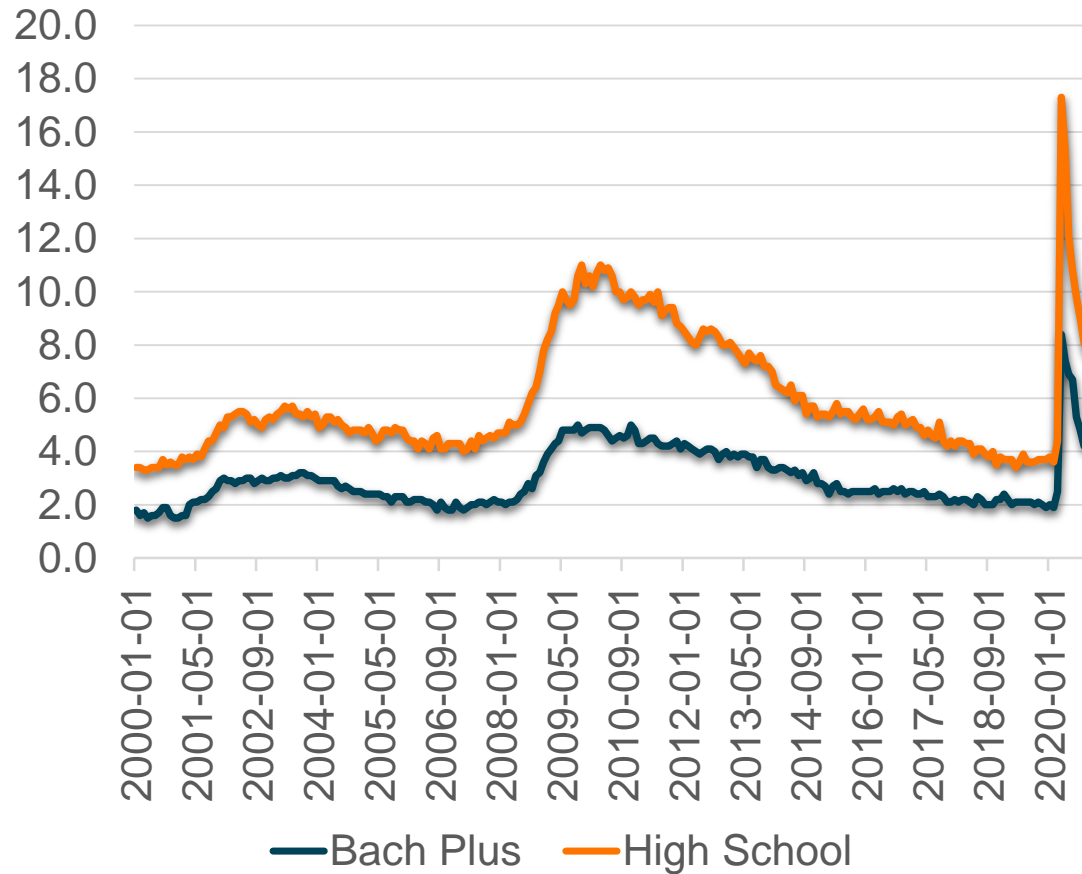
U-6 Unemployment



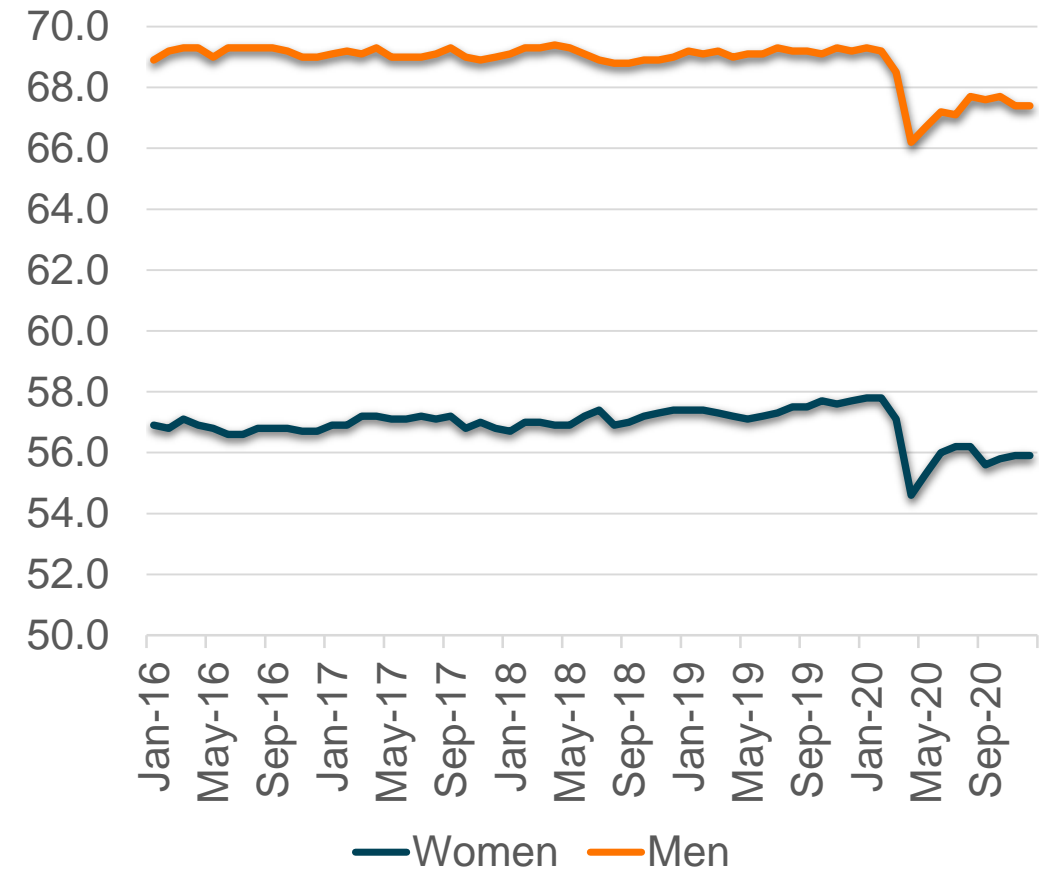
K Shaped Recovery?



Unemployment by Education



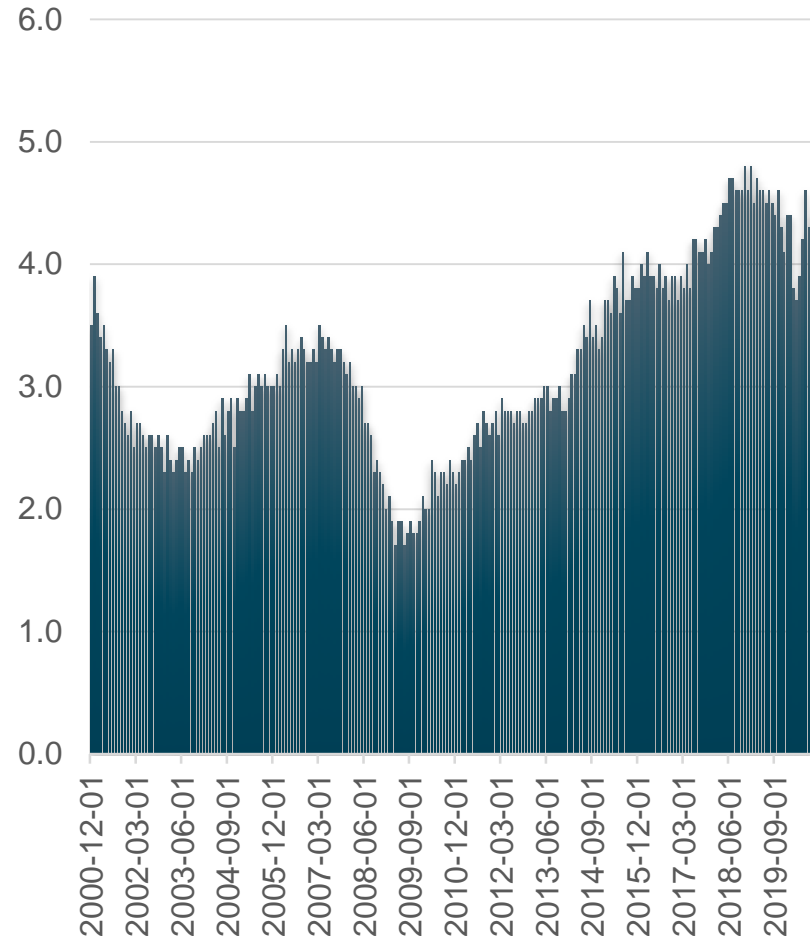
Participation Rates



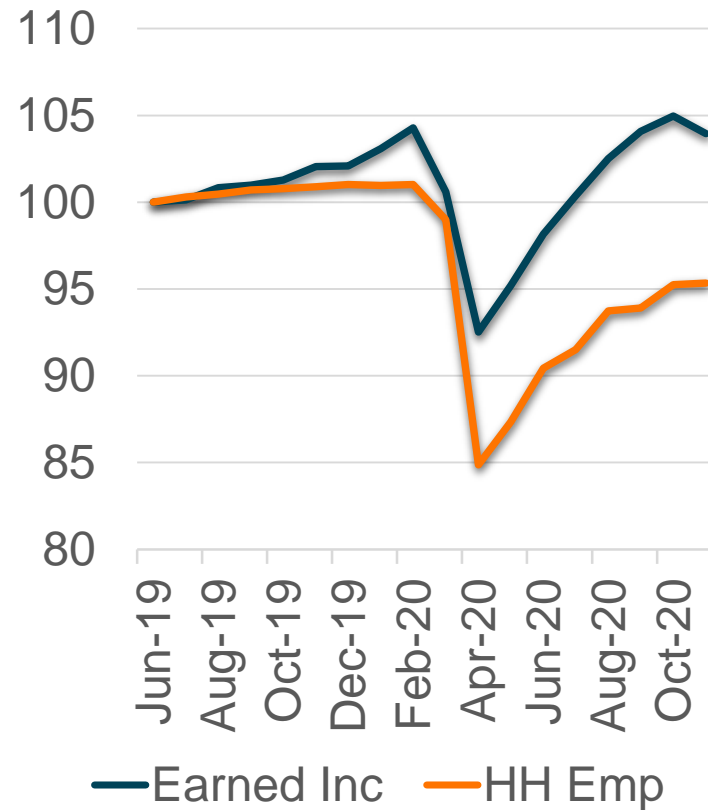
More Context



US Job Openings Rate



Indexes of Earnings and Jobs



QCEW Q2 to Q2

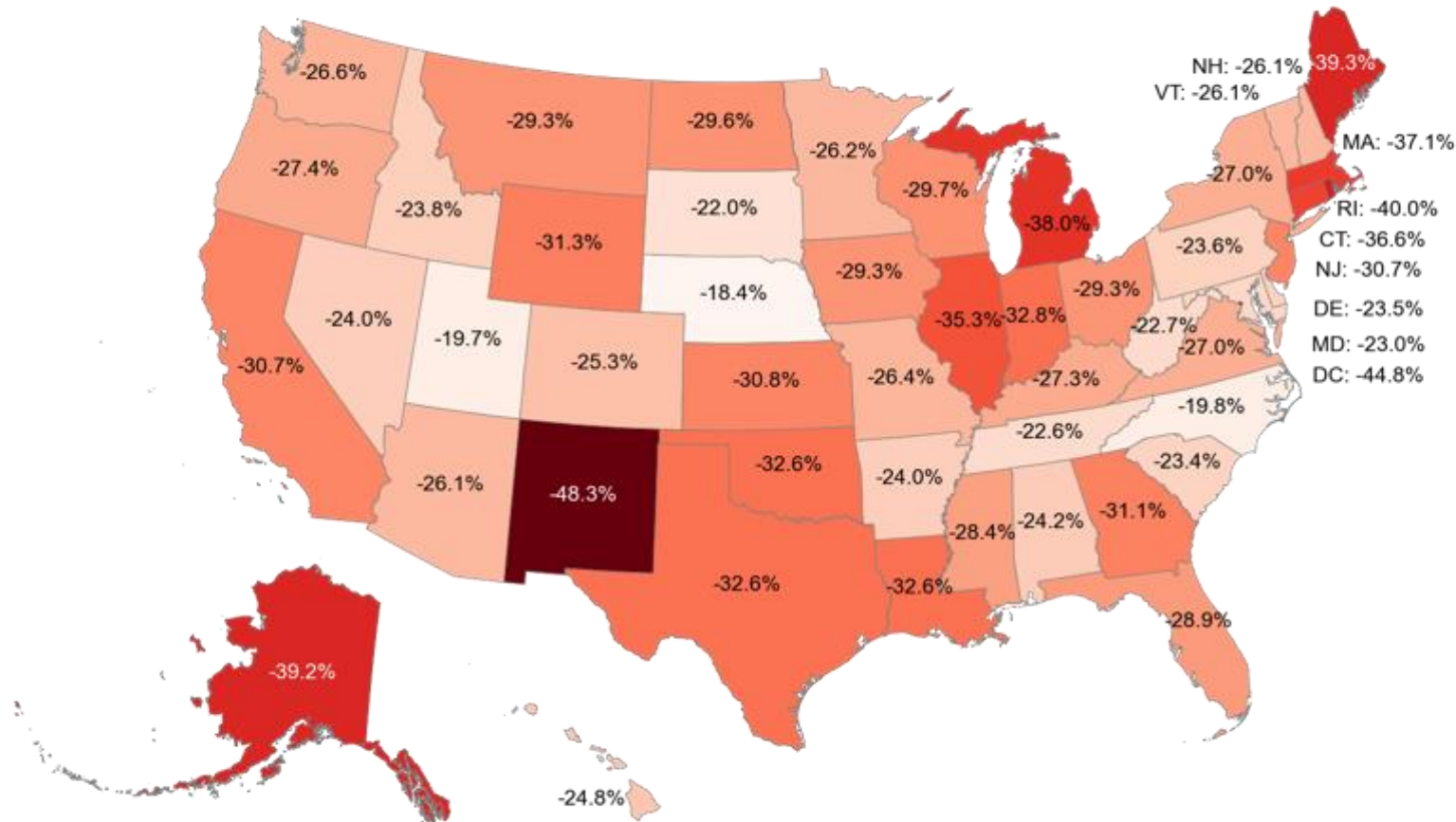
	Agg Wages	Jobs
Alameda		
2018	4.9%	2.0%
2019	6.4%	0.6%
2020	-4.3%	-13.0%
Contra Costa		
2018	3.4%	0.7%
2019	4.5%	0.1%
2020	-4.0%	-13.9%
San Francisco		
2018	10.7%	3.1%
2019	20.1%	2.8%
2020	-5.8%	-13.3%
San Jose		
2018	10.1%	2.6%
2019	3.2%	1.7%
2020	4.7%	-10.2%

Open Businesses



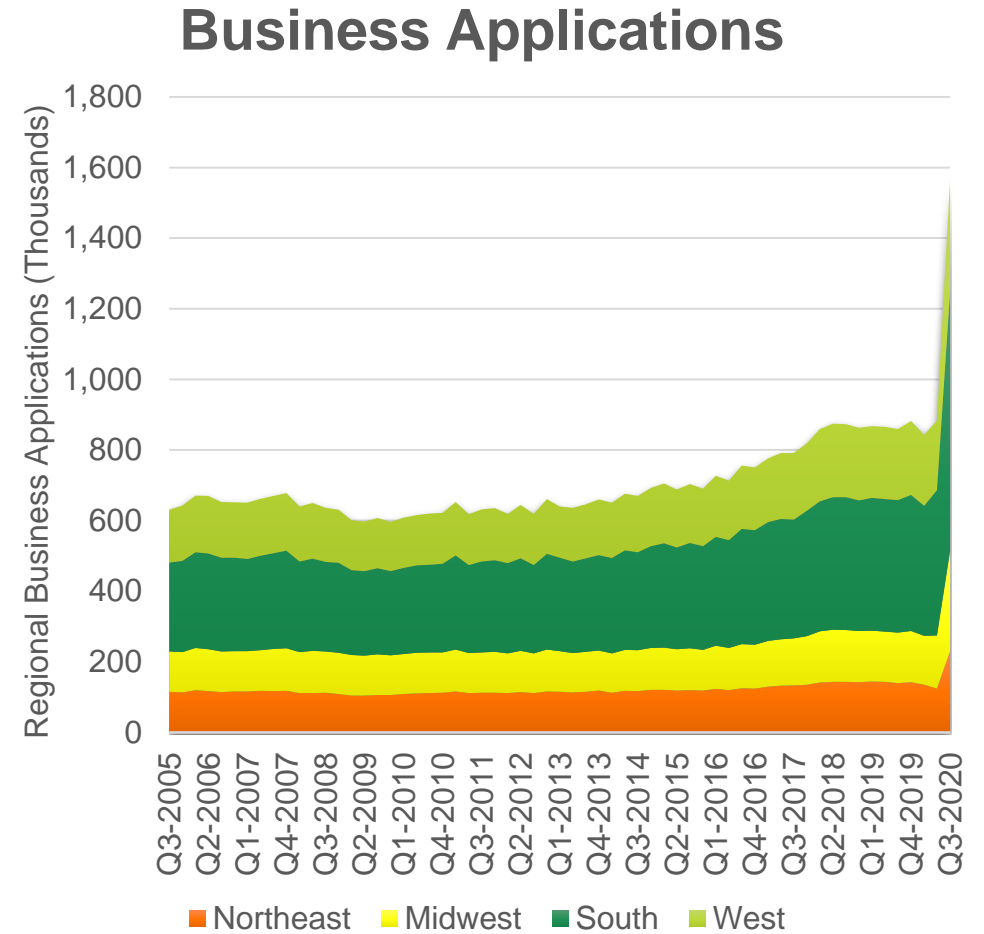
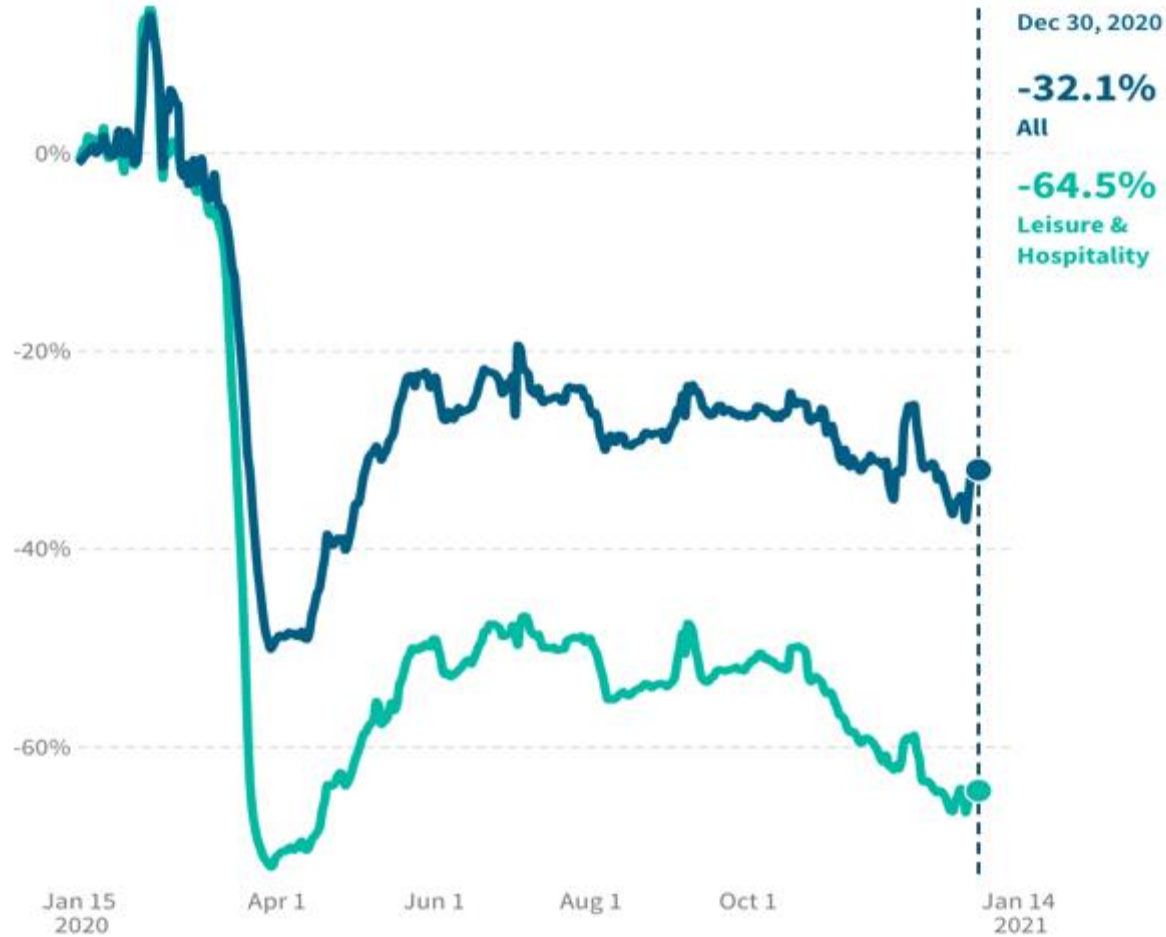
% Change in Open Small Businesses:
January 2020 through November 29, 2020

**Nominal GDP
Decline H1 2020**



United States *	-7.2%
Wyoming	-13.8%
Oklahoma	-11.5%
West Virginia	-11.3%
Alaska	-11.2%
Louisiana	-10.3%
North Dakota	-10.1%
Texas	-9.8%
New Mexico	-9.5%
Nevada	-9.5%
Hawaii	-8.8%
Tennessee	-8.2%
Michigan	-8.2%
New York	-8.1%

Small Business?



Policy (Over)reaction

Fiscal Stimulus Plans

- Unemployment Insurance
- Local Government Support
- PPP Loans
- Direct Transfers to People

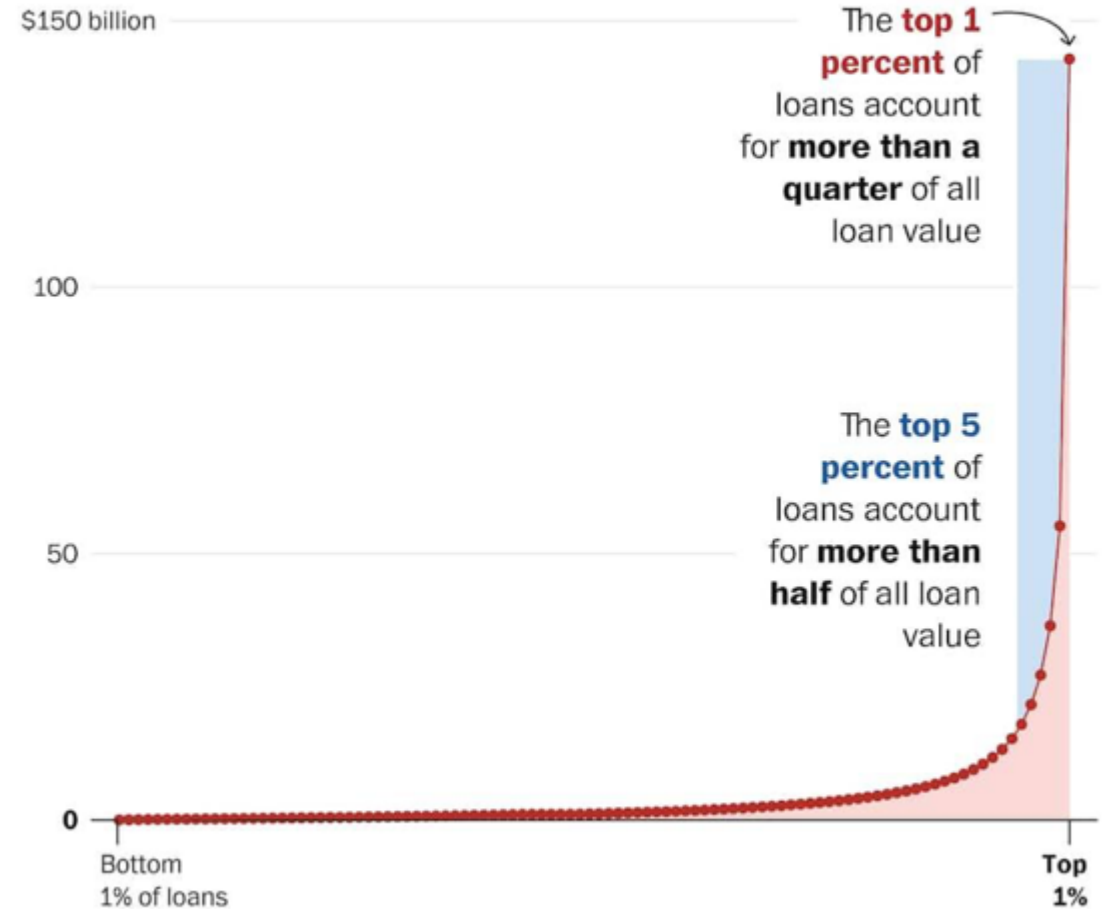
Monetary Stimulus

- Rate Cuts
- Quantitative Easing



Most PPP money went to a fraction of the recipients

Paycheck Protection Program loan-value totals by percentile



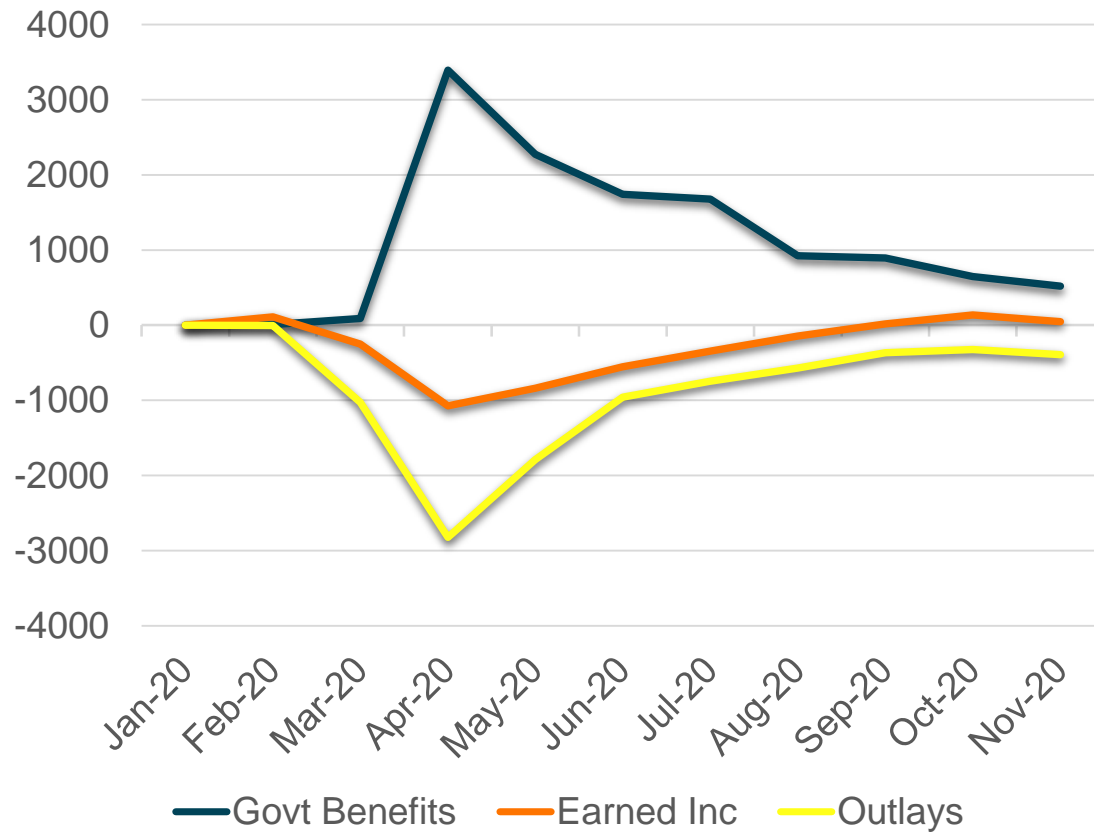
Source: Small Business Administration

THE WASHINGTON POST

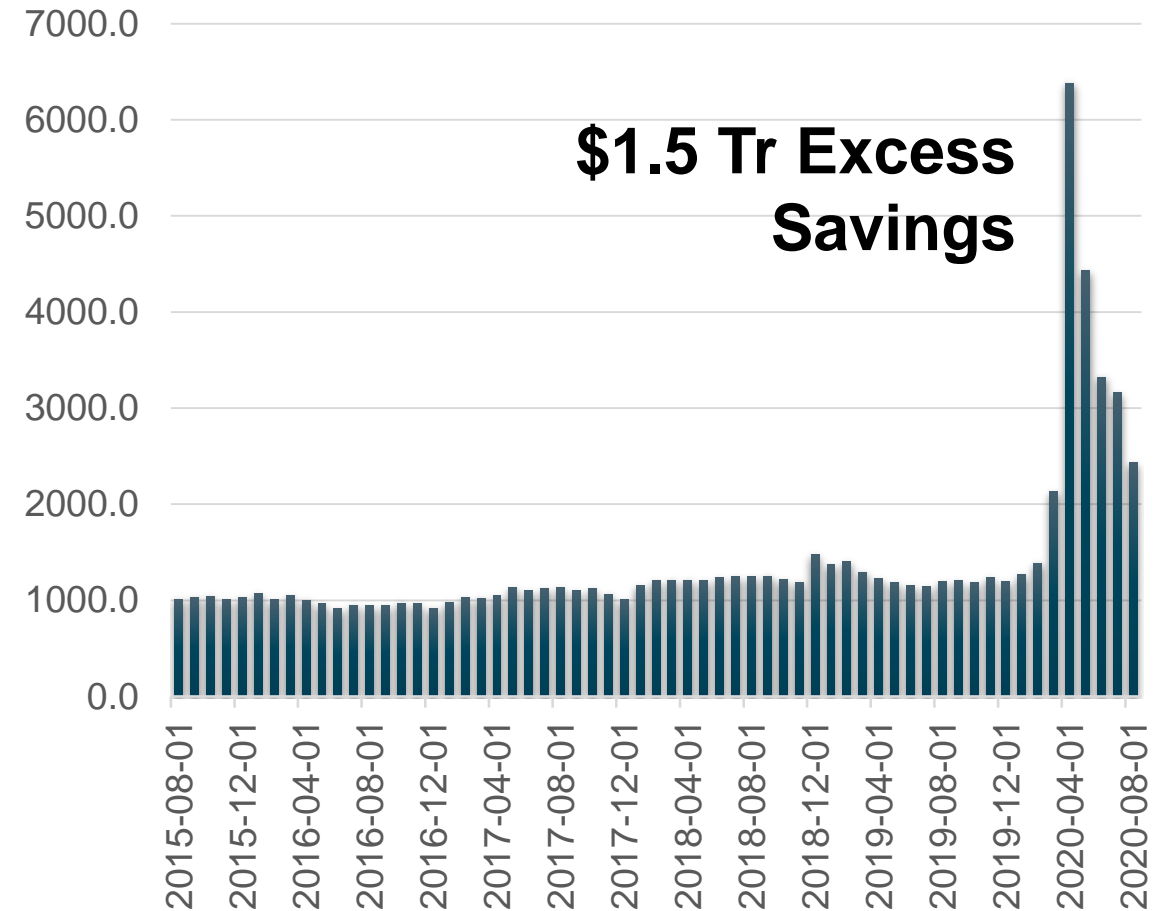
Policy (Over)reaction



Income / Outlays National, Trend from Jan 2020 SAAR



Household Savings Billions SAAR



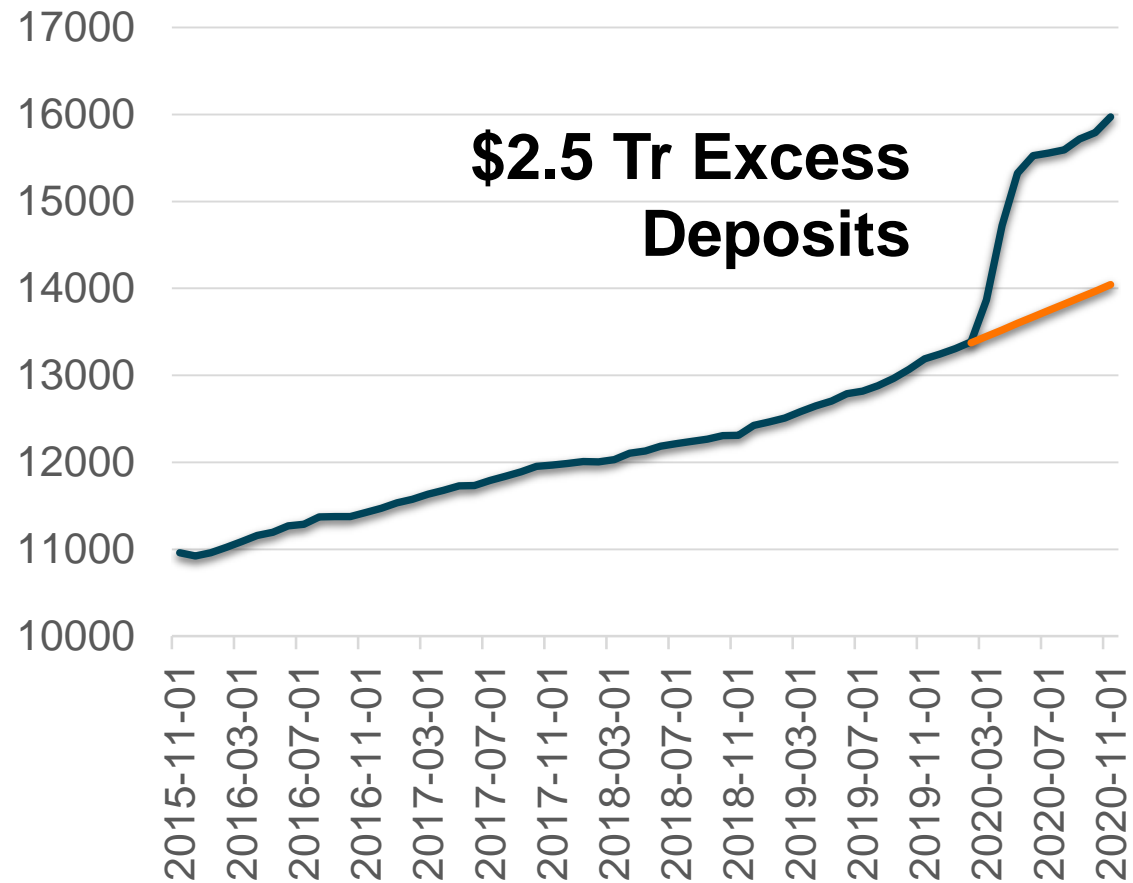
Who is Ahead / Behind?



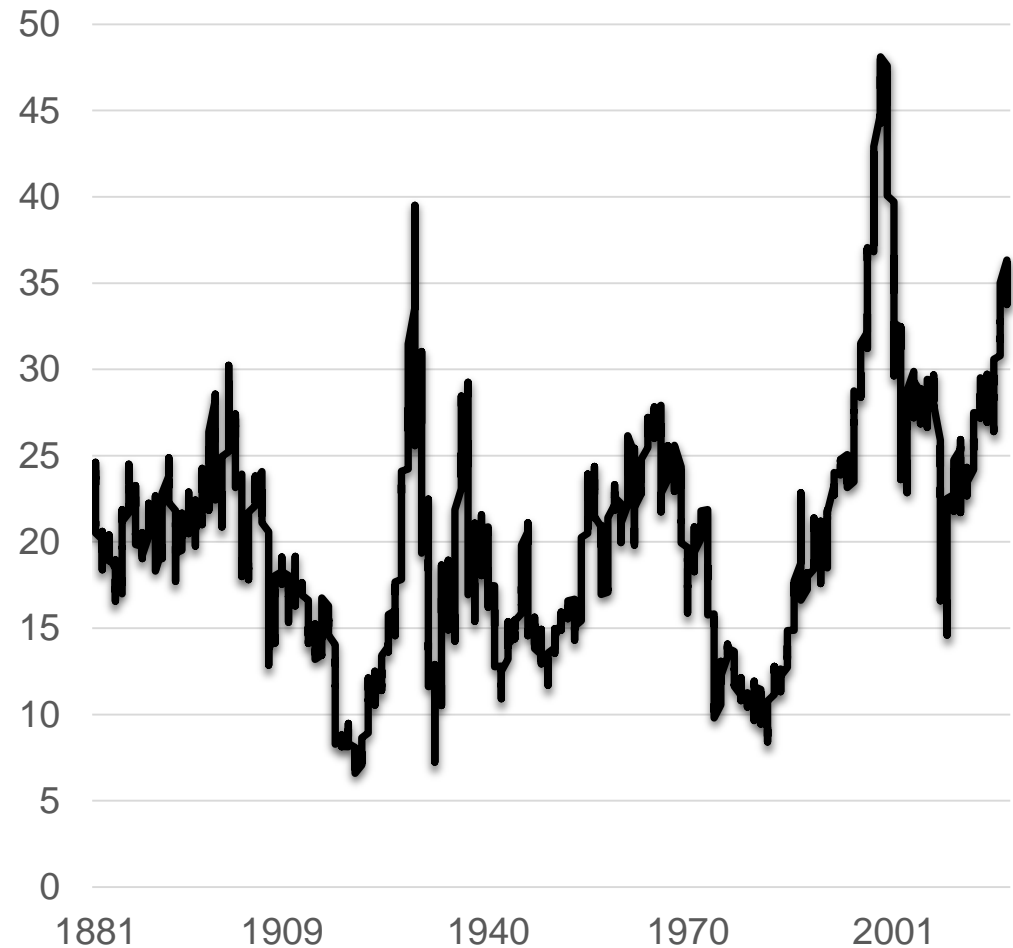
Dry Powder



Commercial Bank Deposits



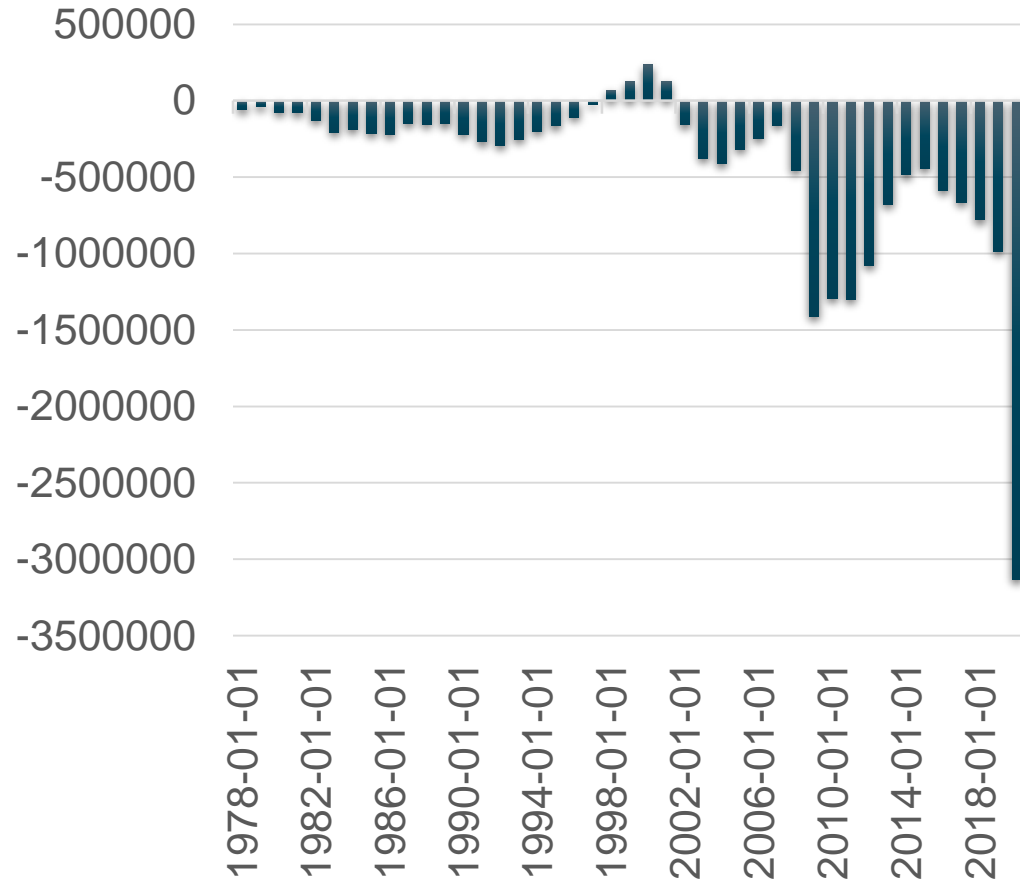
Robert Shiller P/E Ratio



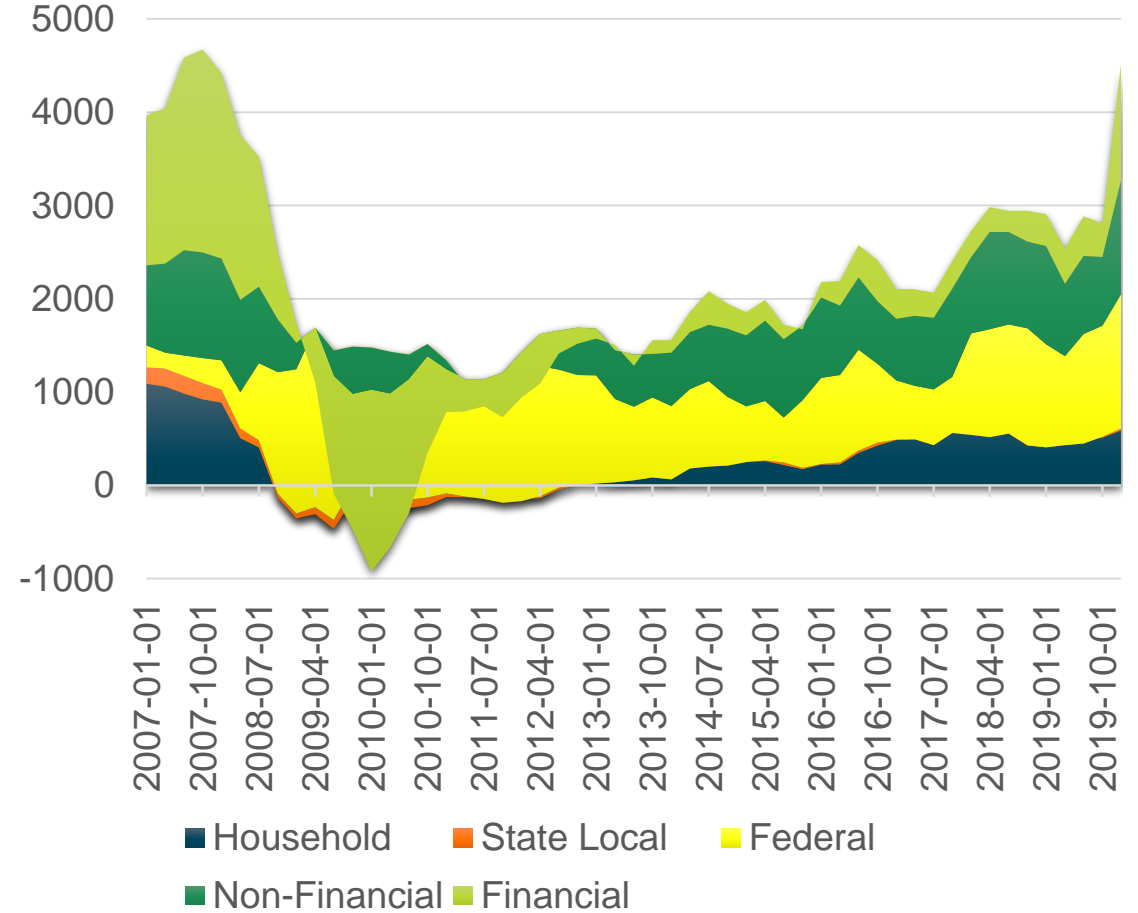
Government Debt



FY Federal Deficit



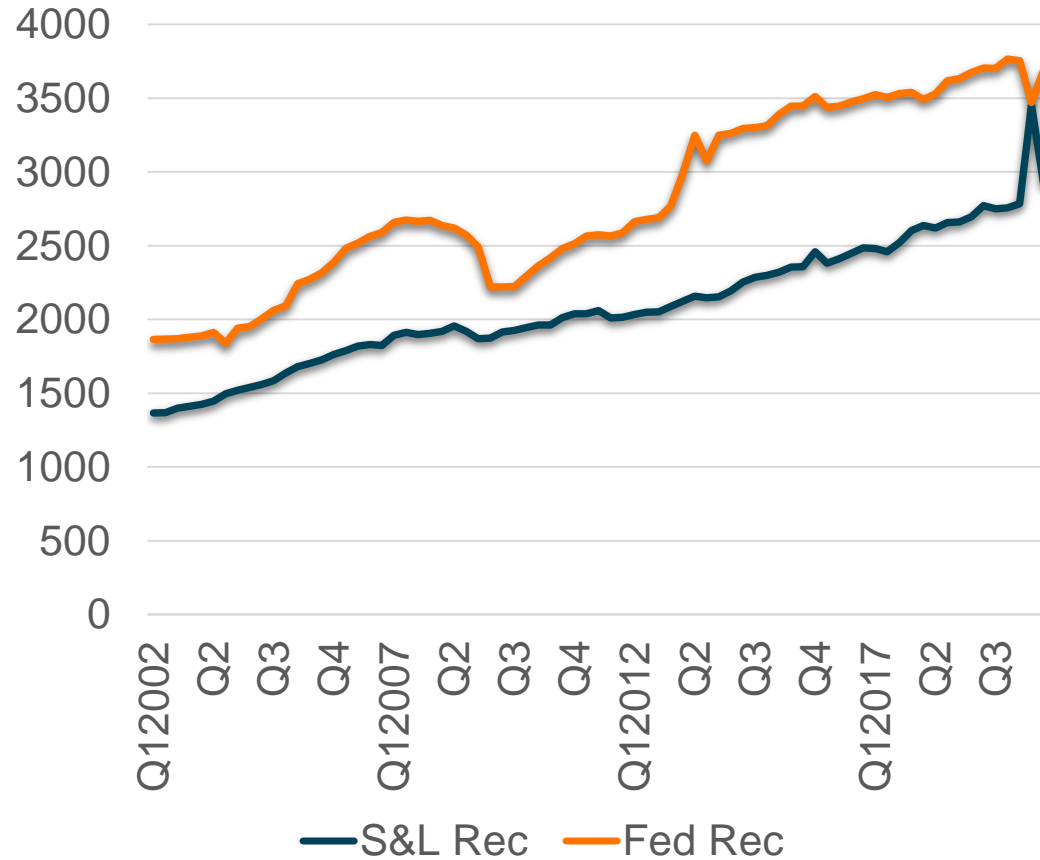
Total Borrowing (Annual Billions)



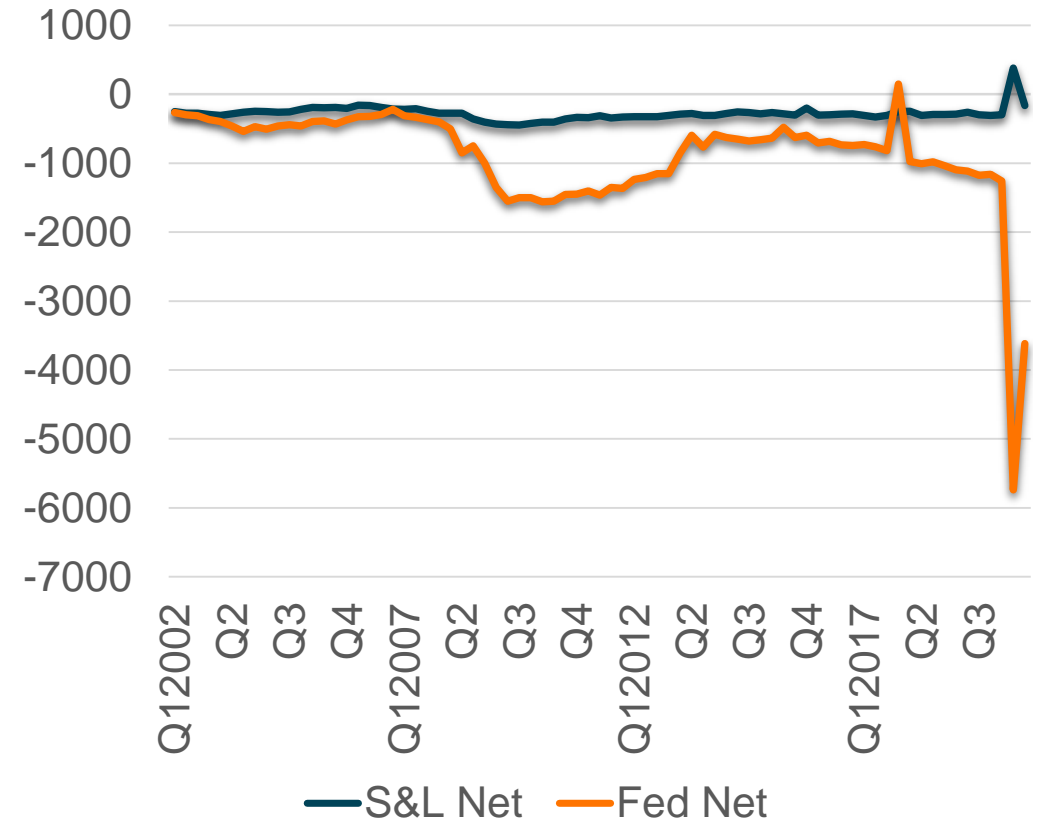
The Fiscal Outlook



Current Receipts



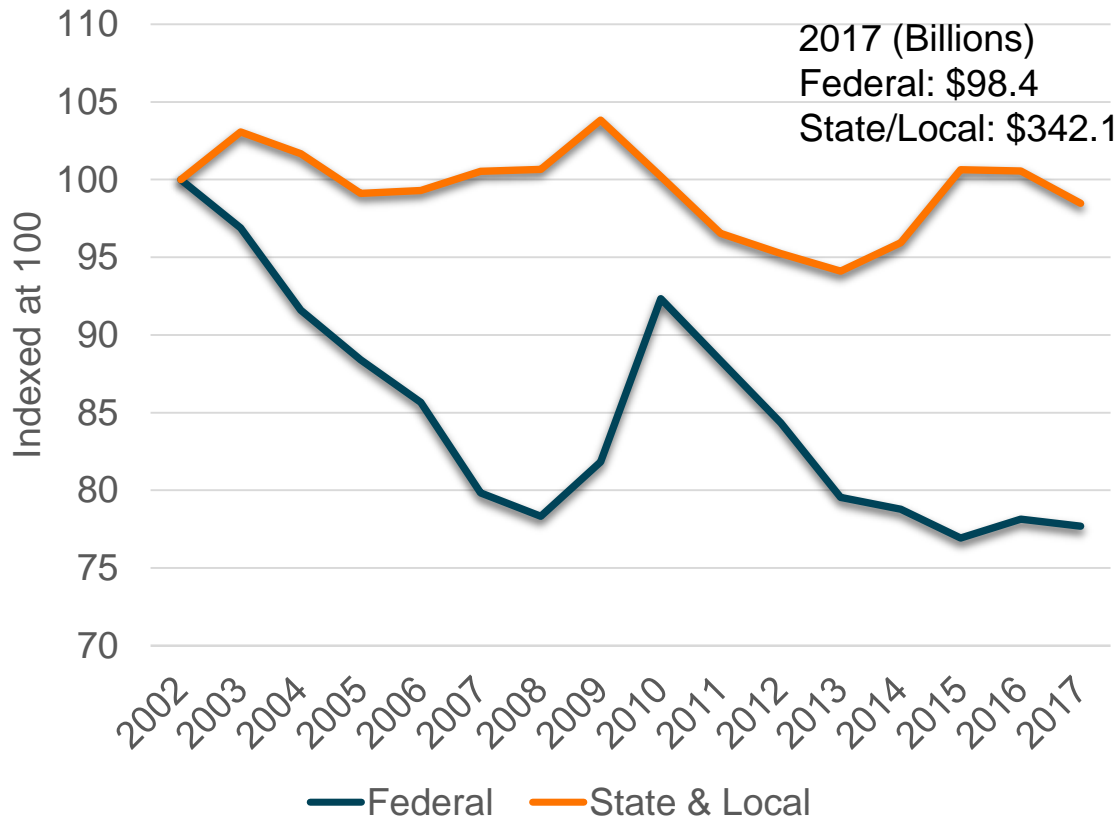
Government Net Lending



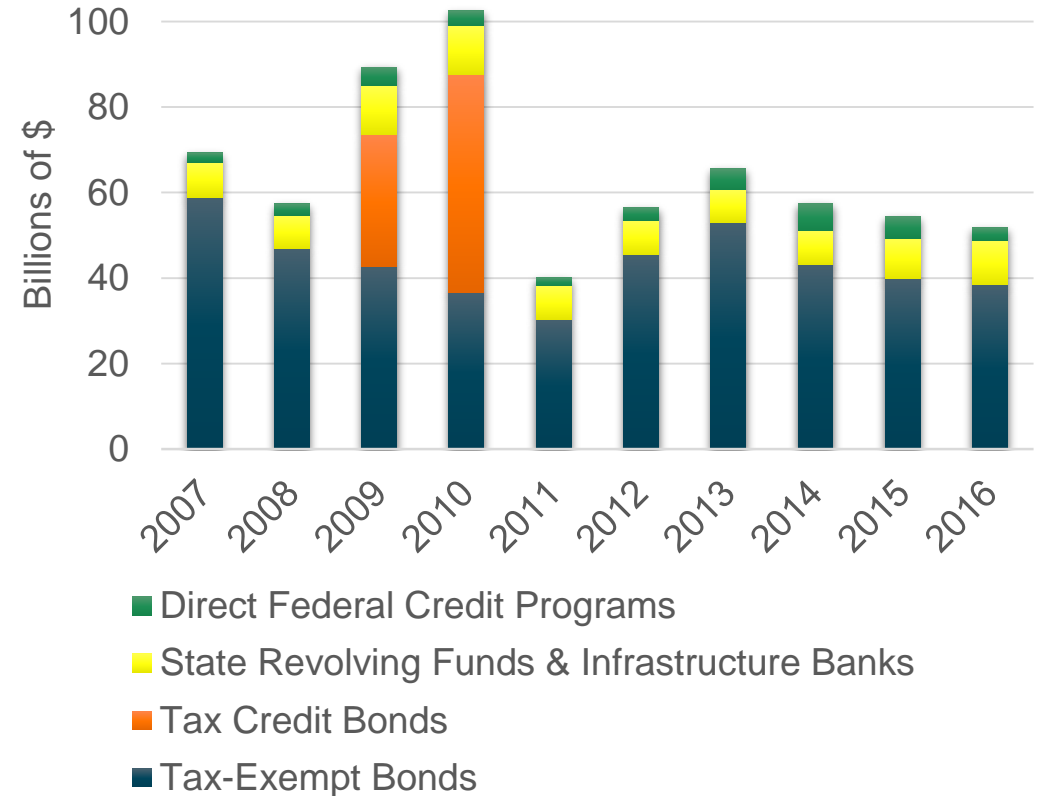
Public Infrastructure Spending & Financing - National



Public Infrastructure Spending Total US



Federally-Supported Financing Total US



State Budget Issues?



2019-20 Comparison of Actual and Forecast Agency General Fund Revenues
(Dollars in Millions)

Revenue Source	NOVEMBER 2020				2020-21 YEAR-TO-DATE			
	Forecast	Actual	Change	Percent Change				
Personal Income	\$4,729							
Sales & Use								
Corporation								
Insurance								
Estate								
Pooled								
Alcohol								
Tobacco								
Other			-109	-57.3%	986	747	-239	-24.2%
Total	\$8,081	\$10,510	\$2,429	30.1%	\$60,633	\$74,406	\$13,772	22.7%

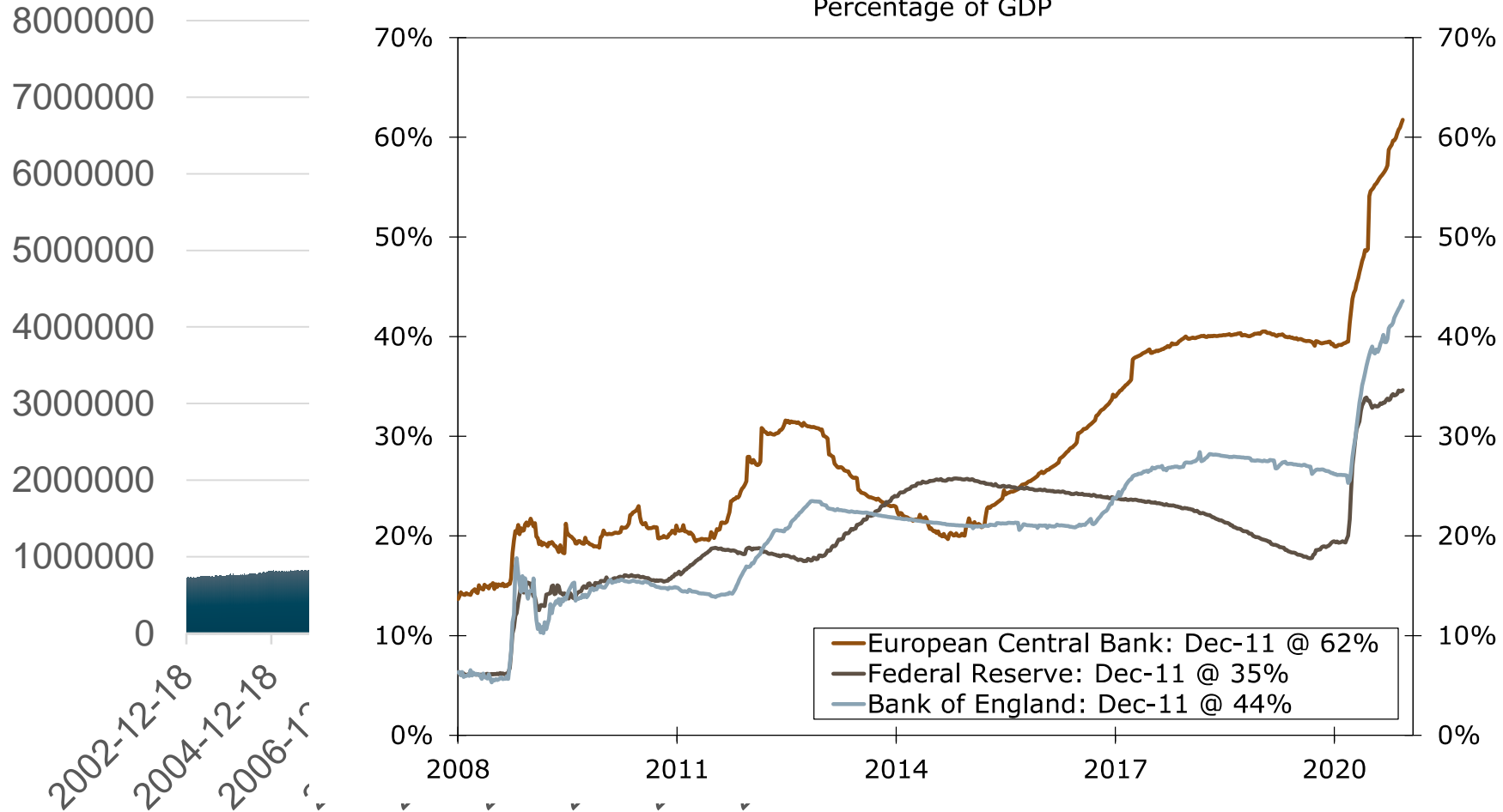
SACRAMENTO—California Business Roundtable President Rob Lapsley issued the following statement today in response to the nonpartisan Legislative Analyst's report that the state budget is currently projected to have a \$26 billion surplus, with the potential to grow as large as \$40 billion by the end of the fiscal year:

Federal Reserve Policy



Major Central Bank Balance Sheets

Percentage of GDP



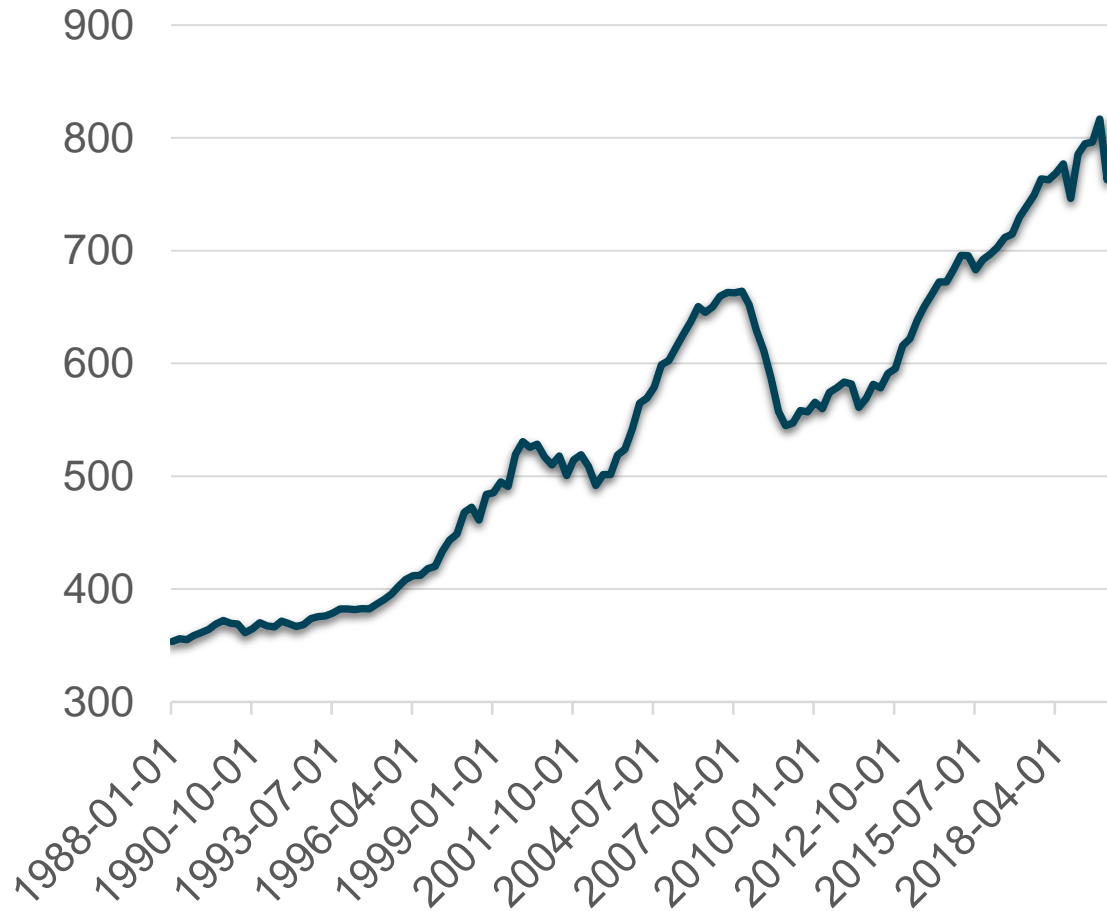
Real Funds Rate



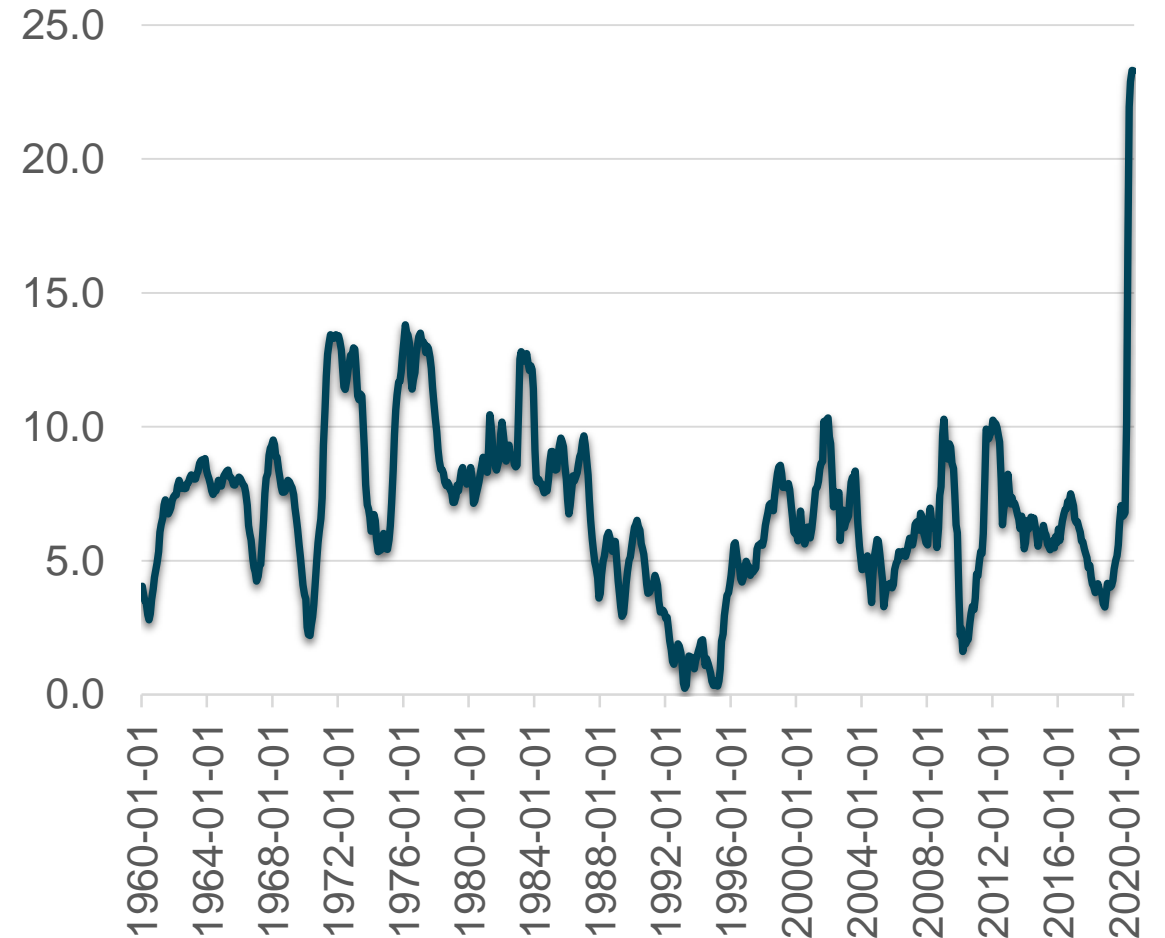
Unneeded Liquidity



Real Average Household Wealth



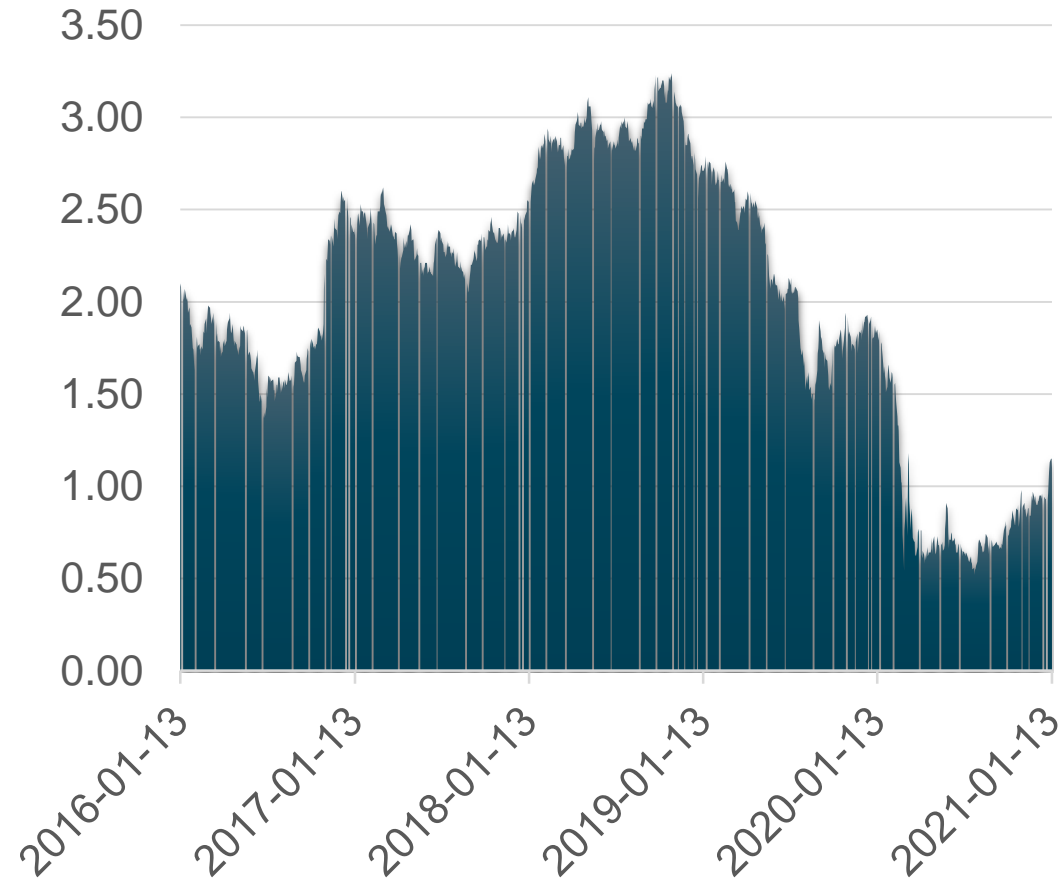
Y-o-Y M2 Growth



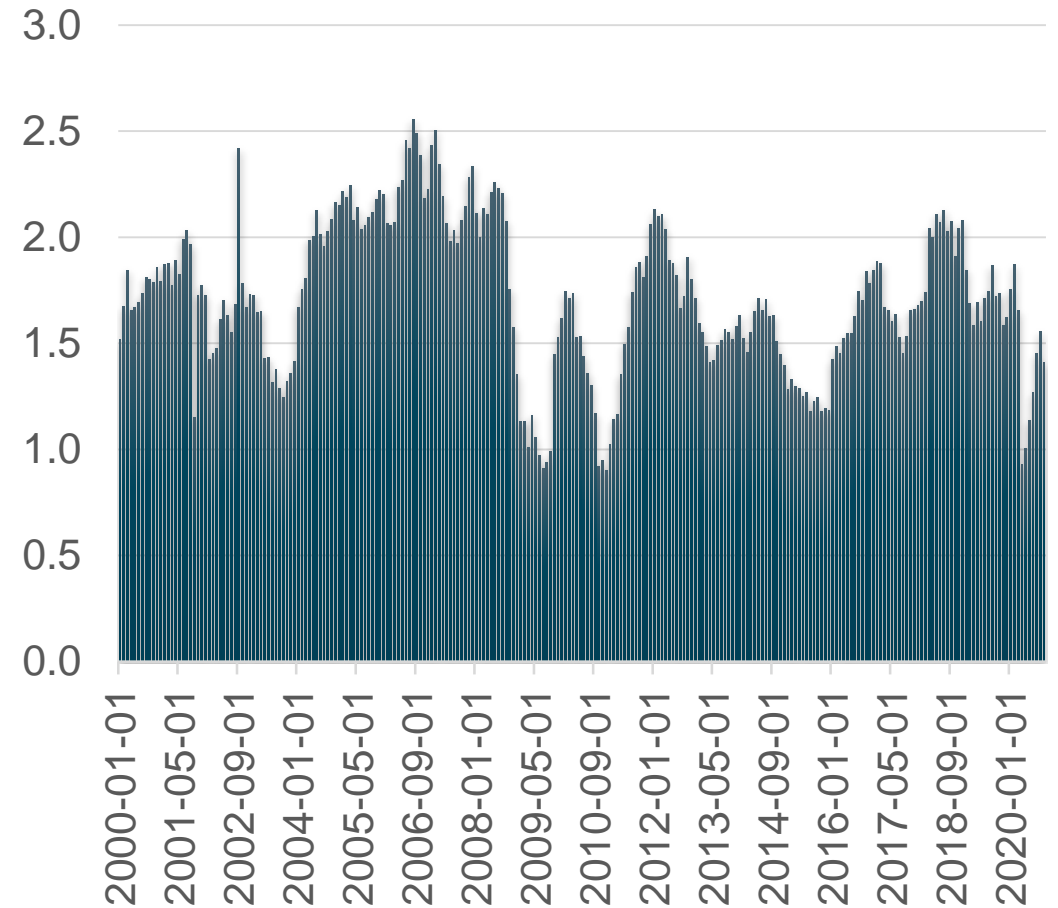
Rates and Inflation



10 Year Treasury Yields



Core PCE Inflation Rate



Long Run Consumer / Business Behavior



Personal

- This is not

- Polio

- Span

- Terror

- No pe

- behav

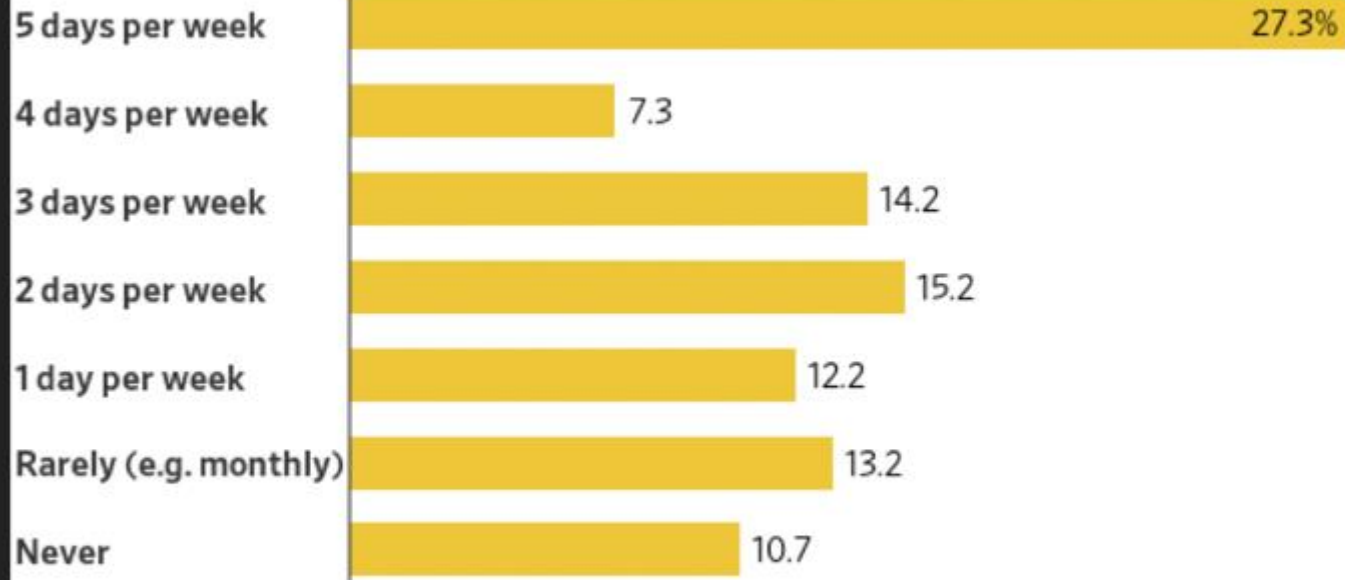
- Some se

- Older

- Globa

How often would you like to work from home?

Percentage of respondents* who would like to have paid work days at home after the pandemic



* Respondents reported they are able to work from home or did at some point during Covid

Note: From a survey conducted by Inc-Query and QuestionPro of U.S. residents aged 20-64, earning more than \$20,000 per year in 2019. Data are from 15,000 survey responses collected between May and Oct. 2020.

Source: Stanford University

and sectors

aurants

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remote work

act on business travel

ut...

global transport

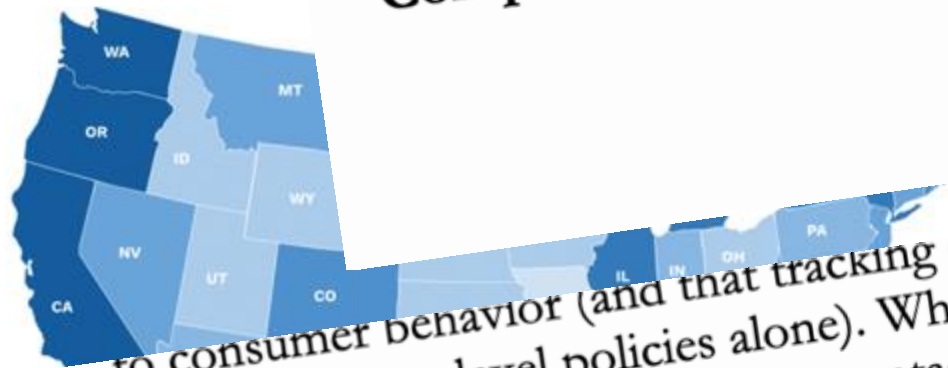
A long-needed debate...



COVID-19 State Reopening Guide
Open

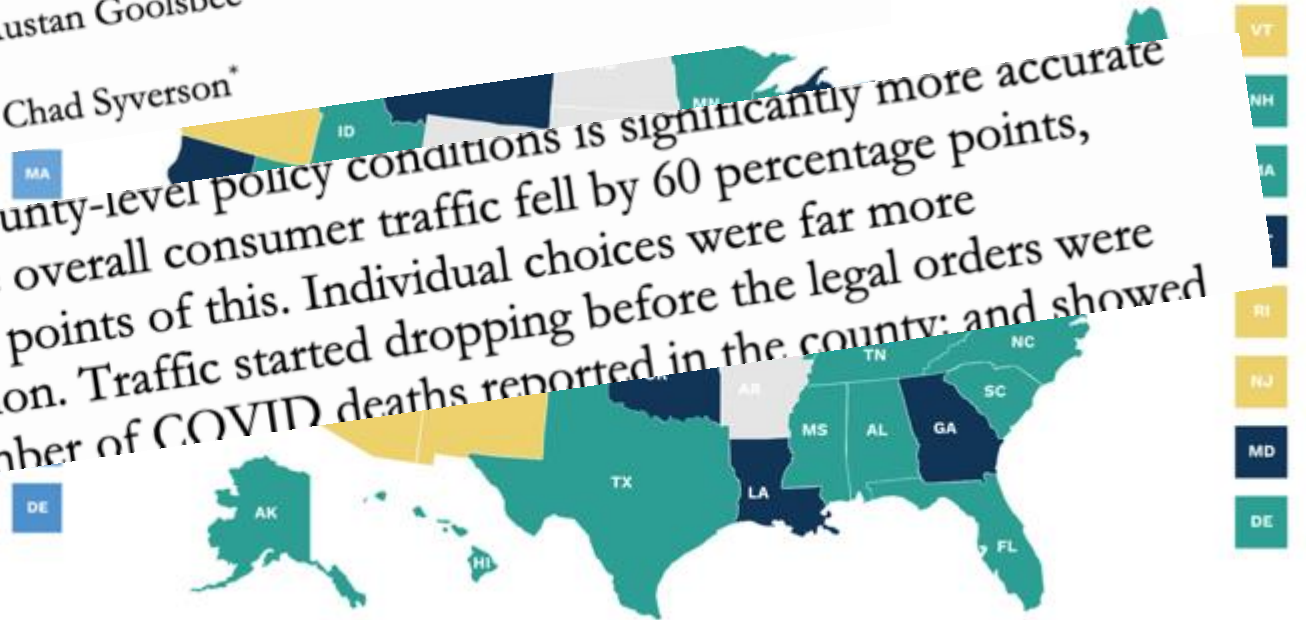
Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline 2020

“Stay-at-Home” Orders
Guidance on essential business
Stay-at-home order at this time



Austan Goolsbee
Chad Syverson*

to consumer behavior (and that tracking county-level policy conditions is significantly more accurate than using state-level policies alone). While overall consumer traffic fell by 60 percentage points, legal restrictions explain only 7 percentage points of this. Individual choices were far more important and seem tied to fears of infection. Traffic started dropping before the legal orders were in place: was highly influenced by the number of COVID deaths reported in the county: and showed



2020: The Long Run Still Matters



- It ain't good, but it ain't *that* bad..
 - The “V” is the only logical outcome
 - Speed of recovery dictated by pace at which vaccines rolled out
- Baseline Forecast
 - 4.8% Q1, -31%Q2, 33% Q3, 6% Q4
 - Close to full recovery by Q3-2021
 - Unemployment close to 6% by year end
 - Moderate upticks in debt distress
 - Little impact on long run real estate values
 - Retail / restaurants / tourism to lag
- Wildcards
 - Global situation
 - How long until travel gets going
 - Government budgets
- The true enemy: Miserabilism
 - Problem before the pandemic
 - More bad policy driven by a basic lack of context
 - Health needs conflated with culture wars
 - No consideration for tomorrow / the next generation



Thank You

chris.thornberg@ucr.edu | ucreeconomicforecast.org