U, V, L, W???

Understanding the economic consequences of the great virus lockdown

May 2020

BEACON ECONOMICS

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**SJSU** SAN JOSÉ STATE UNIVERSITY

From February

The Economy has been fine...

- GDP Growth: Not too hot, not too cold
  - Consumer spending supported by strong fundamentals
  - Housing markets to bounce back solid in 2020
  - Labor markets remain tight, wages on the rise
  - Interest rates down, inflation still constrained
  - Debt markets look very stable

- Reports of the end of of this expansion are highly exaggerated
  - Still a low chance of recession in next 24 months
  - Top risk: Novel Corona virus

Q&A: Recession Expectations

When do you expect the next recession to start?

2020	2021	2022	2023	2024	2025
47.5%	27.5%	7.5%	10.0%	5.0%	2.5%
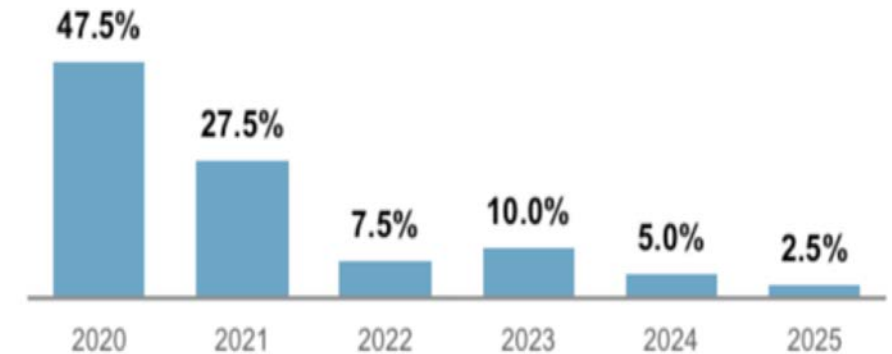
The easiest forecast: The WSJ Next Recession survey thinks the next recession is one to two years away

The Virus in the Room

- **Global Pandemic**
  - Unprecedented contagiousness, high mortality rate among segments of population
  - >5 million afflicted, over 300,000 deaths

- **Unprecedented public health actions**
  - Shelter-in-place rules, closure of large swaths of the economy
 - Millions of workers put into unemployment

- **The big question**
  - How bad will the damage be to the economy?
  - How long to recovery?

	2018	2019	2020
	Avg	Avg	Q1
GDP	2.50	2.33	-4.8
Consumption	1.79	1.79	-5.26
Durable goods	0.27	0.41	-1.21
Nondurable goods	0.36	0.41	0.94
Services	1.17	0.97	-4.99
Fixed Inv	0.61	0.02	-0.43
Structures	0.08	-0.19	-0.28
Equipment	0.30	-0.11	-0.91
Intellectual property products	0.40	0.25	0.02
Residential	-0.18	0.07	0.74
Inventories	0.29	-0.35	-0.53
Net exports	-0.43	0.36	1.3
Exports	0.05	0.04	-1.02
Imports	-0.49	0.31	2.32
Government	0.27	0.52	0.13
Federal	0.17	0.28	0.12
State and local	0.09	0.24	0.02

How Bad?

Chart 2: Real GDP trajectory (2012$ saar, trillions)

Legend:
- Real GDP ($tn saar)
- BofA forecast
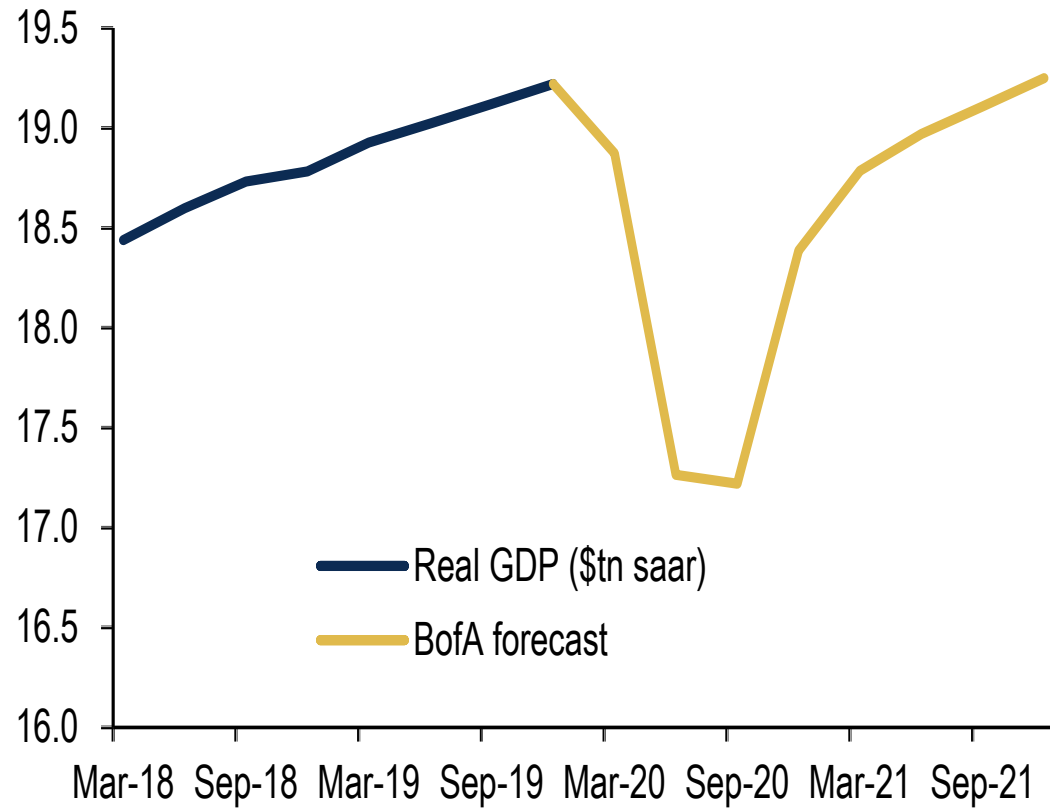
Source: BofA Global Research, Bureau of Economic Analysis

Figure 3: Unemployment rate

Unemployment rate, %

Legend:
- Previous forecast
- New forecast
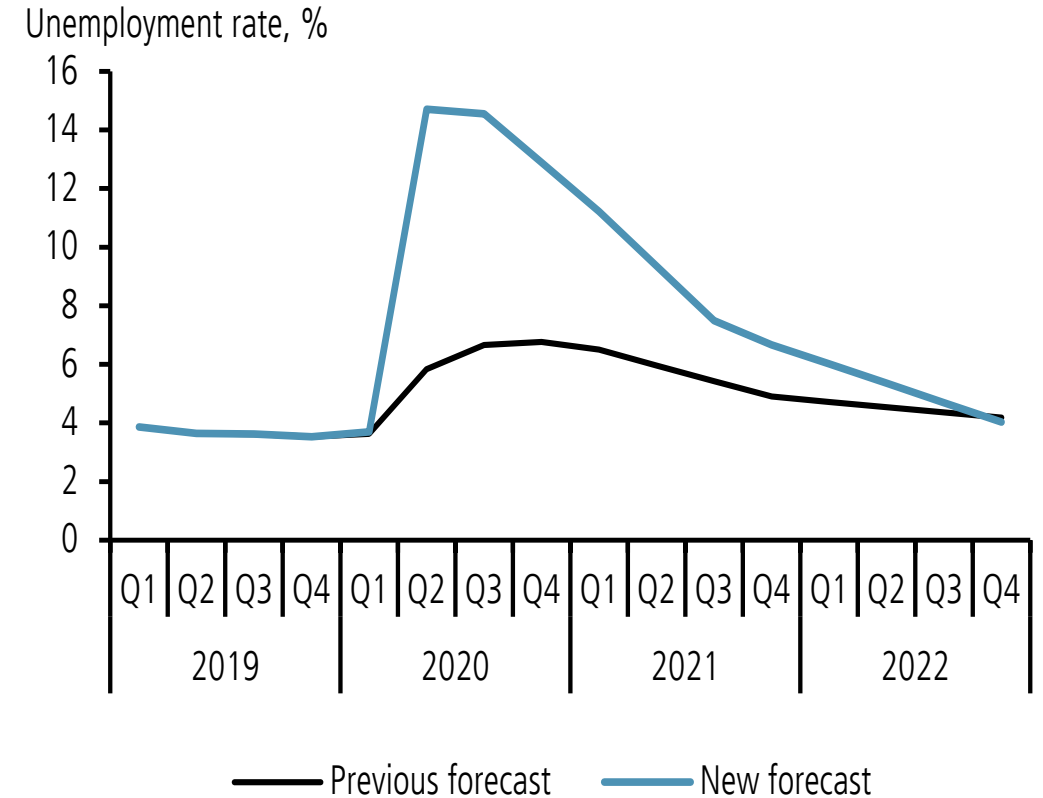
Source: BLS, UBS estimates

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Job Numbers

US Payroll Jobs
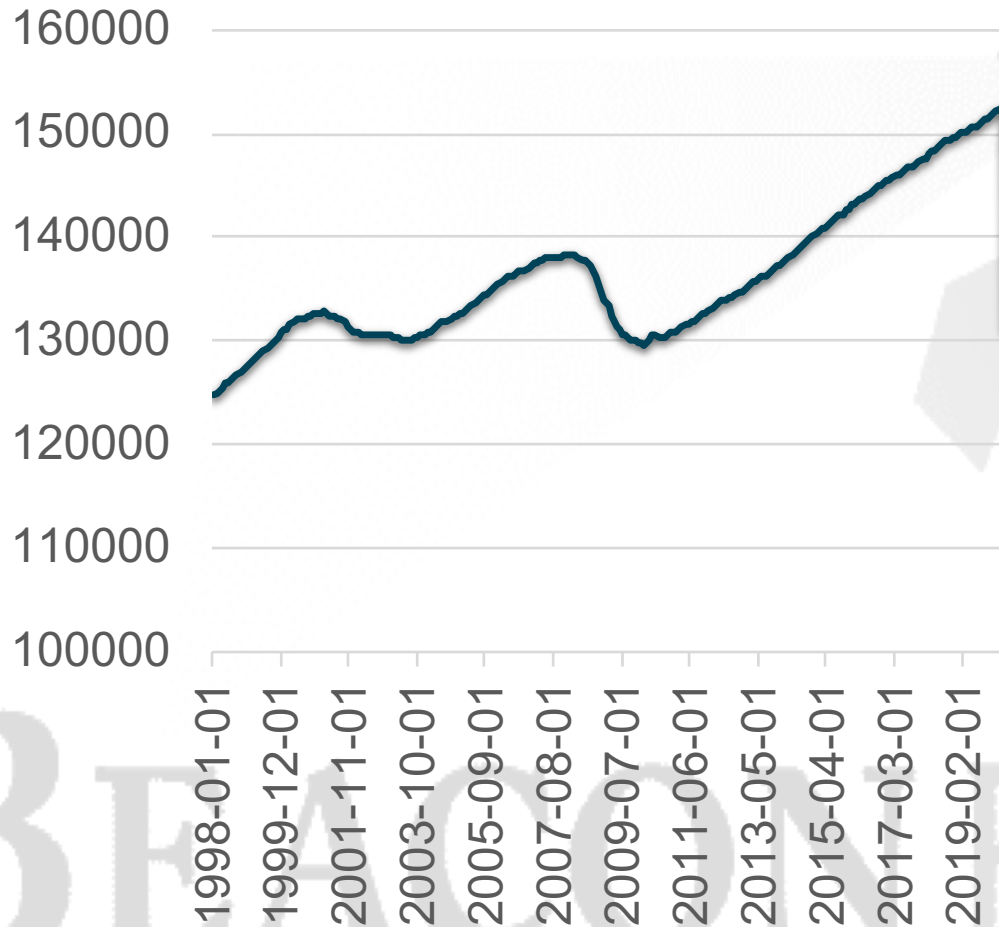
	April	Feb-Apr	% Ch
Total nonfarm	131,072	-21,370	-14.0%
Scenic and sightseeing transportation	14	-23	-62.1%
Amusements, gambling, and recreation	716	-1,070	-59.9%
Clothing and clothing accessories stores	530	-759	-58.9%
Arts, entertainment, and recreation	1,124	-1,348	-54.5%
Offices of dentists	456	-521	-53.3%
Motion picture and sound recording industries	236	-221	-48.3%
Food services and drinking places	6,384	-5,919	-48.1%
Furniture and home furnishings stores	253	-218	-46.3%
Performing arts and spectator sports	279	-232	-45.4%
Accommodation	1,206	-885	-42.3%
Motor vehicles and parts(2)	614	-385	-38.5%
Sporting goods, hobby, book, and music stores	351	-199	-36.2%
Child day care services	683	-355	-34.2%
Miscellaneous store retailers	549	-272	-33.1%
Temporary help services(1)	2,040	-900	-30.6%
Air transportation	372	-139	-27.2%
Museums, historical sites, and similar institutions	130	-46	-26.1%
Travel arrangement and reservation services	172	-50	-22.5%
Offices of other health practitioners	775	-213	-21.5%
Rental and leasing services	459	-126	-21.5%
Vocational rehabilitation services	258	-68	-20.9%
Automobile dealers	1,037	-272	-20.8%

Employment – San Jose

Total Nonfarm Employment
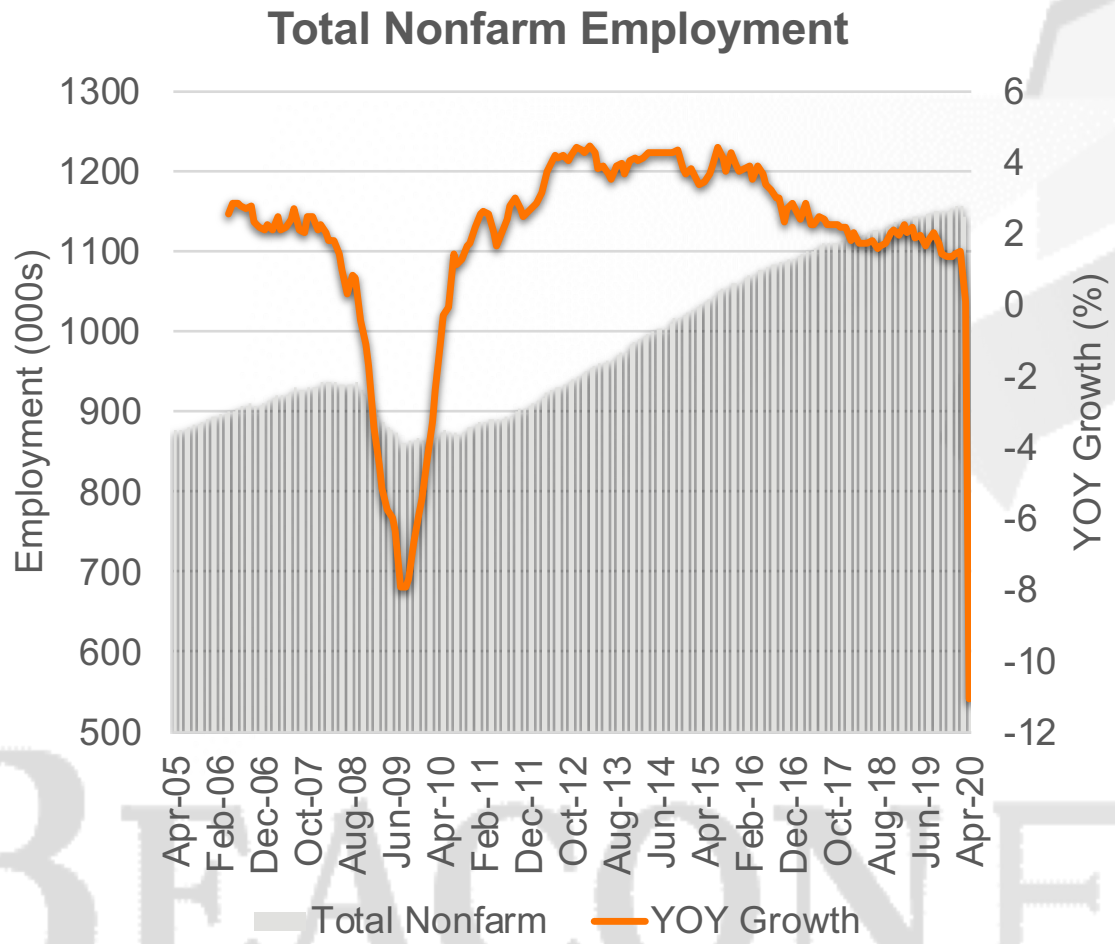
| Industry	San Jose		California	
	Apr-20 (000s)	1-Yr % Growth	Apr-20 (000s)	1-Yr % Growth
Total Nonfarm	1,016	-11.1	15,049	-13.4
Information	102	2.9	546	-1.6
Finance	37	0.8	822	-2.0
Manufacturing	171	-1.1	1,185	-10.7
Government	93	-3.6	2,533	-2.6
Logistics	15	-4.0	662	-4.0
Professional	229	-5.1	2,476	-8.7
Education/Health	163	-6.6	2,548	-8.6
Wholesale Trade	29	-7.2	632	-9.2
Admin Support	56	-9.7	969	-14.5
Retail Trade	69	-17.9	1,373	-17.4
Other Services	21	-28.6	411	-28.4
Construction	35	-33.7	746	-15.1
Hospitality	51	-52.5	1,094	-46.1

Employment and Recessions

Labor Market

Labor Force Indexed Growth
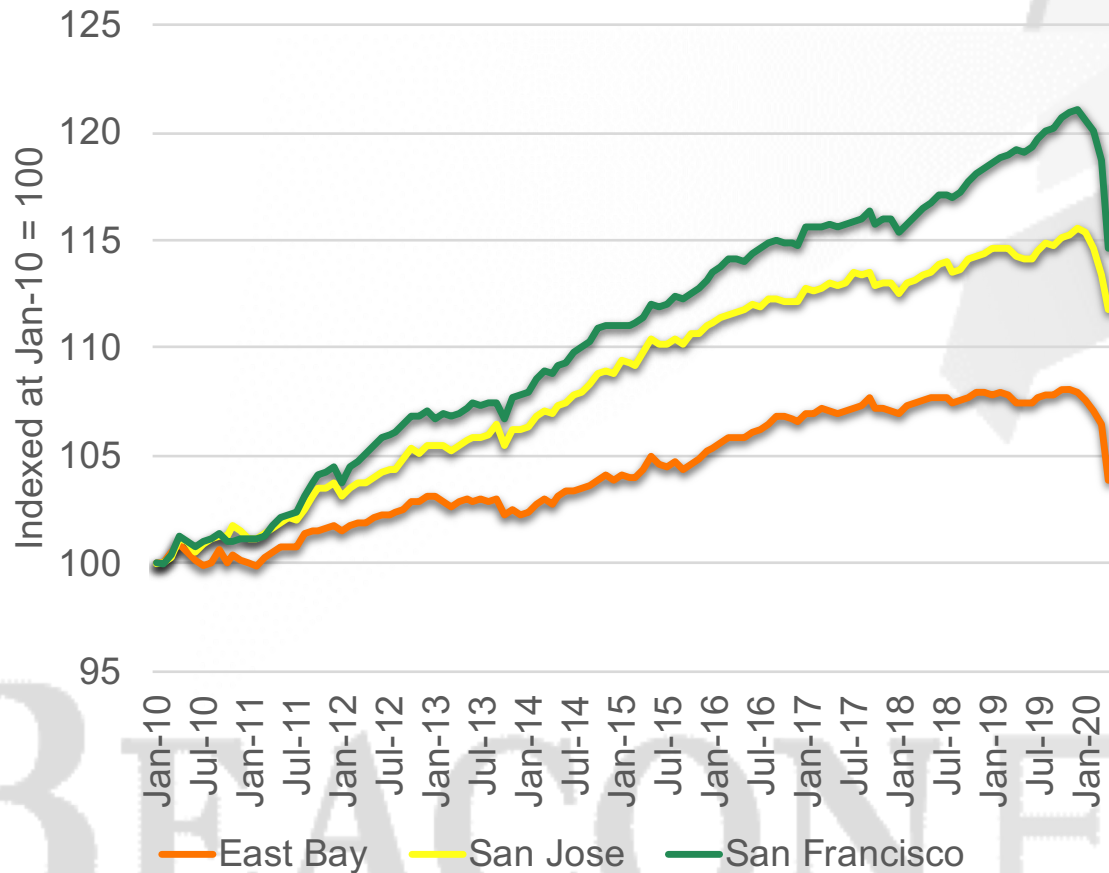
Unemployment Rate

Employment and Recessions

Share of Unemployed on Temporary Layoff

Initial Claims for Unemployment
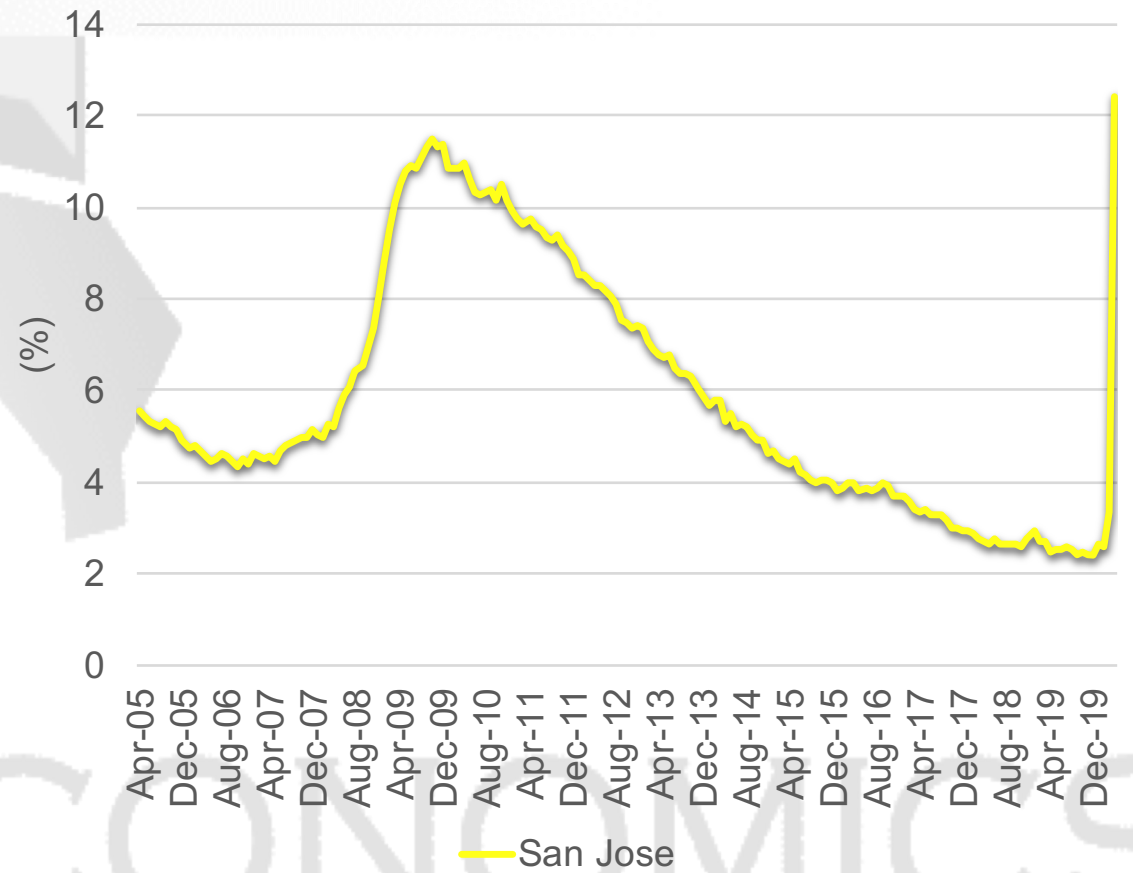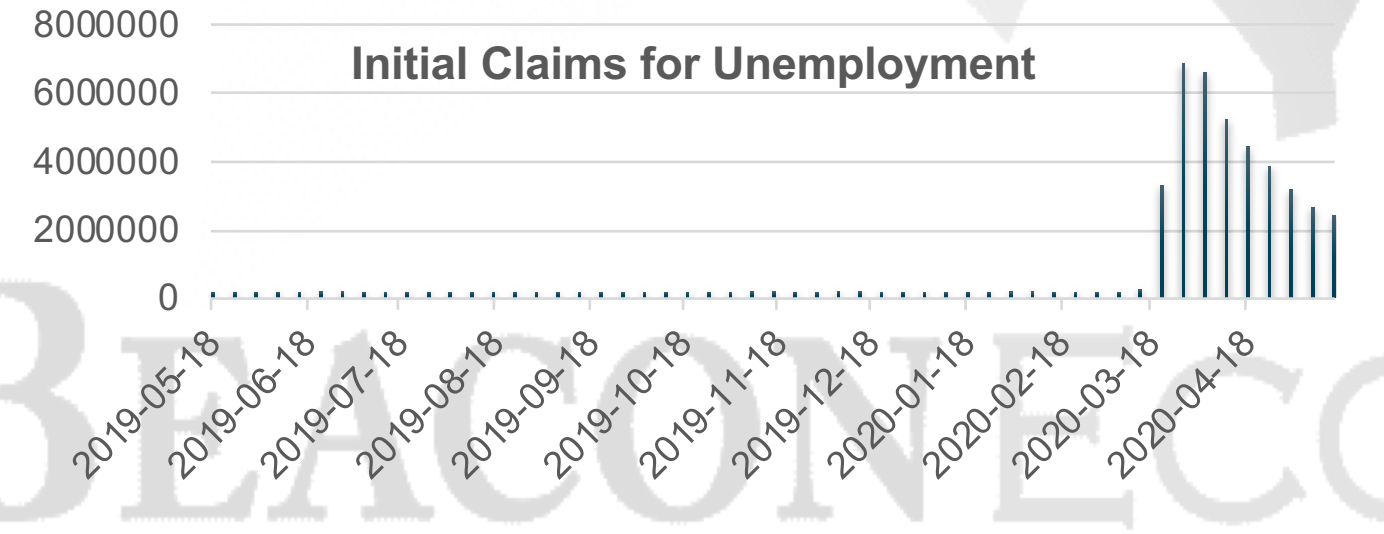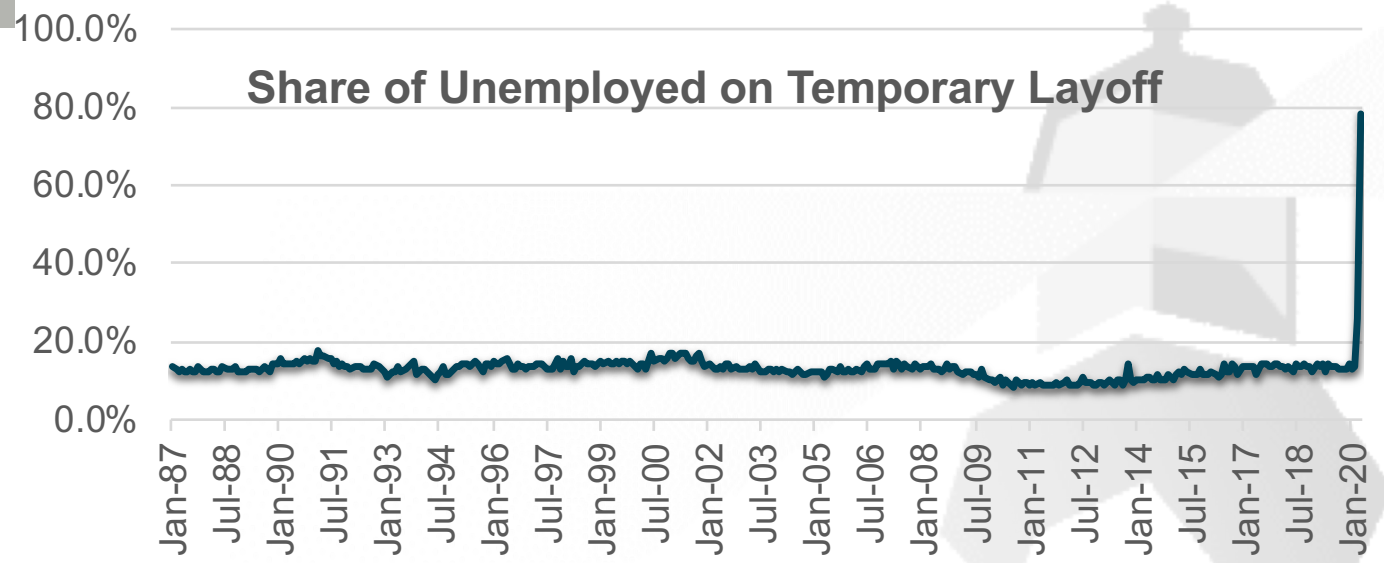
	Apr. 2019	Apr. 2020	
NUMBER OF UNEMPLOYED			
Total unemployed	5,387	22,504	17,117
On temporary layoff	574	17,878	17,304
Permanent job losers	1,287	1,951	664
Completed temporary jobs	623	555	-68
Job leavers	685	520	-165
Reentrants	1,761	1,329	-432
New entrants	457	271	-186

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Roots of the great recession

- **$15 trillion in borrowing 01-07**
  - Split between consumers and finance
  - Completely collapse of lending standards

- **Caused massive imbalances in economy**
  - Home production to 2 million plus per year, vacancies grow to record level
  - Home prices / mortgage borrowing peaking at 15% annually
  - Consumer savings falling to 2% of DPI
  - Trade deficit widened to 6% of GDP

- **Wheels started falling off train late-06**
  - Housing market / mortgage lending start massive deceleration
  - Housing delinquencies started rising early 07

- **Great Recession start: Dec 07**
  - Millions of jobs lost permanently in construction, real estate, finance, retail
  - Secondary shocks to system broad based, 8 million job losses overall
  - 6 quarter recession 5.5% loss GDP
  - Not back to normal levels of unemployment until 2015

This is not a typical business cycle

- Shock to system is a function of public health mandates
  - Very large, rapid—but not sustained
  - No reason for major shift in structure of economy
  - Job losses being seen are not (yet) permanent

- The harm to economy is building up now
  - Loss of revenue / incomes
  - Supply chain effects

- Broad range of possible outcomes
  - "U" means economy will not reopen soon or damage so profound that economy continues to contract anyways
  - "V" suggests economy will come back as restrictions are lifted, albeit not necessarily 100%
  - Best case: Catch up effects kick in as in a natural disaster
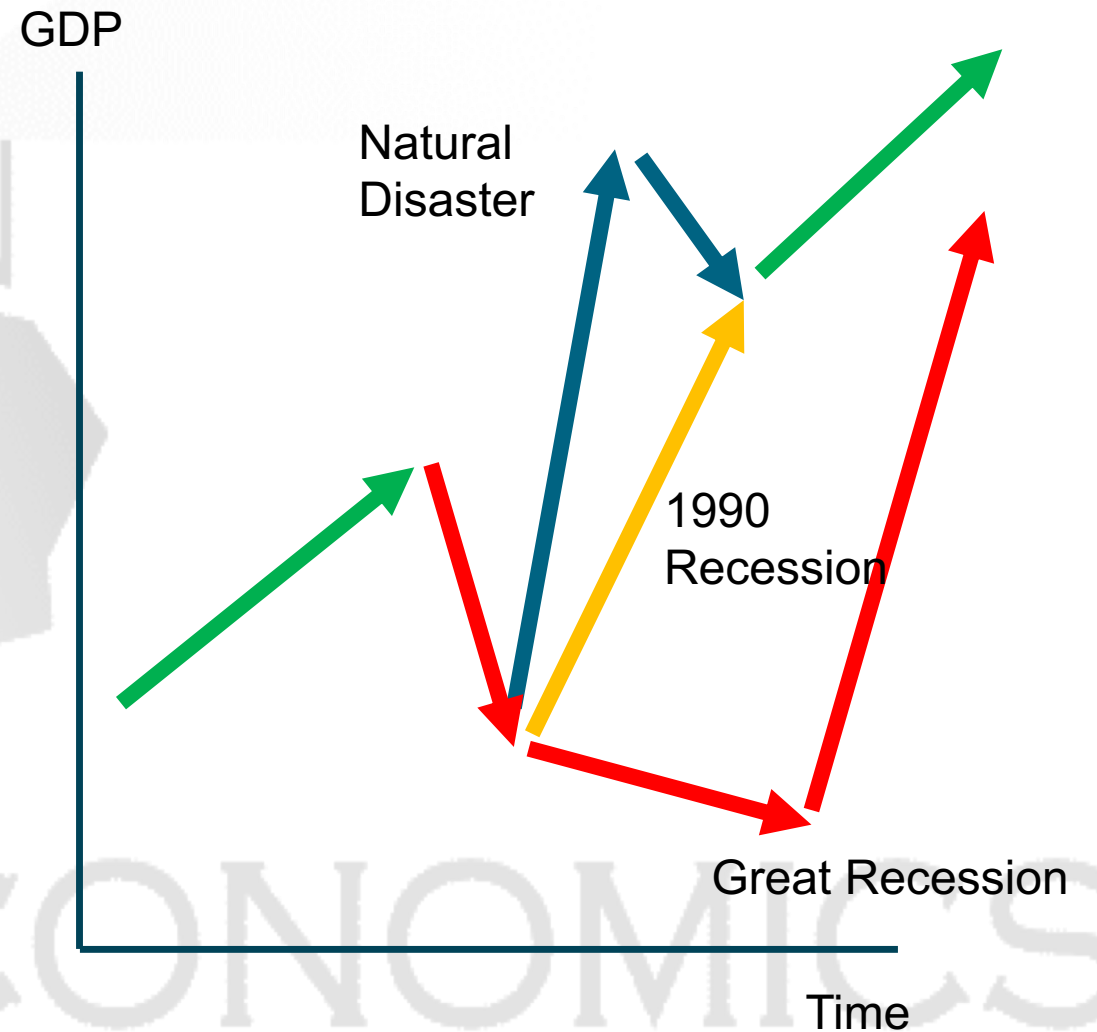
GDP

Natural Disaster

1990 Recession

Great Recession

Time

The Big 5 questions

1. How long will the shutdowns last?
2. How deep are the closures?
3. How healthy the economy was prior to the pandemic
4. What the government does to intervene
5. Will there be a major shift in post-pandemic spending patterns

#1: How Long?

- **We are past the peak of new cases**
  - True even in states where things have reopened
  - True in places like Sweden which never had many restrictions
- **Partial reopening happening now**
  - Some controls will be left in place
  - Look for small outbreaks
- **Q3 will be largely open for business**
  - Air travel / large events not
  - Some lagging behavioral issues
- **Will there be another major resurgence?**
  - Evidence of inherent resistance
  - Running down the learning curve
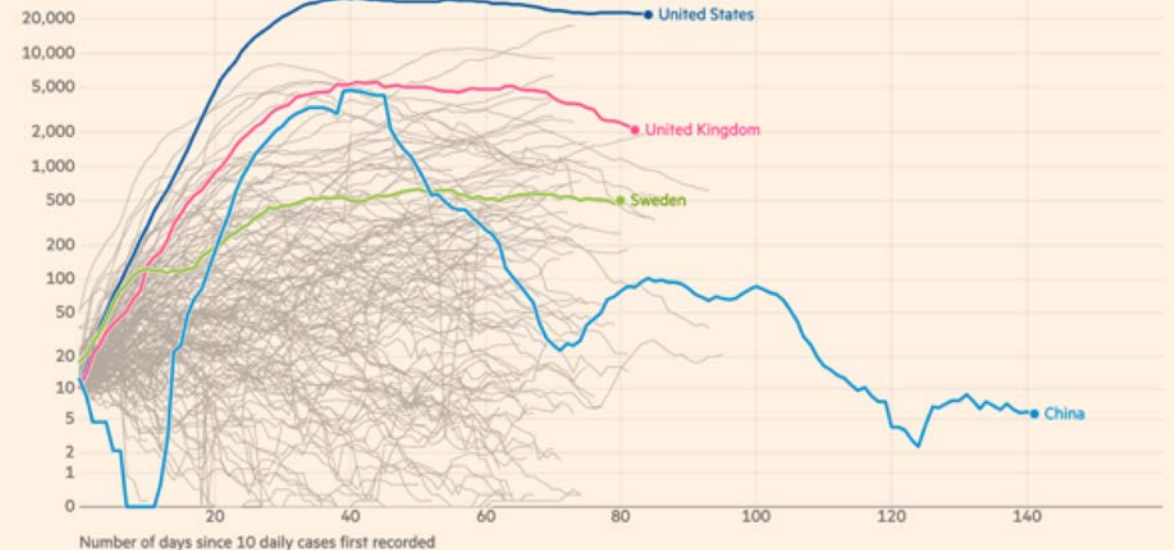 - Testing systems in place

The rate of positive coronavirus tests in the US

A lower Covid-19 positive rate indicates better testing capacity
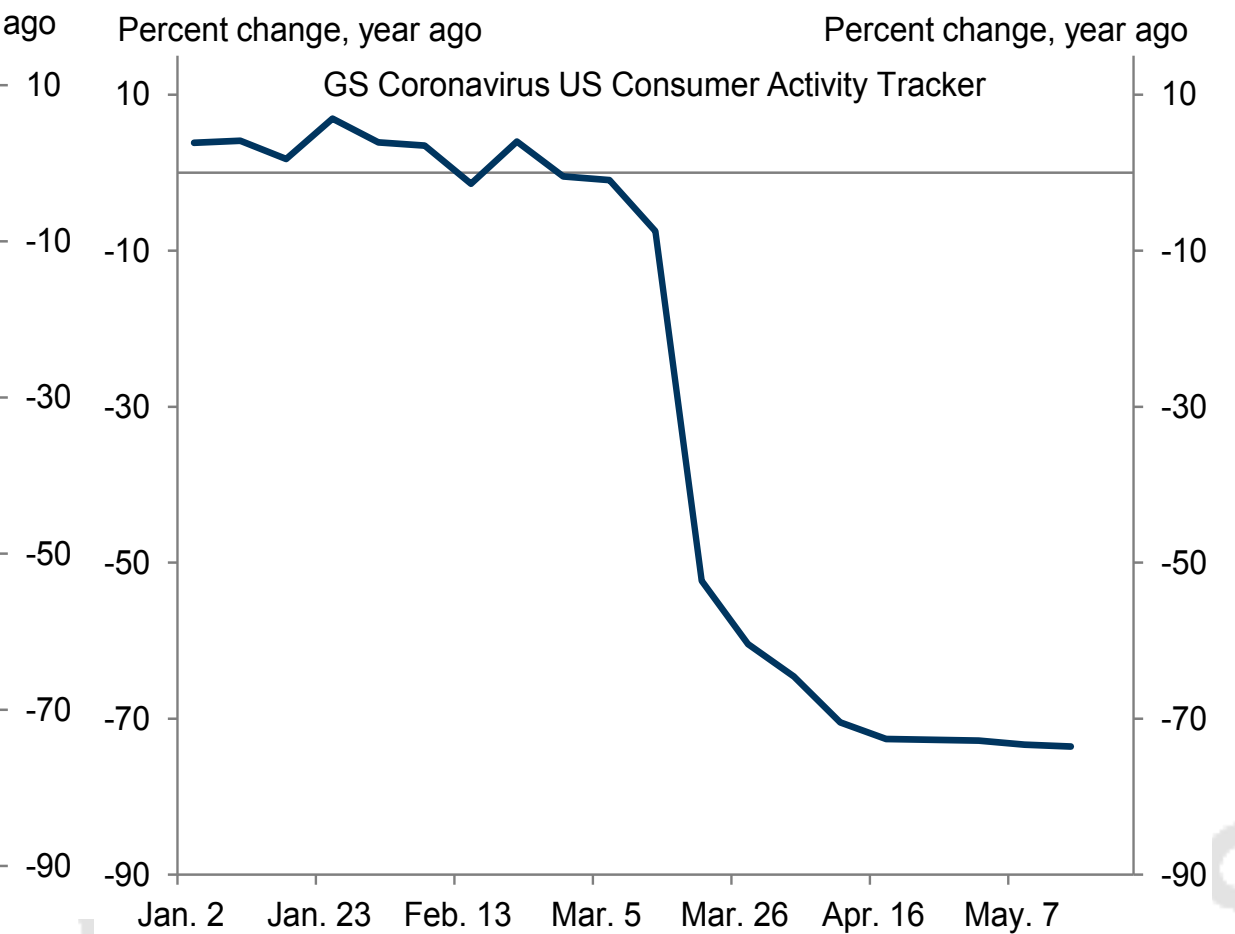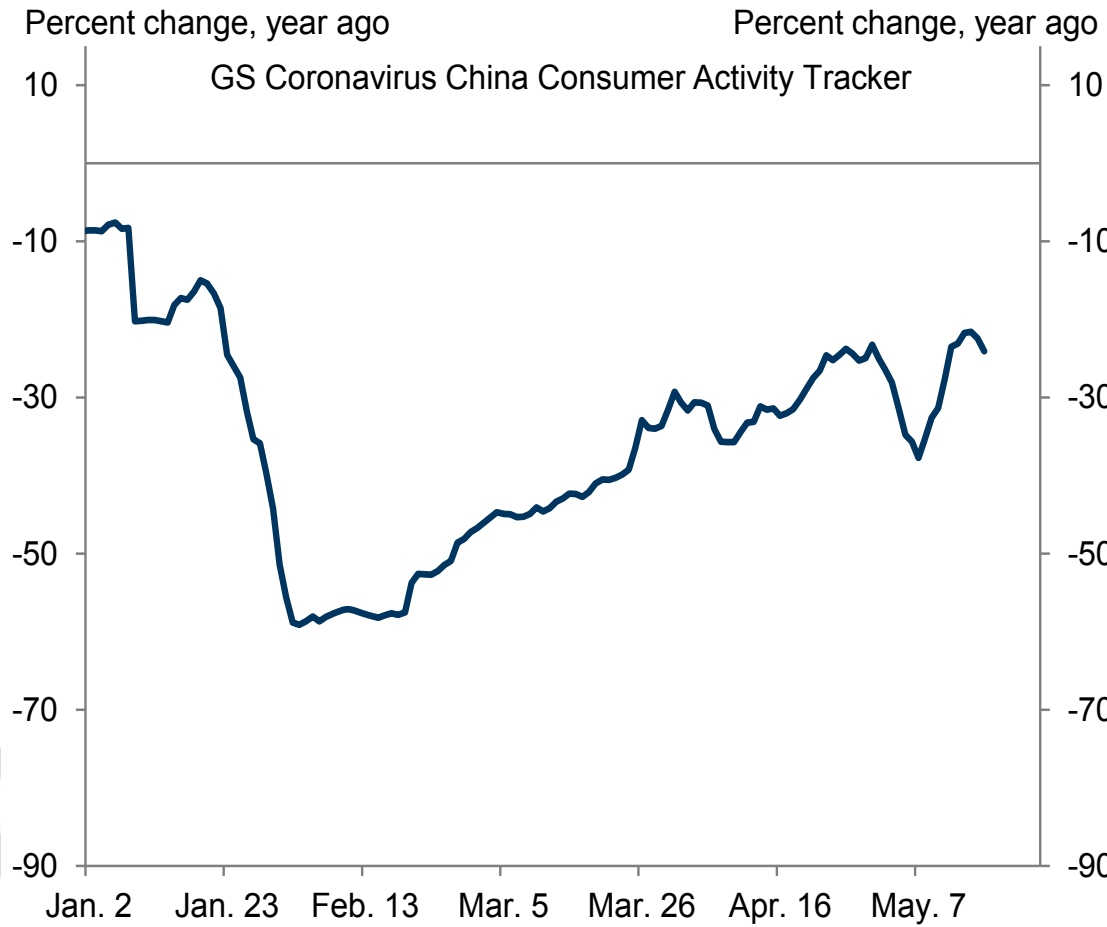
— US excluding NY — NY
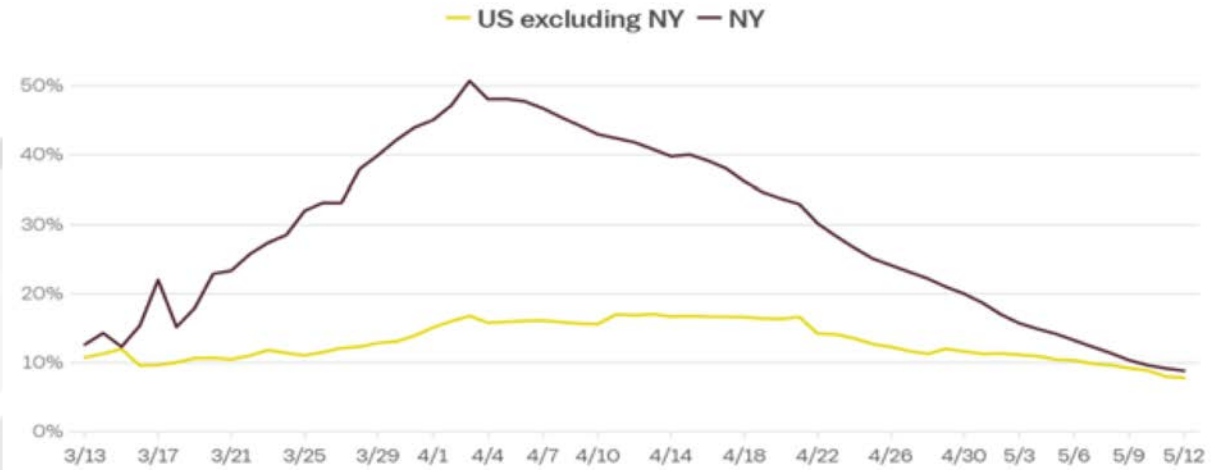
New confirmed cases of Covid-19 in United States, United Kingdom, Sweden and China
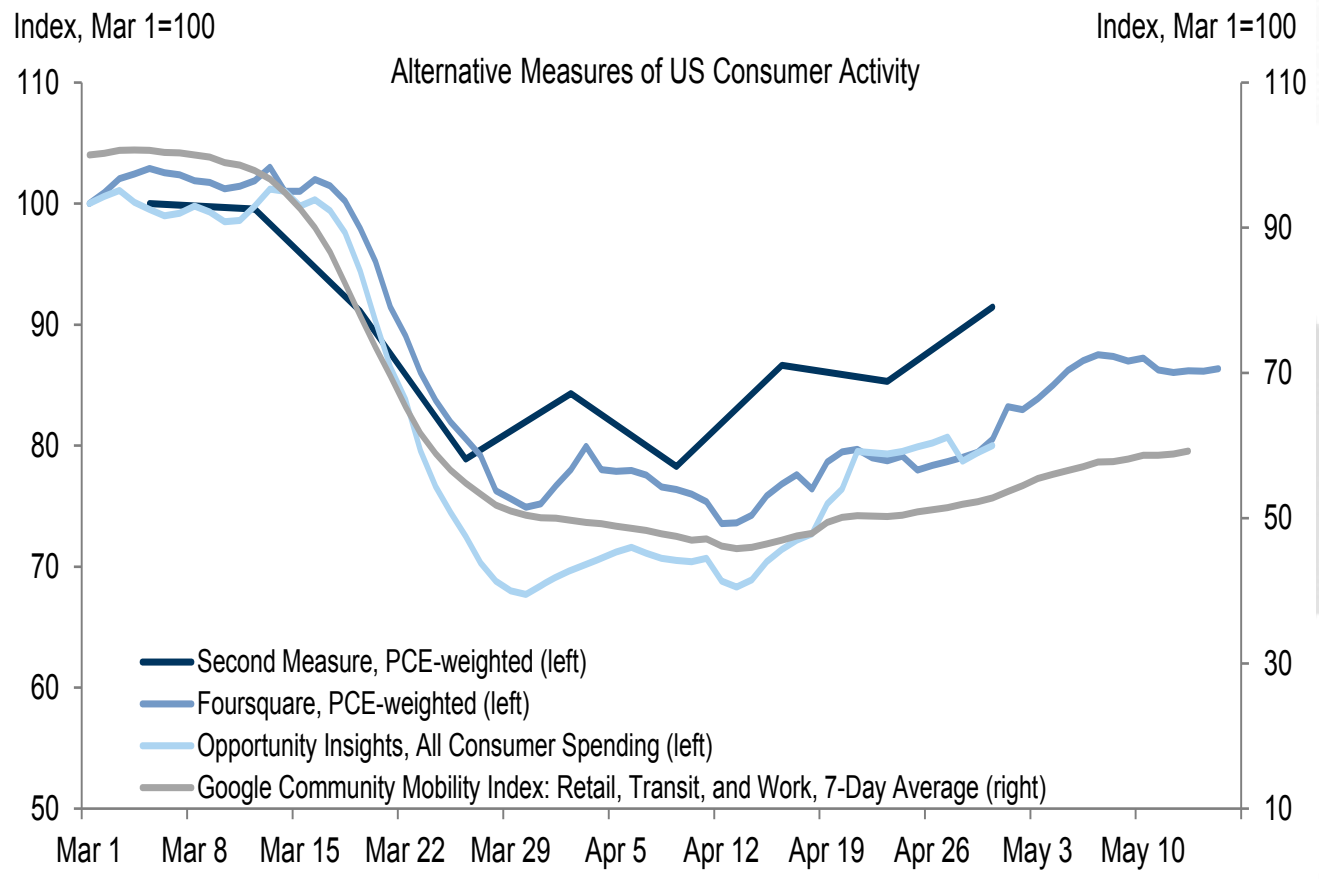
Seven-day rolling average of new cases, by number of days since 10 average cases first recorded
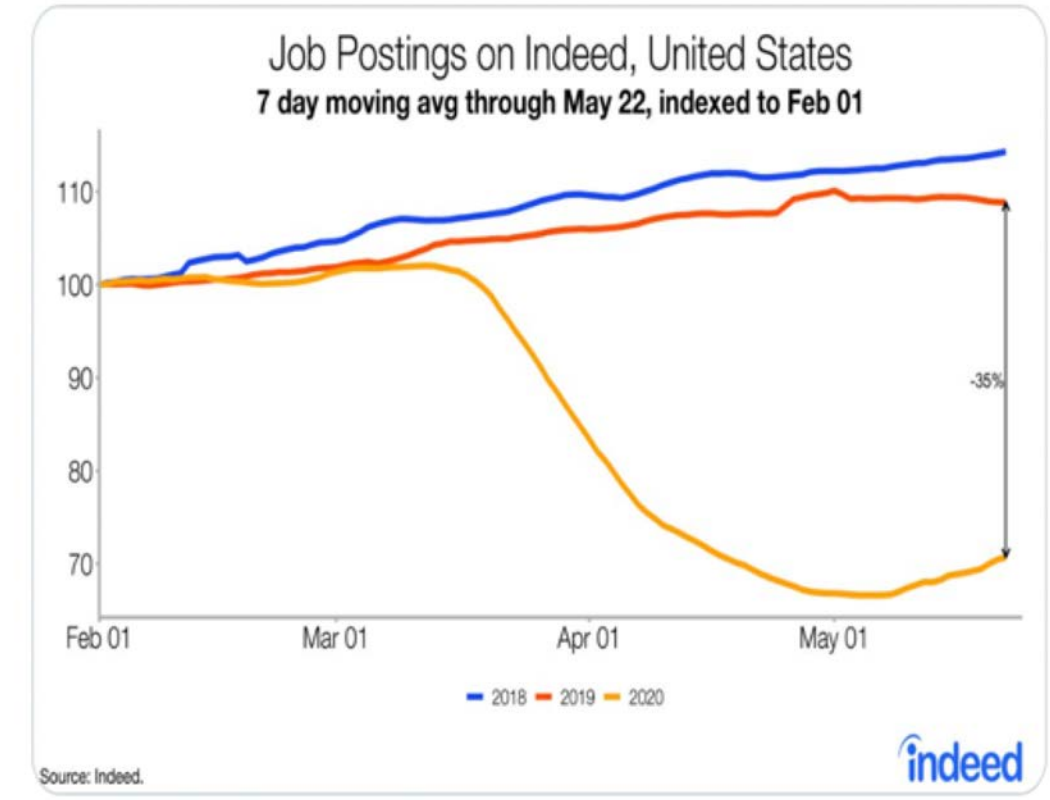
GS HF Data: Lessons from China

Percent change, year ago   Percent change, year ago

GS Coronavirus China Consumer Activity Tracker

Percent change, year ago   Percent change, year ago

GS Coronavirus US Consumer Activity Tracker

Early Evidence of the Bounce

Alternative Measures of US Consumer Activity

Index, Mar 1=100 (left axis)
Index, Mar 1=100 (right axis)

Legend:
- Second Measure, PCE-weighted (left)
- Foursquare, PCE-weighted (left)
- Opportunity Insights, All Consumer Spending (left)
- Google Community Mobility Index: Retail, Transit, and Work, 7-Day Average (right)

X-axis: Mar 1, Mar 8, Mar 15, Mar 22, Mar 29, Apr 5, Apr 12, Apr 19, Apr 26, May 3, May 10

May 22: -35.1%
May 15: -37.2%
May 8: -39.0%
May 1: -39.3%

Job Postings on Indeed, United States
7 day moving avg through May 22, indexed to Feb 01

X-axis: Feb 01, Mar 01, Apr 01, May 01

Legend: 2018, 2019, 2020

-35%

#2 How Deep? Q2 Growth: -15% to -25% (SAAR)

	Jobs		GDP (Est)
	131045		17859
Mining	657	-8.0%	503
Construction	6631	-13.2%	568
Durable goods	7124	-11.6%	1098
Nondurable goods	4364	-9.0%	858
Wholesale trade	5568.5	-6.2%	1066
Retail trade	13520.3	-13.7%	999
Logistics	5086.8	-10.4%	503
Information	2636	-8.9%	1119
Financial activities	8580	-3.0%	3515
Professional	9166.7	-5.6%	2425
Management	2365.4	-3.3%	428
Administrative	7773.2	-17.3%	485
Educational services	3334.5	-12.9%	192
Health care	18606.7	-10.4%	1311
Hospitality	8715	-48.3%	374
Other services	4636	-22.0%	288
Government	21737	-4.4%	2128
		SA	-7.1%
		SAAR	-28.4%

Evolution of Atlanta Fed GDPNow real GDP estimate for 2020: Q2
Quarterly percent change (SAAR)

Blue Chip consensus

Atlanta Fed GDPNow estimate

Range of top 10 and bottom 10 average forecasts
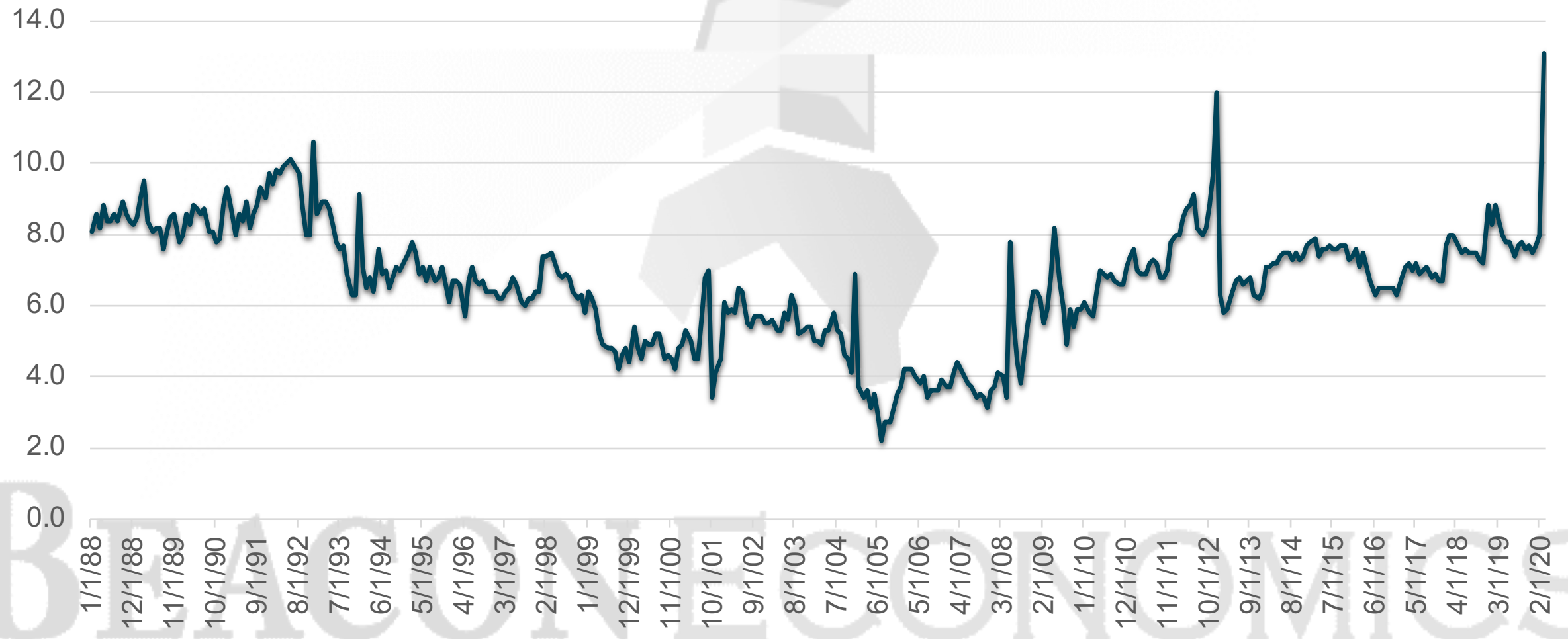
Date of forecast
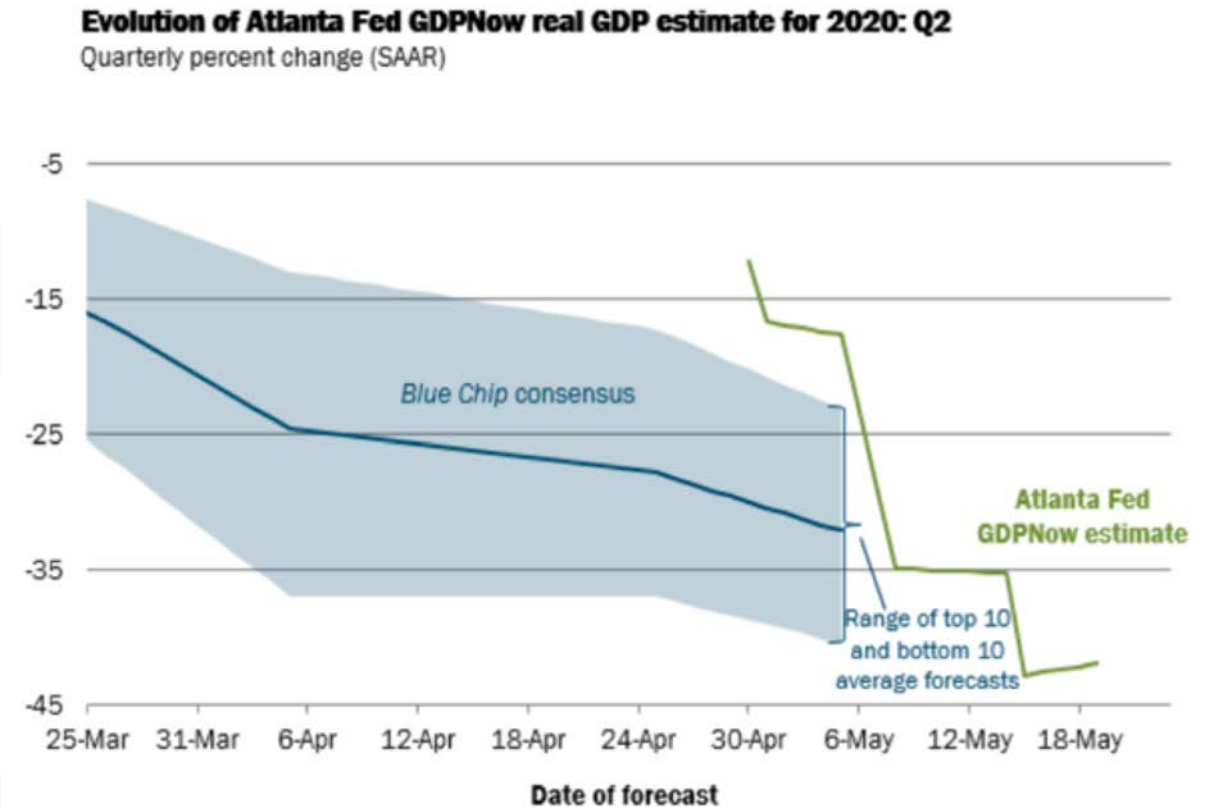
Sources: *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*
Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the *Blue Chip* survey.

The Balance between spending and incomes

US Personal Savings Rate

#3: How Healthy?

Y-o-Y Growth GDP

	2017	2018	2019
GDP	2.80	2.50	2.33
Final Demand	3.02	2.65	2.35
Consumption	2.00	1.79	1.78
Goods	1.06	0.62	0.85
Services	0.94	1.17	0.93
Fixed Inv	0.86	0.61	0.05
Structures	0.05	0.08	-0.21
Equipment	0.49	0.30	-0.09
IPP	0.17	0.40	0.29
Residential	0.16	-0.18	0.06
Change inventories	-0.06	0.29	-0.38
Net exports	-0.16	-0.43	0.35
Exports	0.66	0.05	0.02
Imports	-0.82	-0.49	0.33
Government	0.15	0.27	0.52
Federal	0.11	0.17	0.28
State and local	0.04	0.09	0.24

Manufacturing Recession?

Contribution to Real Investment Growth

	2017	2018	2019
Private fixed investment	5.15	3.53	0.28
Structures	**0.30**	**0.47**	**-1.23**
Mining exploration, shafts, and wells	1.15	0.51	-0.63
Other structures	0.02	0.10	-0.31
Commercial and health care	-0.12	-0.14	-0.25
Manufacturing	-0.34	-0.04	-0.03
Power and communication	-0.42	0.04	-0.01
Equipment	**2.89**	**1.72**	**-0.50**
Transportation equipment	0.14	0.62	-0.37
Other equipment	0.89	0.23	-0.18
Industrial equipment	0.55	0.24	-0.16
Information processing equipment	1.32	0.64	0.20
Intellectual property products	**1.04**	**2.33**	**1.65**
Entertainment, literary, and artistic	0.05	0.14	0.05
Research and development	0.17	1.02	0.48
Software	0.82	1.17	1.12

CRE Transaction Volume
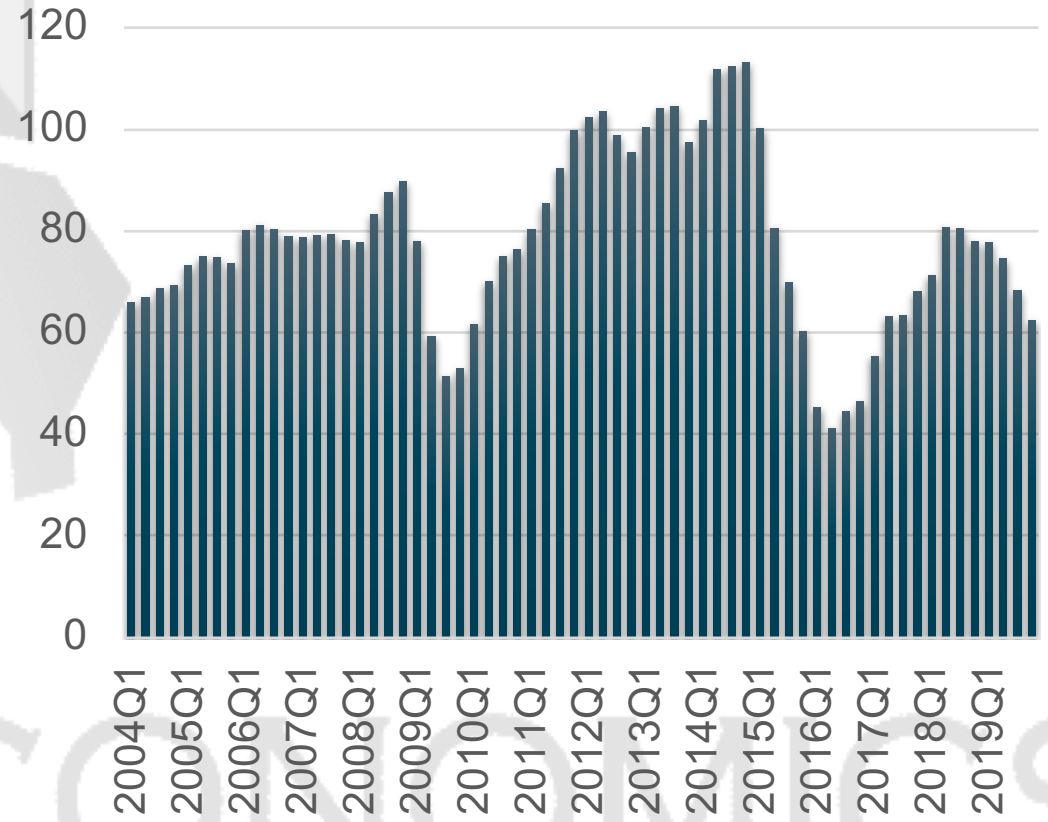### Billions of Dollars

Volume: Q3 @ $153.9B
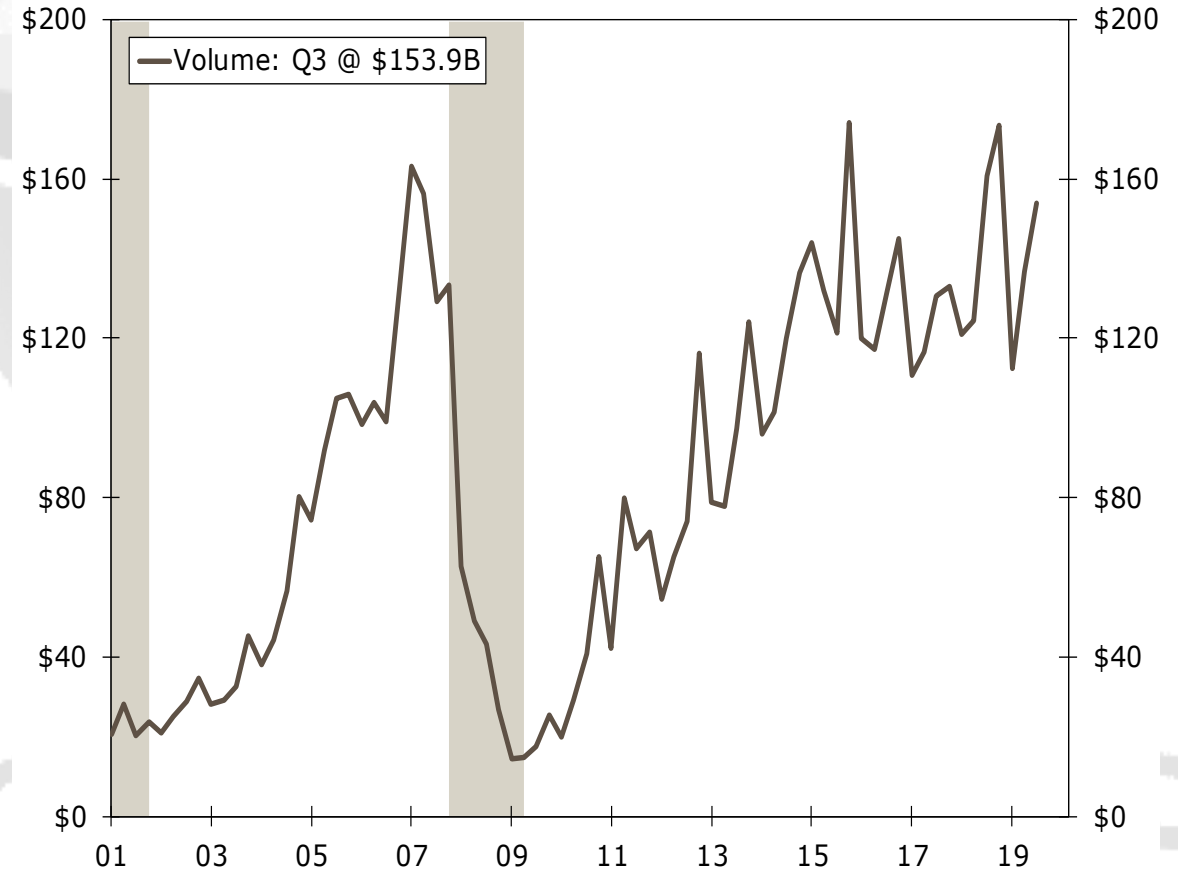
The Oil Situation

Oil Prices
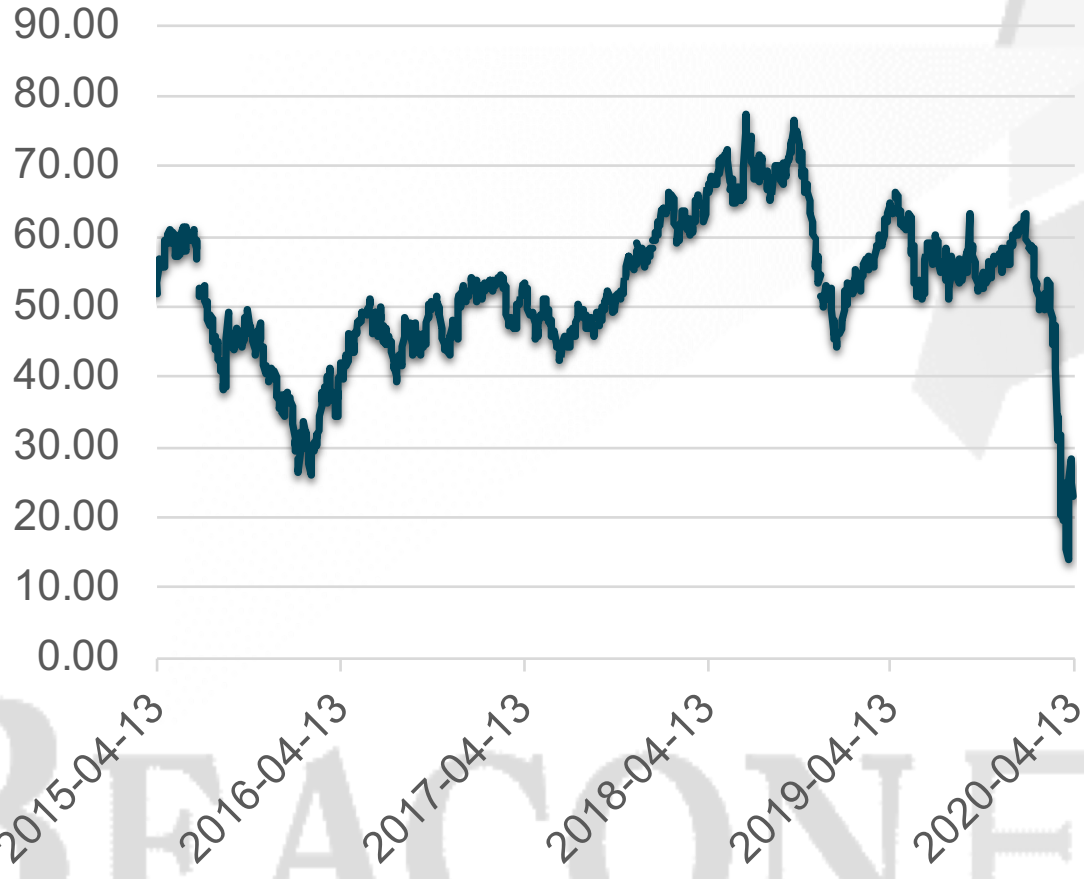
Mining exploration, shafts, and wells

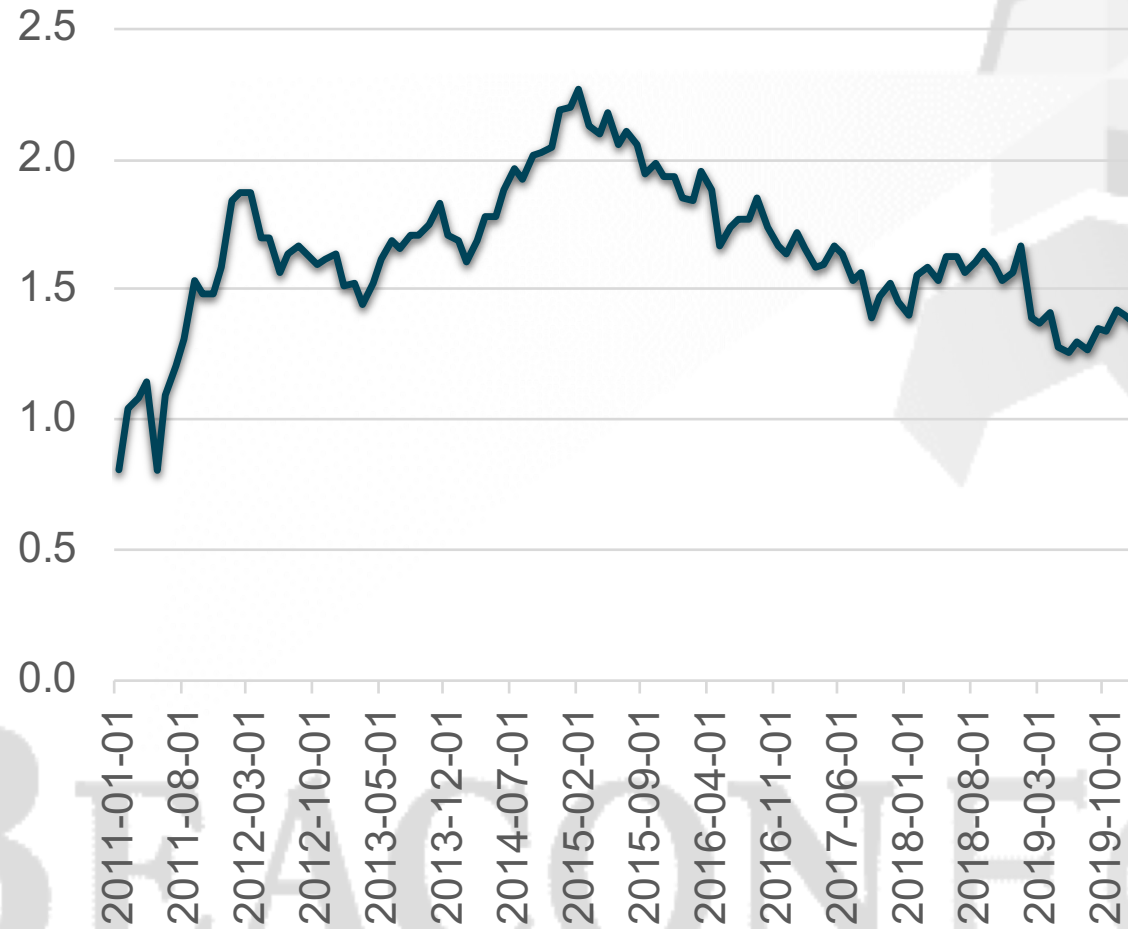# Supply Chain Problems?

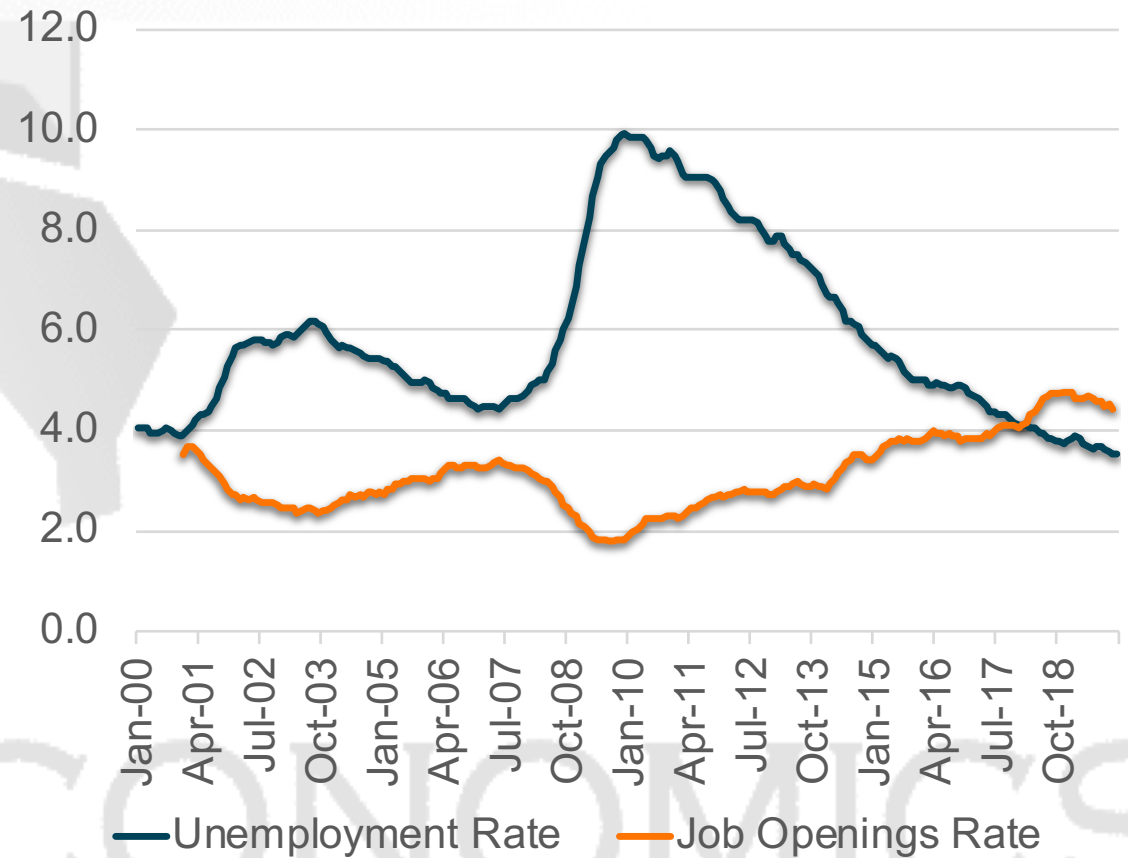### Growth in Industrial Production (YoY)

Total Trade as a % of GDP

IP Manufacturing

United States — China — Mexico — Germany
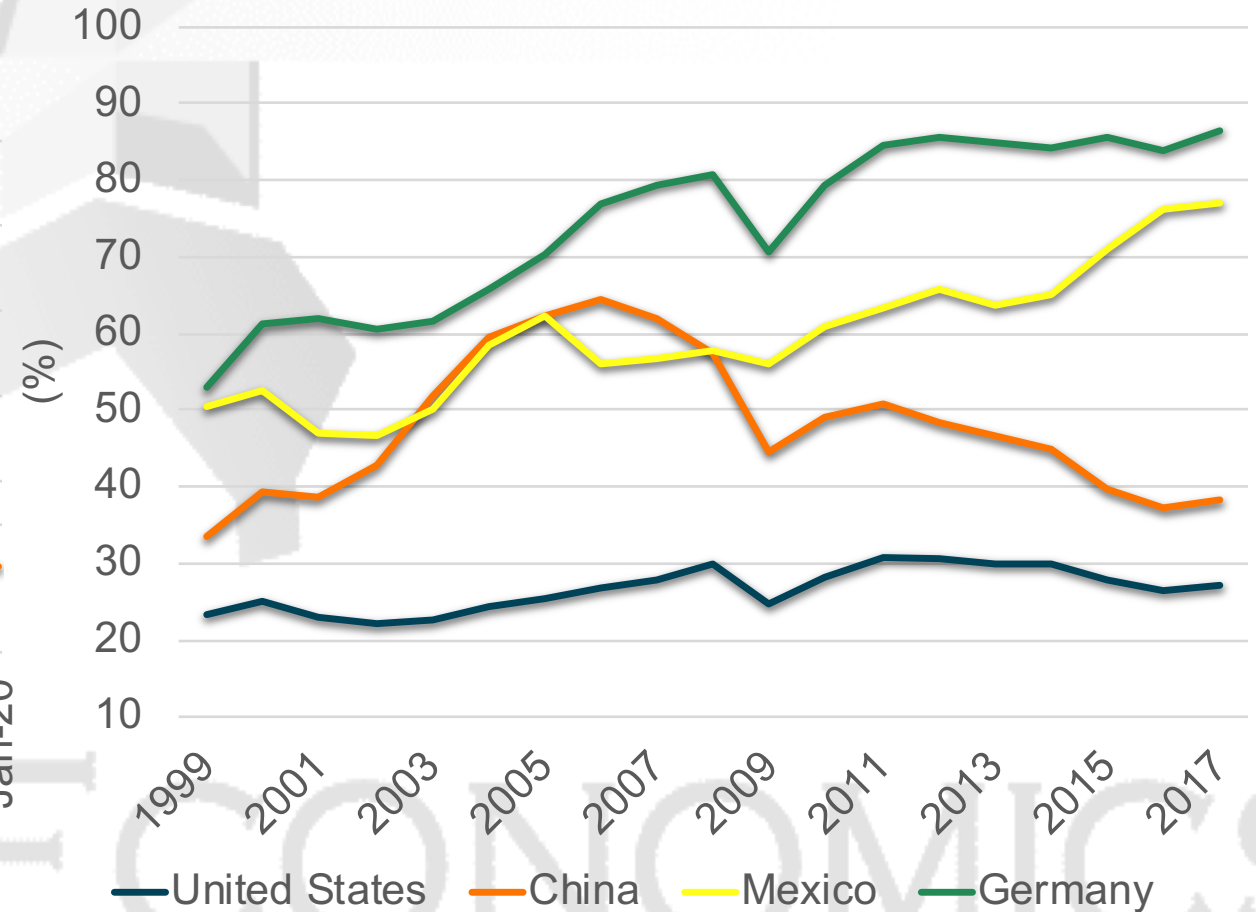
Labor Markets

Payroll Job Growth (Y-o-Y)

Unemployment and Job Openings (Rates)

Unemployment Rate — Job Openings Rate

Consumer Balance Sheets

Household Savings Rate
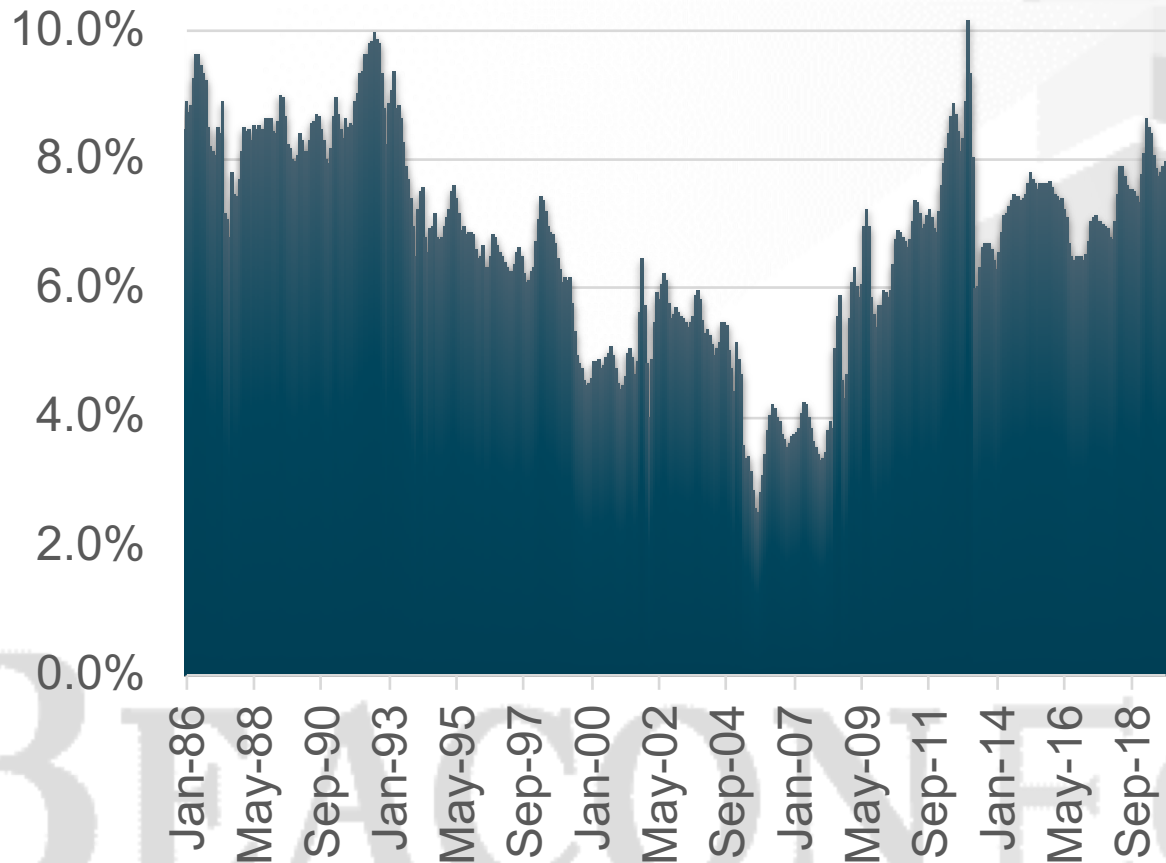
## Real Wage Gains for US Workers
Atlanta Fed Wage Tracker

Median — Average
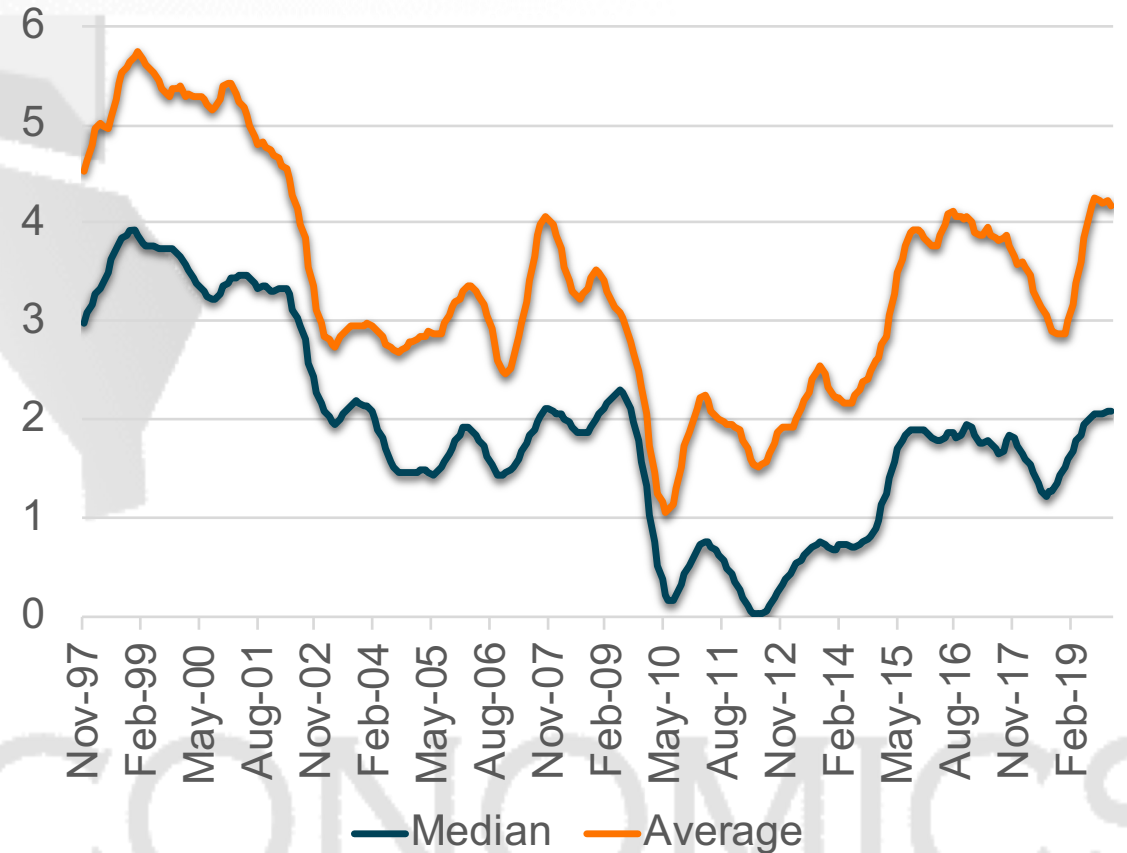
Consumer Debt Problems?

Ratio of debt payments to family income

Family characteristic	Median			Share 40% plus		
	1998	2007	2016	1998	2007	2016
All families	17.9	18.7	14.7	13.6	14.8	9.1
Percentile income						
Less than 20	18.6	19.1	11.9	29.8	26.9	21.6
20–39.9	17.5	17.1	15.6	18.3	19.5	13.3
40–59.9	19.4	20.3	14.4	15.9	14.5	8.3
60–79.9	19.5	21.9	16.1	9.8	12.9	4.2
80–89.9	17.8	19.3	16.3	3.5	8.2	4.2
90–100	13.7	12.5	11.3	2.8	3.8	1.5

Financial Obligations % DPI
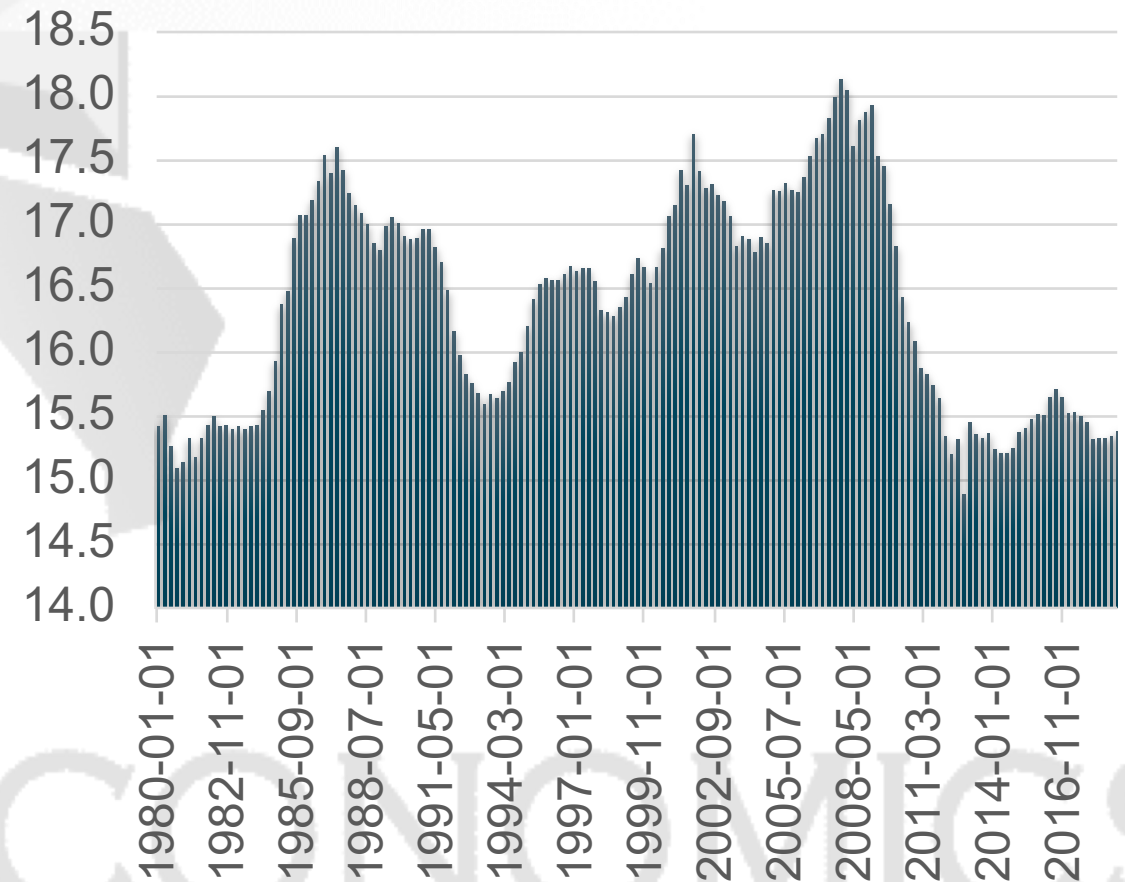
Debt issues?

Credit Card Delinquencies by Age

Legend: 18-29, 40-49, 60-69
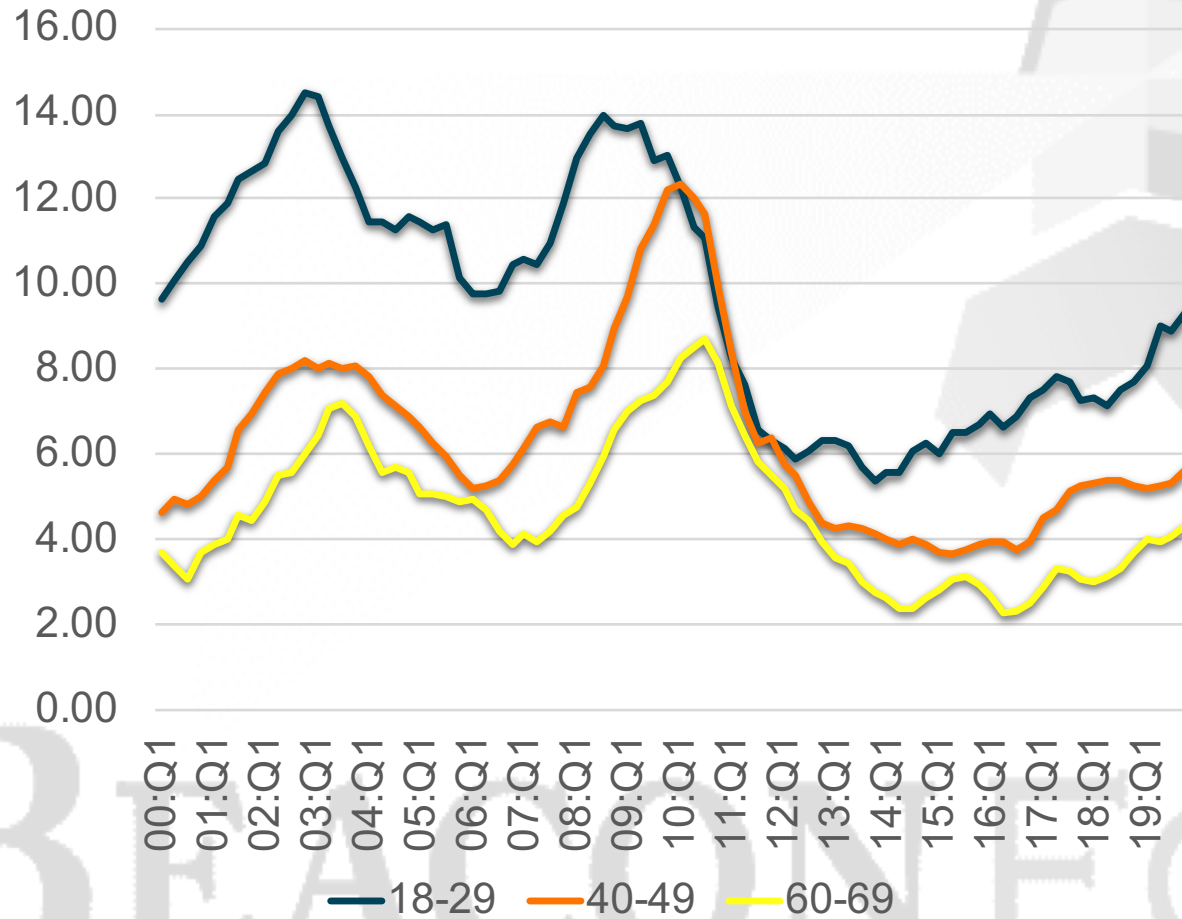
New Personal Bankruptcies

Legend: CA, ALL

Debt Bubble Trouble?

Debt as Share GDP (Percent) — Federal, All Else
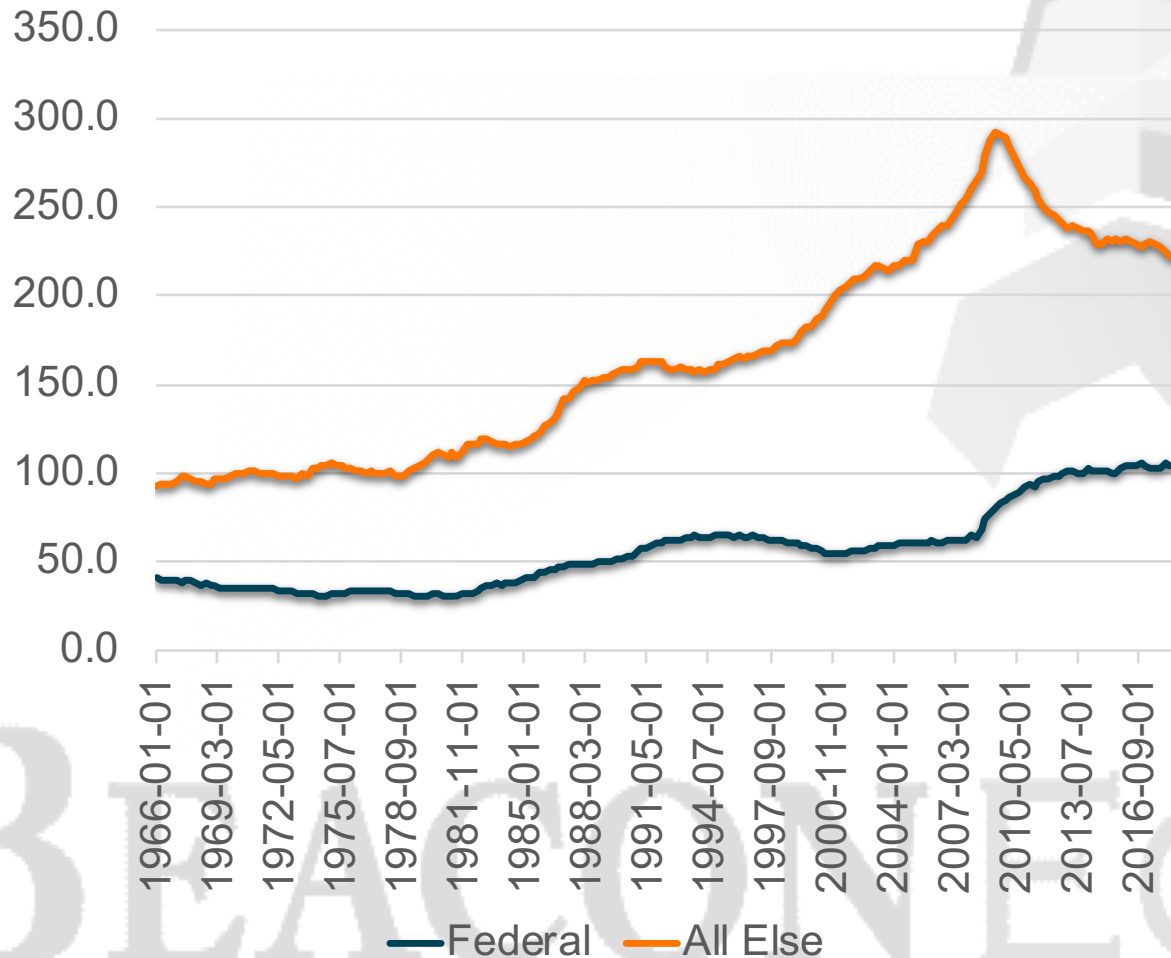
Commercial Bank Dq Rates — C&I, Mortgage, Commercial
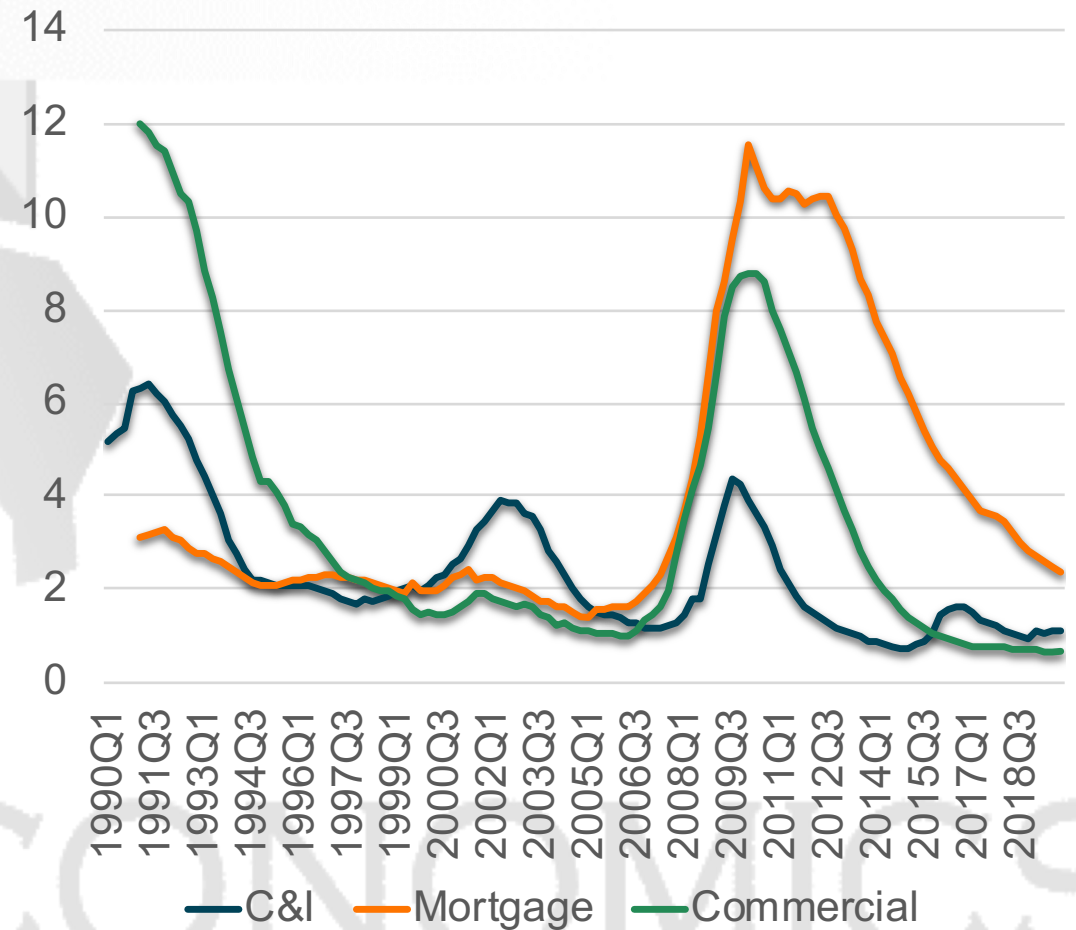
Business Activity

Taxable Sales, San Jose
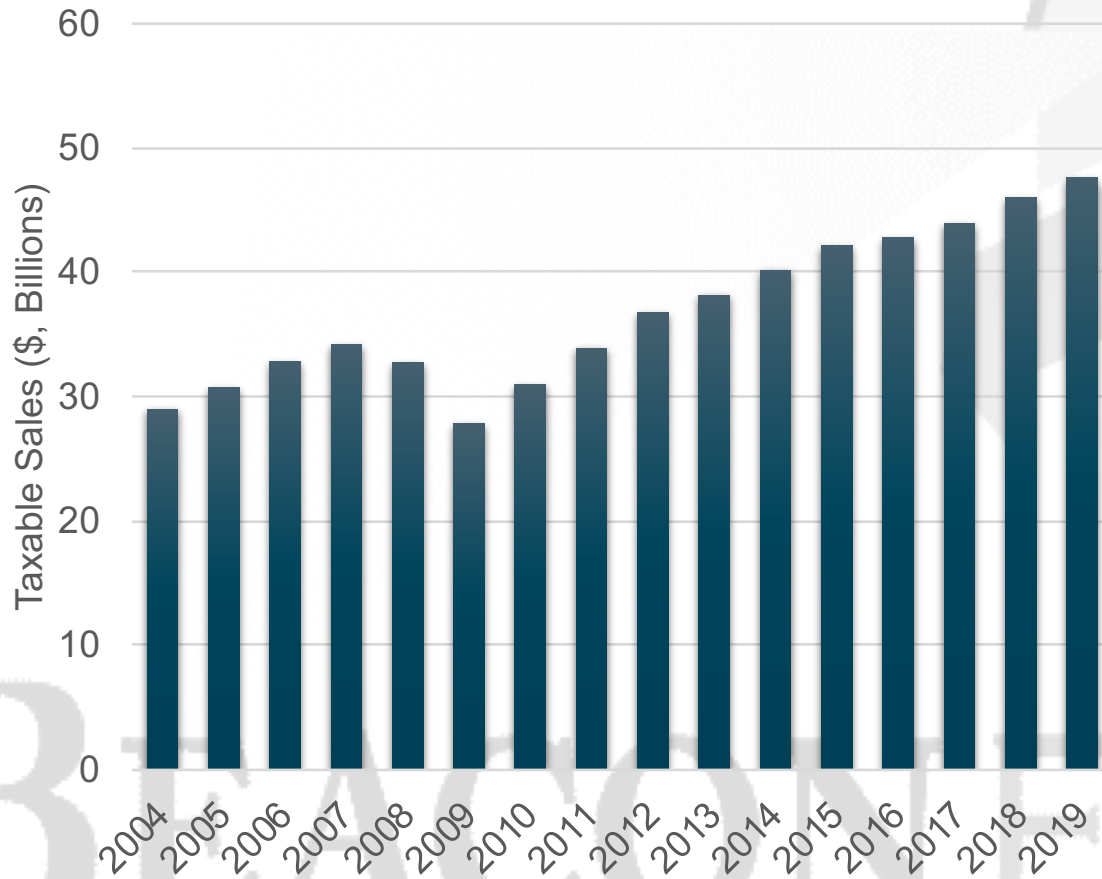
Category	2019 San Jose ($, Millions)	1-Year % Growth	
		San Jose	CA
Total	139.9	7.7	4.2
Business and Industry	37.8	27.1	1.7
Restaurants and Hotels	14.8	2.1	2.6
Food and Drugs	5.0	2.0	2.0
Building/Construction	8.8	-1.3	-0.7
Fuel/Service Stations	6.6	-1.5	-0.1
Consumer Goods	22.7	-2.4	-0.8
Autos/Transportation	16.9	-7.7	-1.3

Venture Capital Activity

Venture Capital Activity Santa Clara County

Top 10 Venture Capital Deals Q1-2020
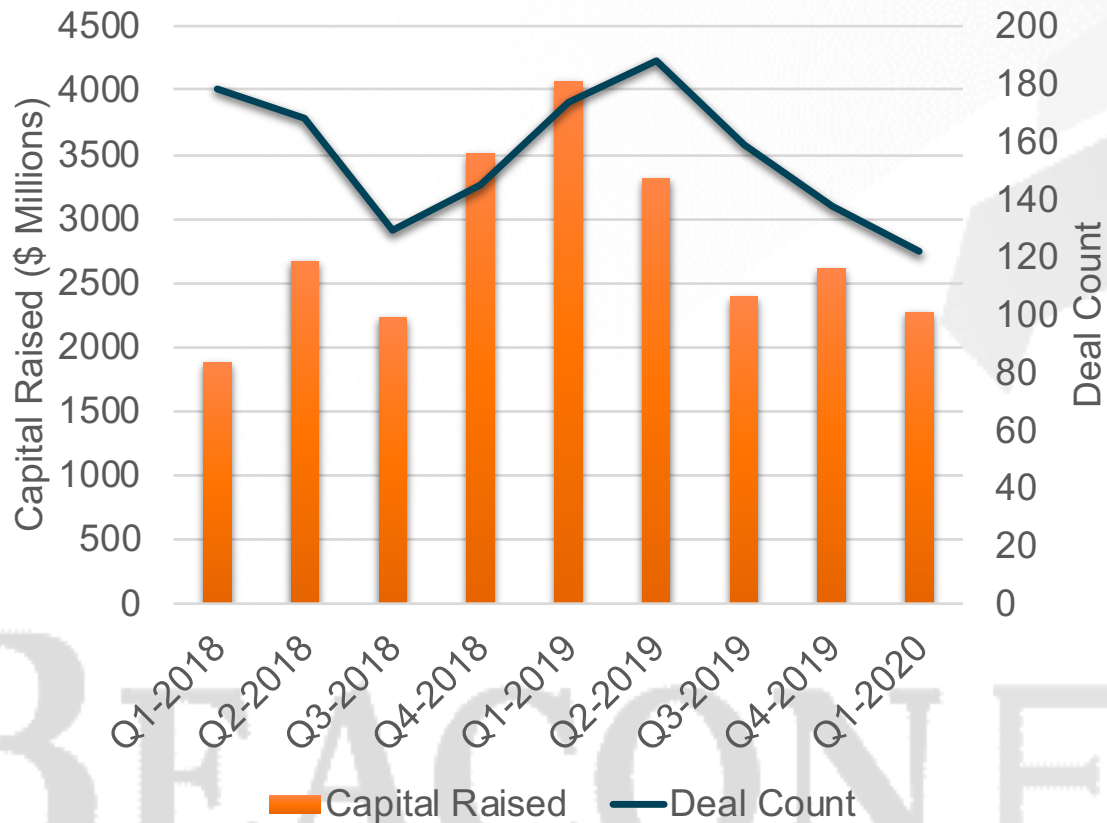
Company	Industry	Location	Deal Size ($Millions)
Hewlett-Packard	Computer Hardware	Palo Alto	36,500
Symantec	IT Services	Mountain View	10,700
Cypress	Semiconductors	San Jose	9,813
Mellanox Tech	Communications	Sunnyvale	7,000
Waymo	Transportation	Mountain View	3,000
TIBCO Software	Software	Palo Alto	2,830
ForeScout	Software	San Jose	1,900
Armis	Software	Palo Alto	1,100
Shape Security	Software	Santa Clara	1,000
Vantage	IT Services	Santa Clara	800

Nonresidential Real Estate

Nonresidential Contruction
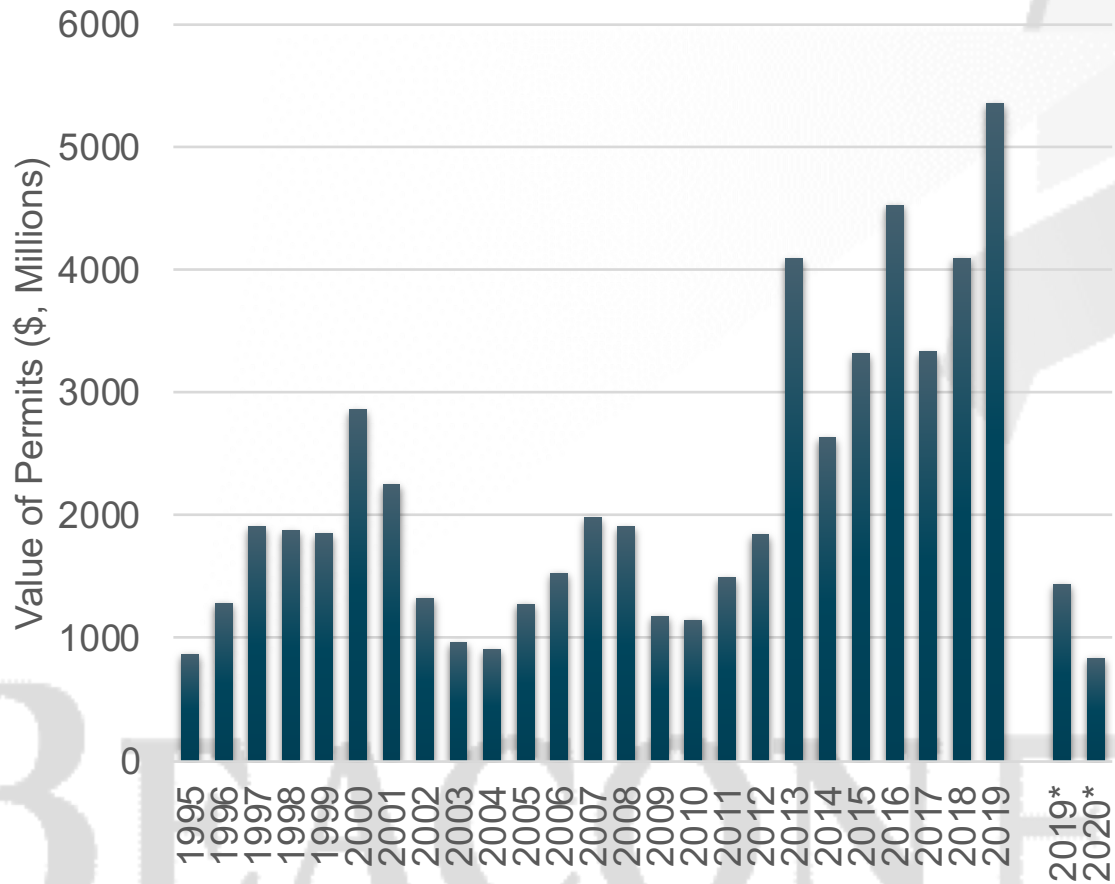
*Year-to-date through Q1

Property	Santa Clara		California	
	Q1-20 ($Millions)	1-Yr Change ($Mil.)	Q1-20 ($Millions)	1-Yr Change ($Mil.)
Total Nonres	844.9	-598.3	5506.4	-1174.2
Office	193.4	128.9	501.2	-44.3
Industrial	0.0	-11.8	210.8	-194.1
Retail	27.7	-16.5	903.0	287.0
Hotel	40.0	-113.7	155.9	-268.3
Alterations	523.7	-203.0	2811.8	-650.0

Nonresidential Rents & Vacancy

Property	San Jose		San Francisco		East Bay	
	Rent ($) Q1-20	3-Yr % Growth	Rent ($) Q1-20	3-Yr % Growth	Rent ($) Q1-20	3-Yr % Growth
Flex/R&D	17.7	1.7	17.0	2.4	11.8	2.6
Office	47.4	4.4	65.0	4.3	35.4	4.5
Retail	37.7	-0.4	38.5	0.7	32.2	2.4
Warehouse	8.5	0.7	10.3	1.1	6.8	1.6

Property	San Jose		San Francisco		East Bay	
	Vacancy (%) Q1-20	3-Yr Change	Vacancy (%) Q1-20	3-Yr Change	Vacancy (%) Q1-20	3-Yr Change
Flex/R&D	12.1	0.7	5.2	-7.5	12.6	1.6
Office	18.0	0.0	9.0	0.0	15.6	0.9
Retail	5.4	-0.5	4.5	0.5	8.1	0.1
Warehouse	8.2	1.5	5.6	0.9	9.8	1.5

Source: REIS

California Slowing Job Growth

Y-o-Y Job Growth to Feb 2020
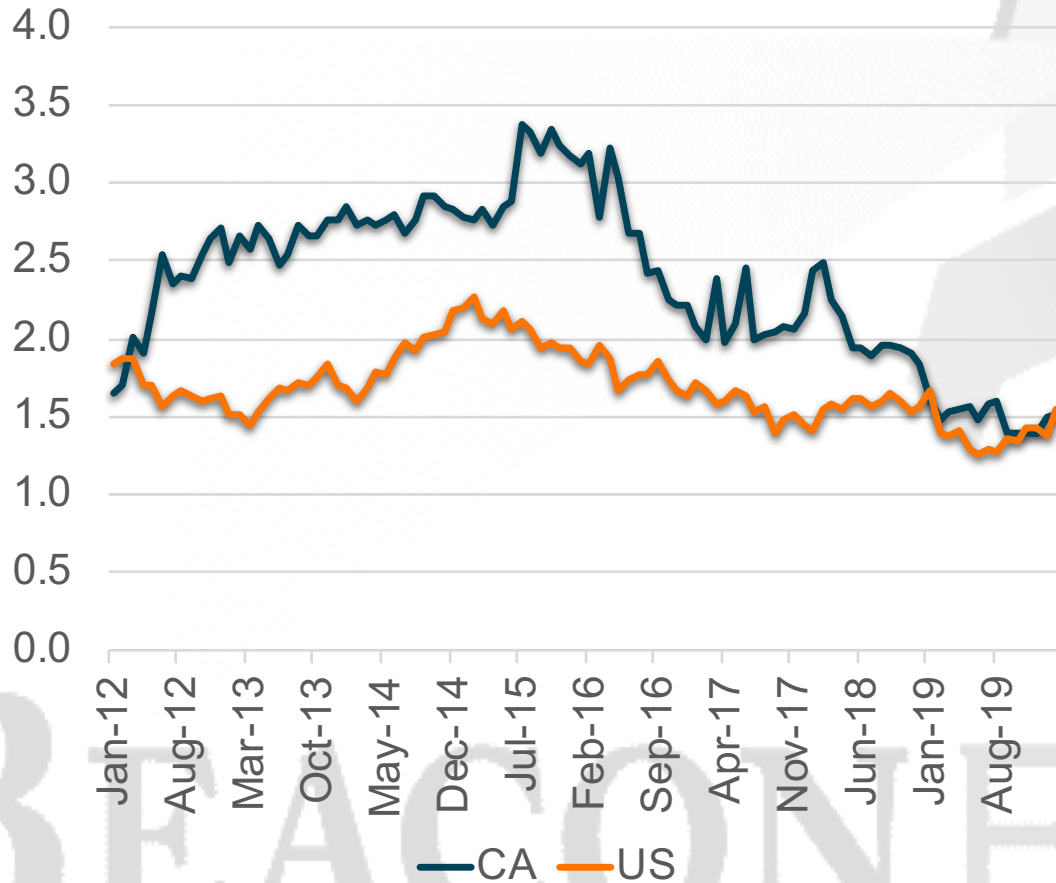
Unemployment Rates Pre-Pandemic

	Curr	Low 90-15		Curr	Low 90-15
Modesto	6.2	7.4	Hanford	7.8	8
Yuba	6.9	8.1	Sacramento	3.6	3.8
Redding	4.6	5.7	San Francisco	2.1	2.3
Chico	4.9	5.7	Fresno	7.3	7.4
Inland Empire	4.0	4.8	Oakland	2.9	3.0
Stockton	6.0	6.7	San Jose	2.5	2.6
Ventura	3.5	4.2	Napa	2.7	2.7
California	**4.1**	**4.7**	SLO	2.8	2.8
Merced	8.2	8.7	Santa Barbara	3.5	3.5
Salinas	5.9	6.4	Santa Cruz	4.6	4.6
Los Angeles	4.4	4.7	Orange Cnty	2.7	2.6
Vallejo	3.8	4.1	Santa Rosa	2.6	2.5

State Rankings

California Share National Personal Income

Index of Real GSP

United States   California
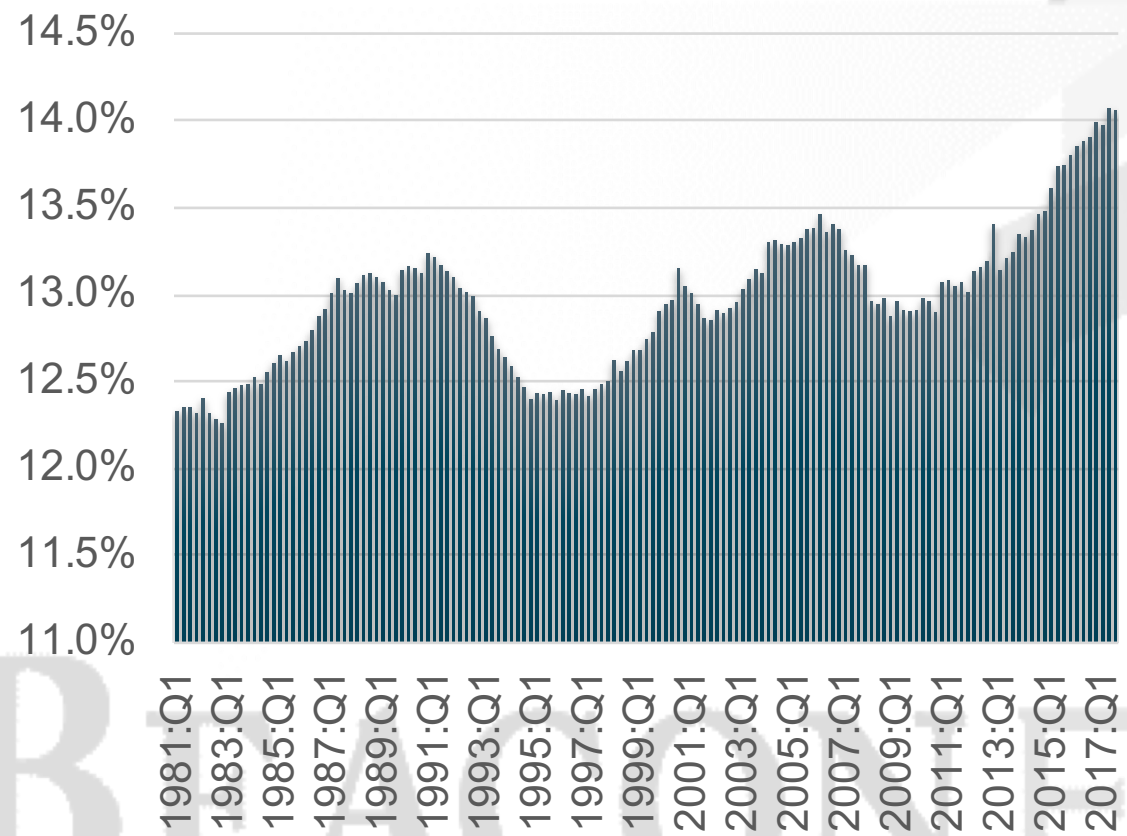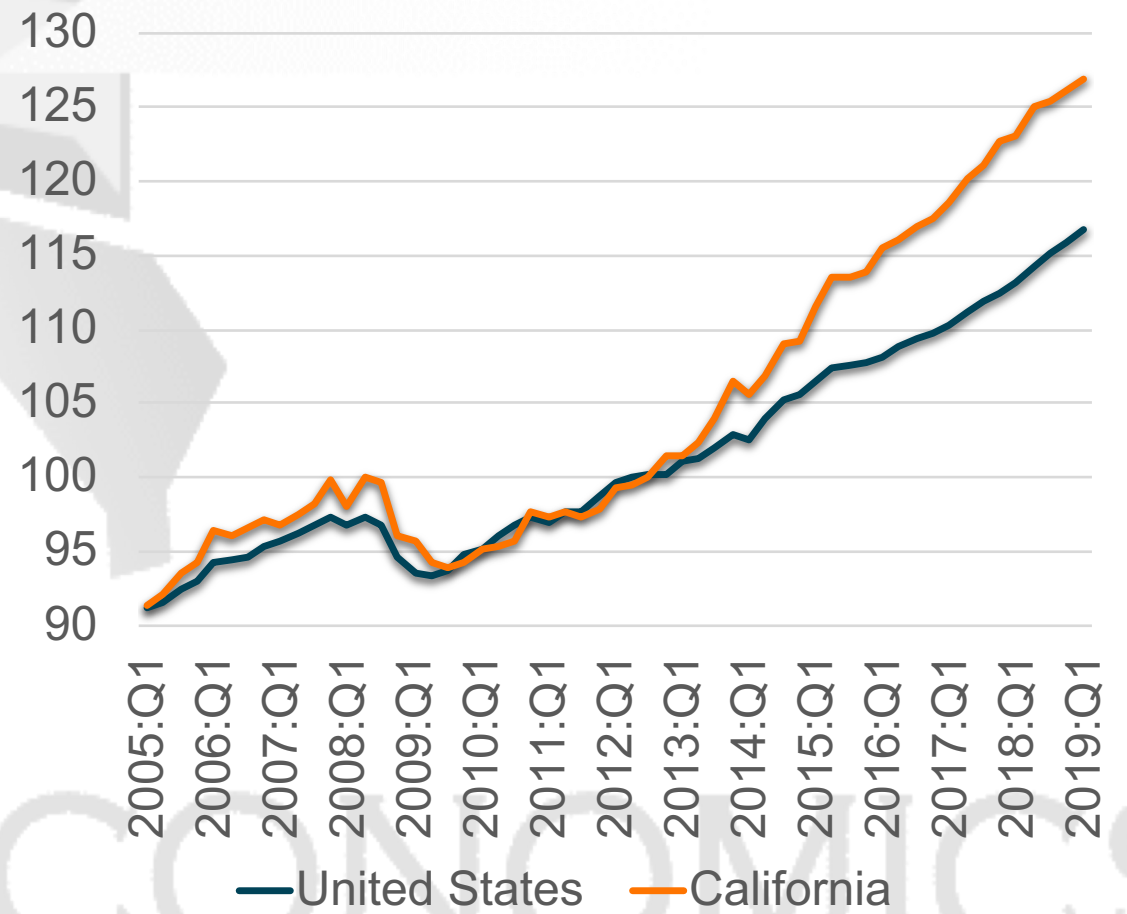
Labor Constraints

State Labor Force Growth

CA Housing Permits

■ Single Family Permits ■ Multi-Family Permits

Housing Affordability

Median Rent as a % of Household Income
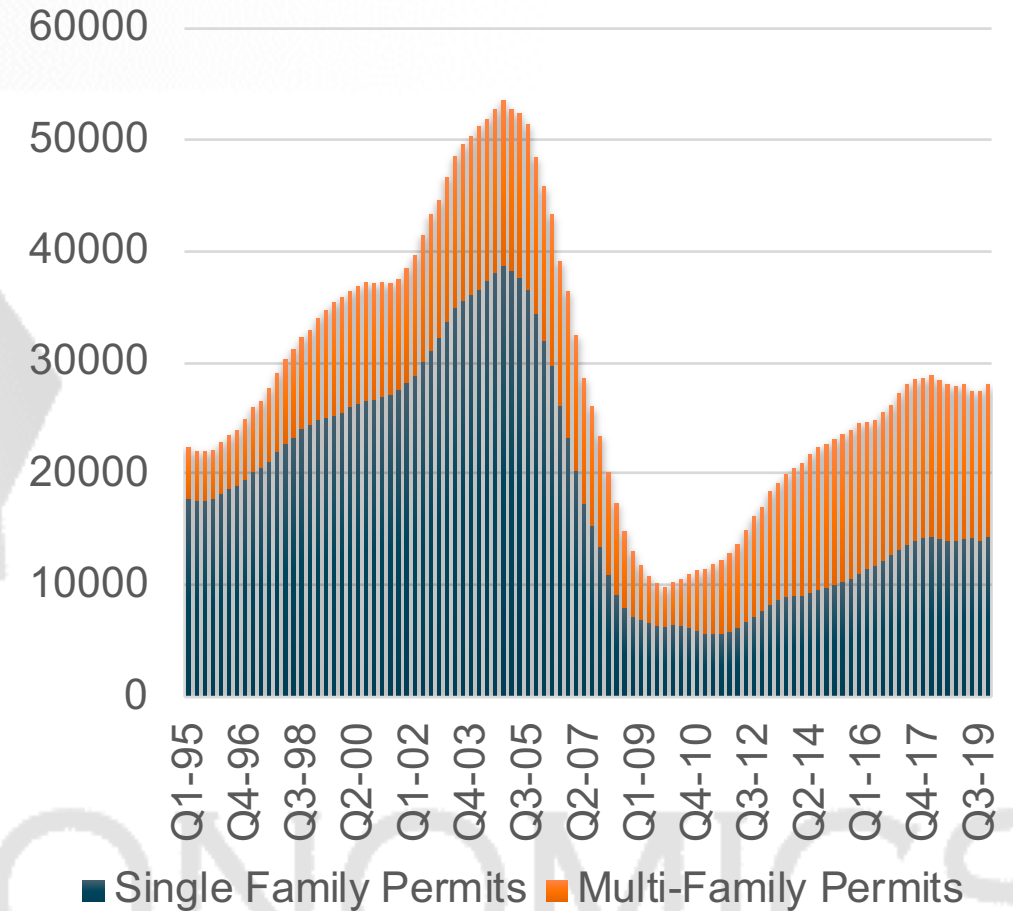
Share Housing Cost Burdened Households
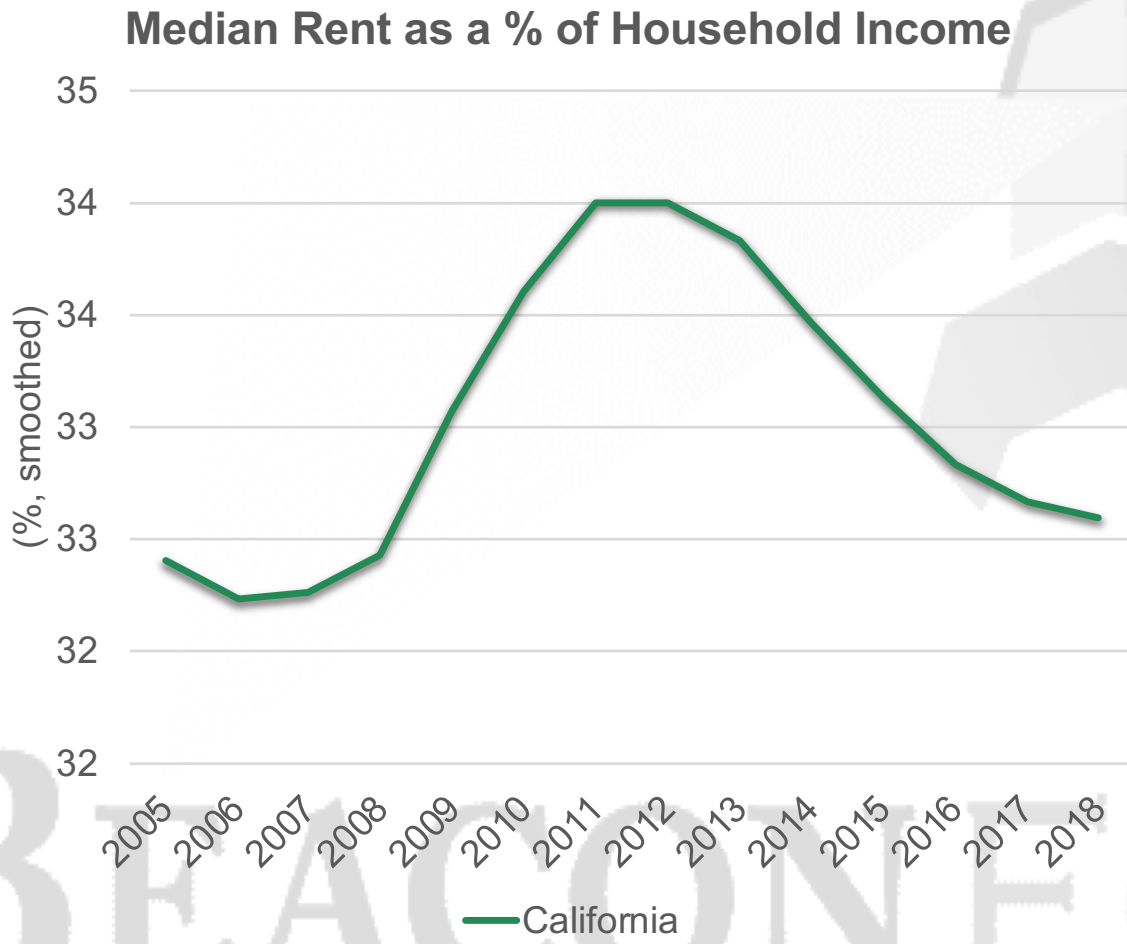
Owned	2011	2018
Riverside	44.3%	34.6%
Los Angeles	44.8%	36.1%
Kern	34.4%	28.3%
Fresno	36.0%	25.8%
Sacramento	37.6%	26.8%
Alameda	38.2%	27.5%
Santa Clara	36.5%	27.5%
San Francisco	42.2%	28.1%
Rentals	2011	2018
Riverside	62.1%	61.0%
Los Angeles	60.3%	57.1%
Kern	54.5%	56.0%
Fresno	58.6%	55.5%
Sacramento	57.0%	54.5%
Alameda	53.1%	48.9%
Santa Clara	46.5%	46.2%
San Francisco	45.2%	35.2%

California SUPPLY Problems

## Housing Units per Capita (2017) - Top 5 and Bottom 5 States)

Legend: ■ housing units/pop (2017) — US Average

Bar chart values (approximate): Maine 0.555, Vermont 0.537, North Dakota 0.495, West Virginia 0.490, Montana 0.485, New Jersey 0.400, Texas 0.385, Hawaii 0.380, California 0.358, Utah 0.350
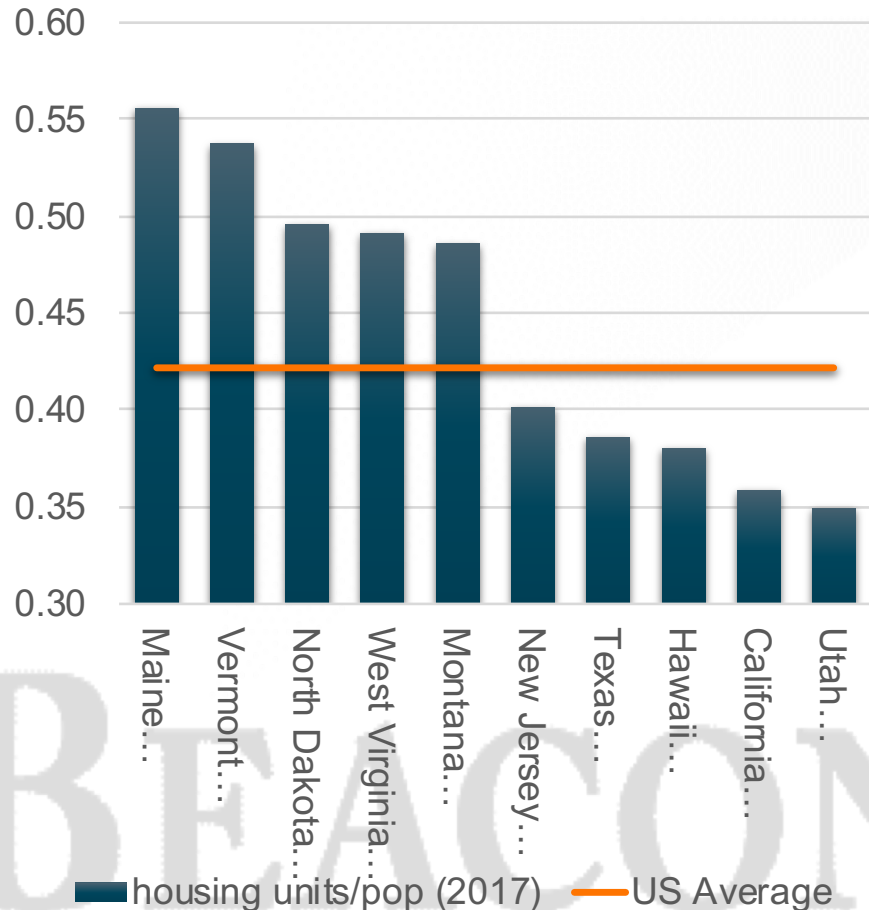
2018 Share Overcrowded Housing

	Own	Rent
California	2.2%	13.4%
Hawaii	3.7%	11.9%
Alaska	3.3%	9.5%
New York	1.3%	8.4%
Utah	1.4%	8.2%
Arizona	1.6%	8.2%
Texas	1.9%	7.4%
New Jersey	0.8%	6.7%
Nevada	1.4%	6.2%
Washington	1.2%	6.1%
Oregon	1.5%	5.8%
Florida	1.1%	5.7%

2018 Housing Vacancy

51	California	8.3%
50	Washington	8.5%
49	Oregon	9.3%
48	Maryland	9.9%
47	Nebraska	9.9%
46	Mass	10.0%
45	Utah	10.1%
44	Ohio	10.3%
43	Colorado	10.3%
42	Connecticut	10.6%
41	DC	10.6%
40	New Jersey	11.0%

No Sign of a RE Bubble

Case Shiller HPI

Vacant Units

For Sale / Rent — Held Off Market
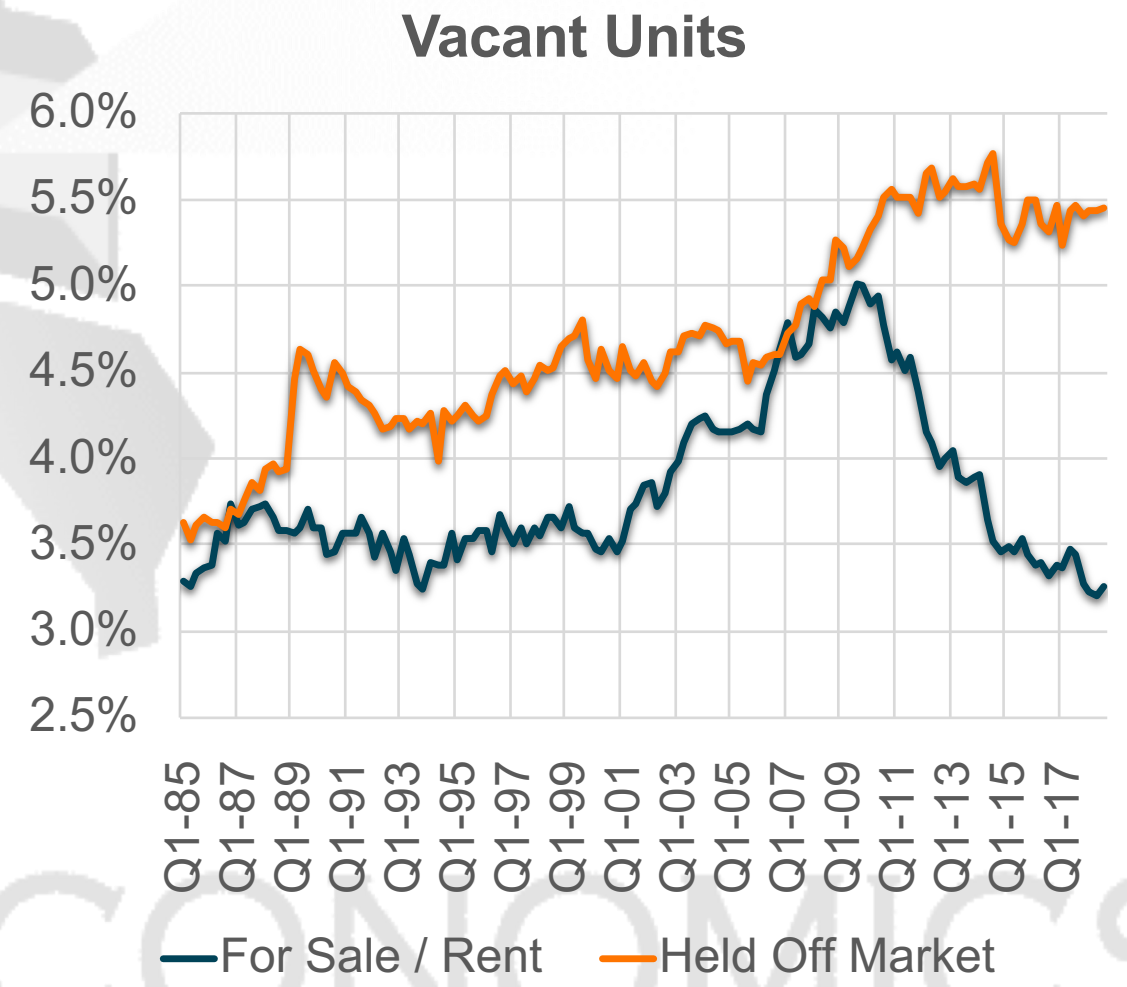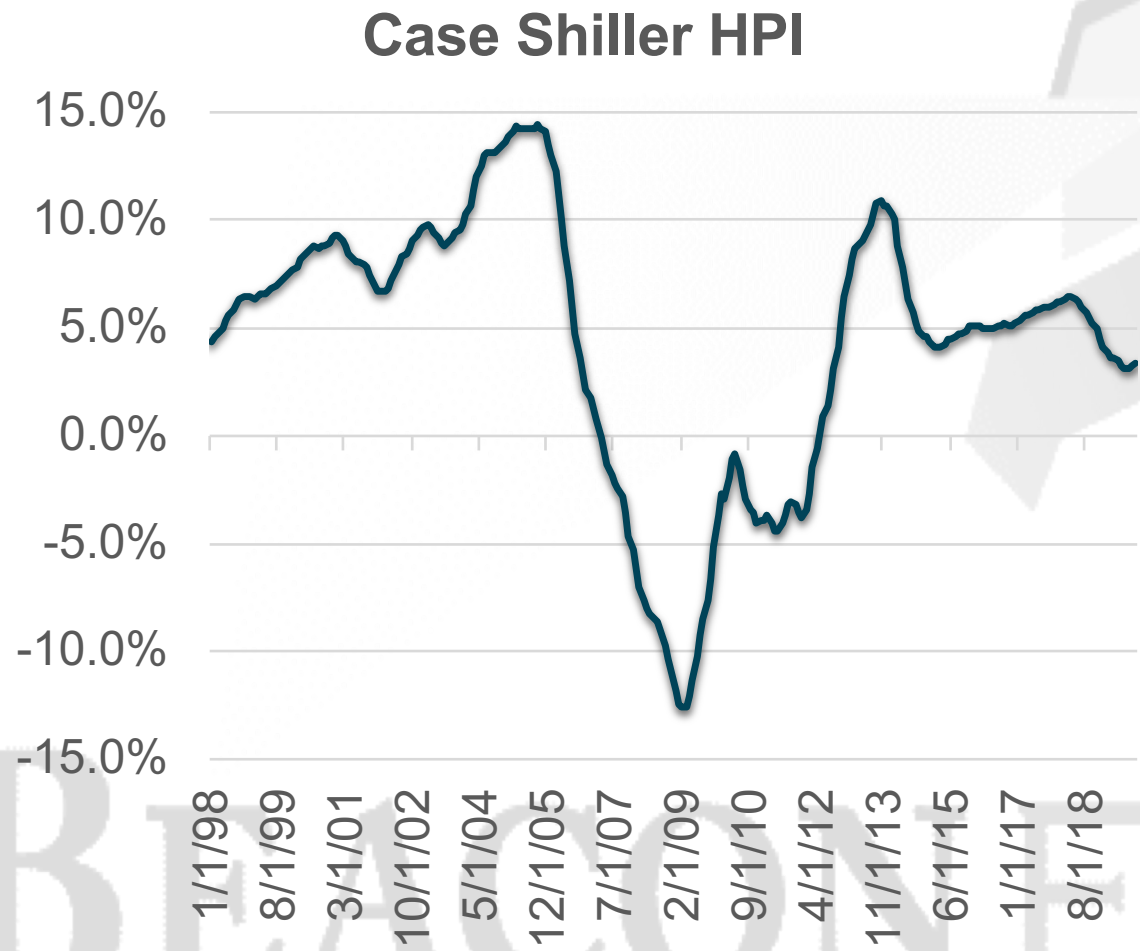
Real Estate Fundamentals

Credit Score for Mortgage Originations
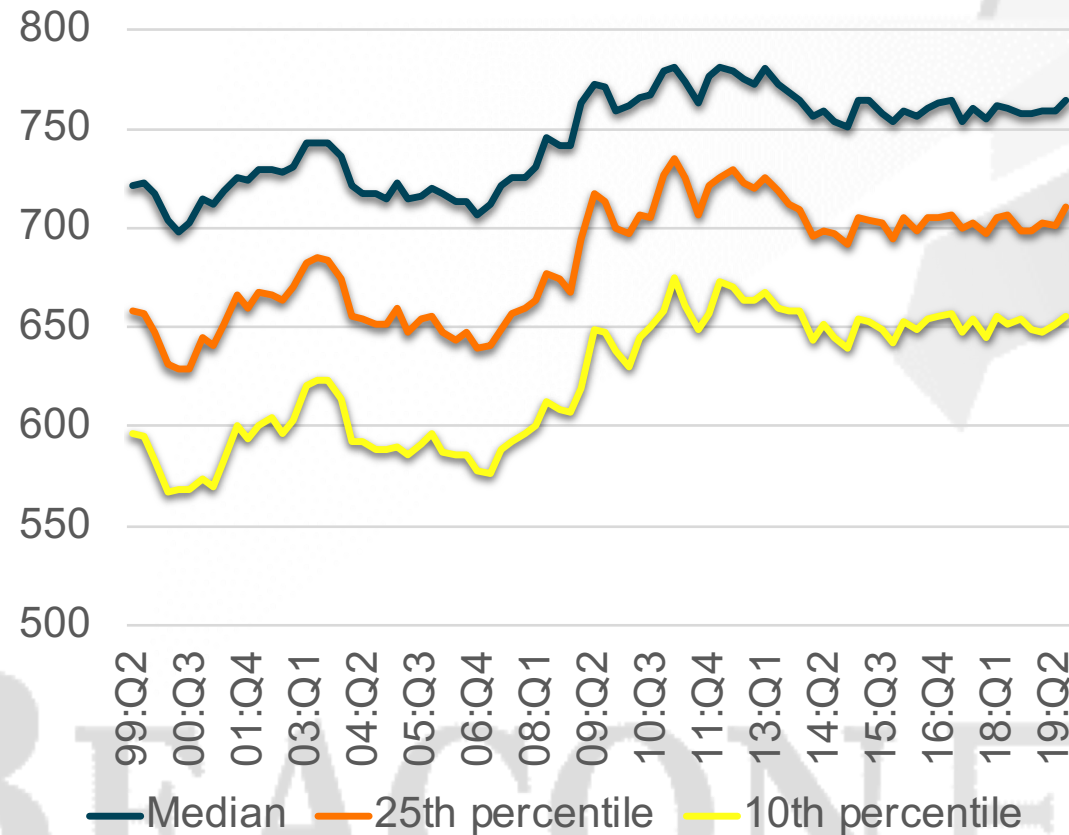
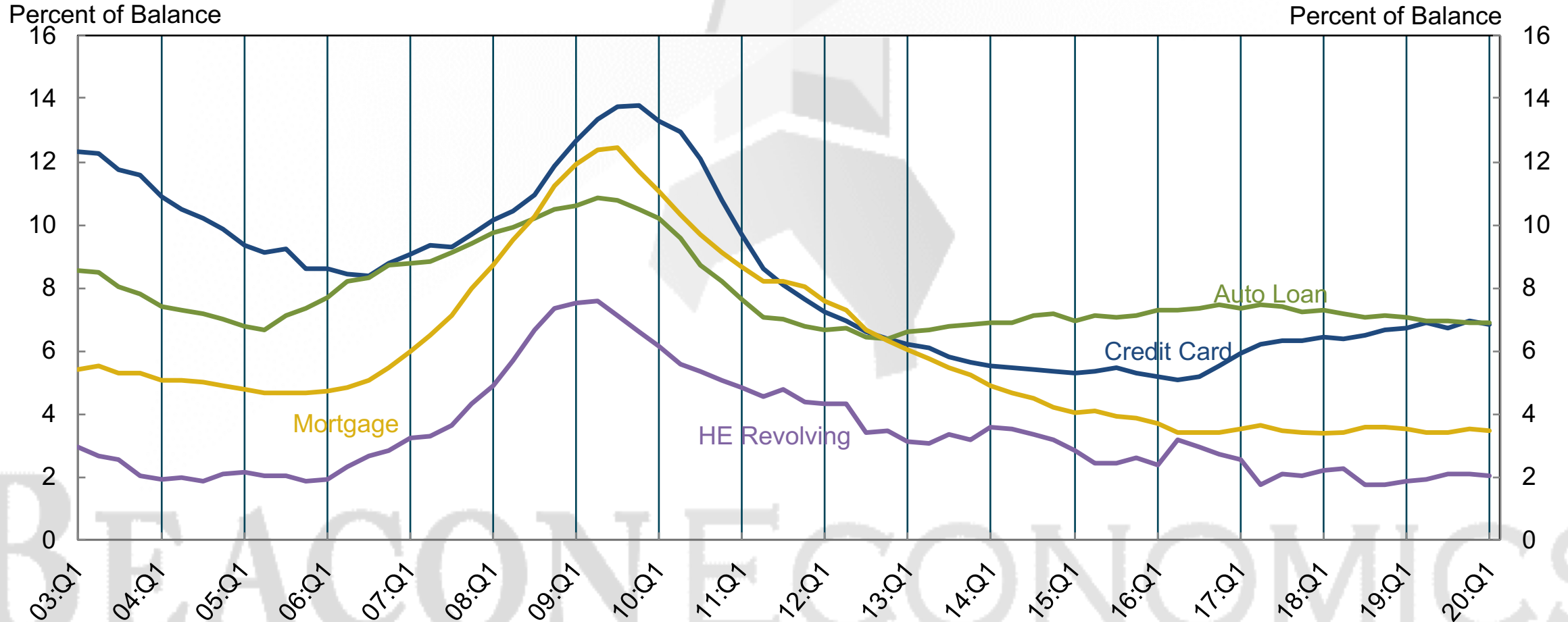**Equity share of Residential Real Estate**

Median — 25th percentile — 10th percentile
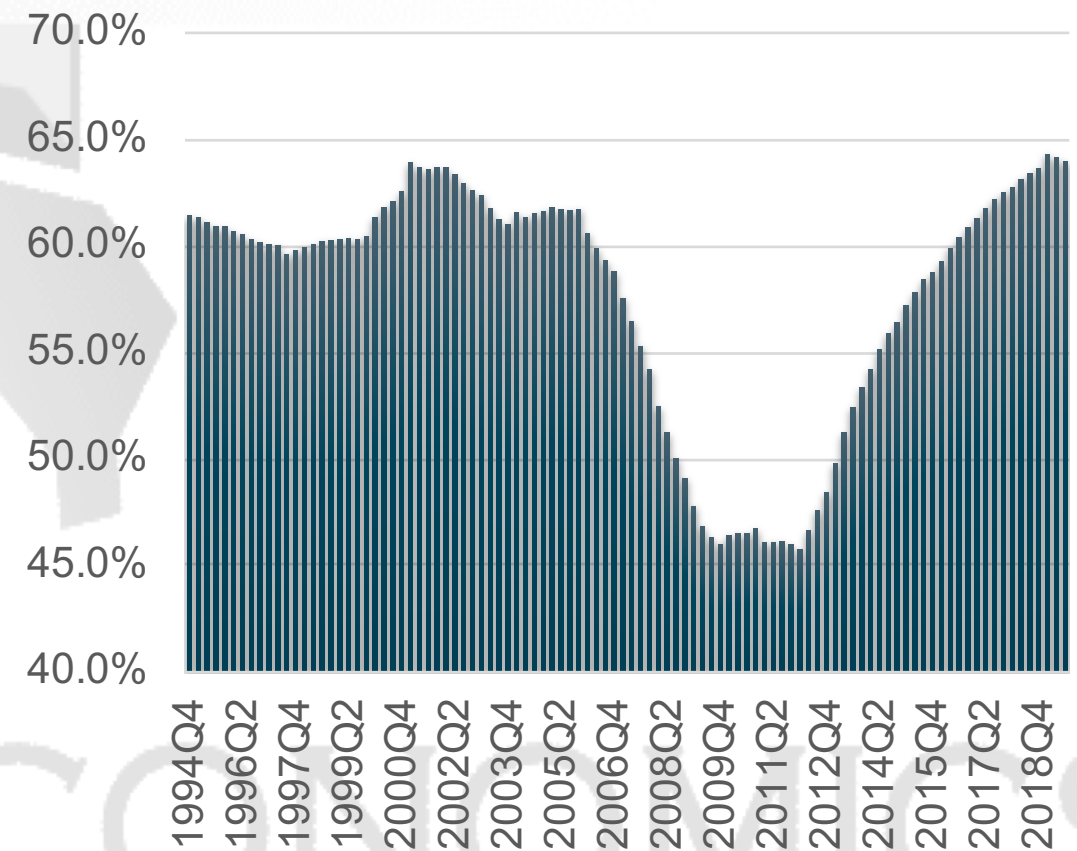
NY Fed: Consumer Credit

Transition into Delinquency (30+) by Loan Type

Source: New York Fed Consumer Credit Panel/Equifax

Beacon Economics
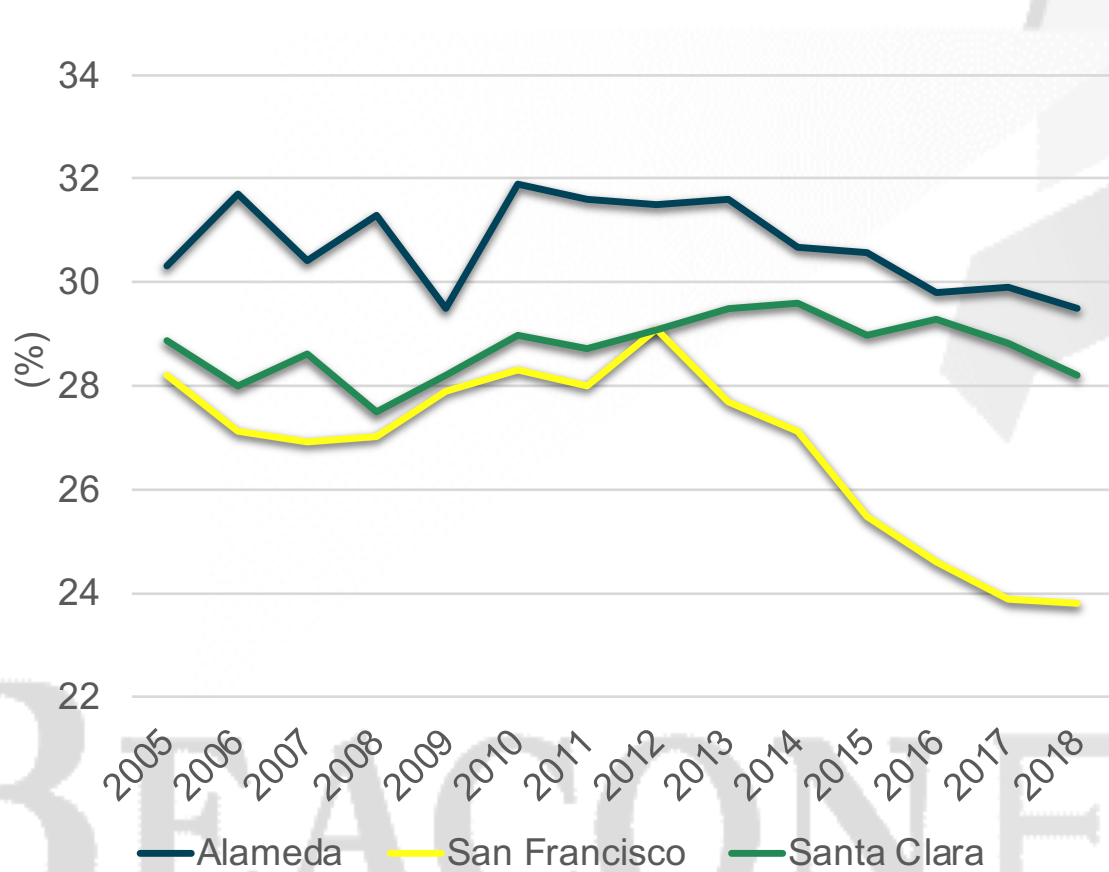
Local Housing Markets

Housing Market Santa Clara County
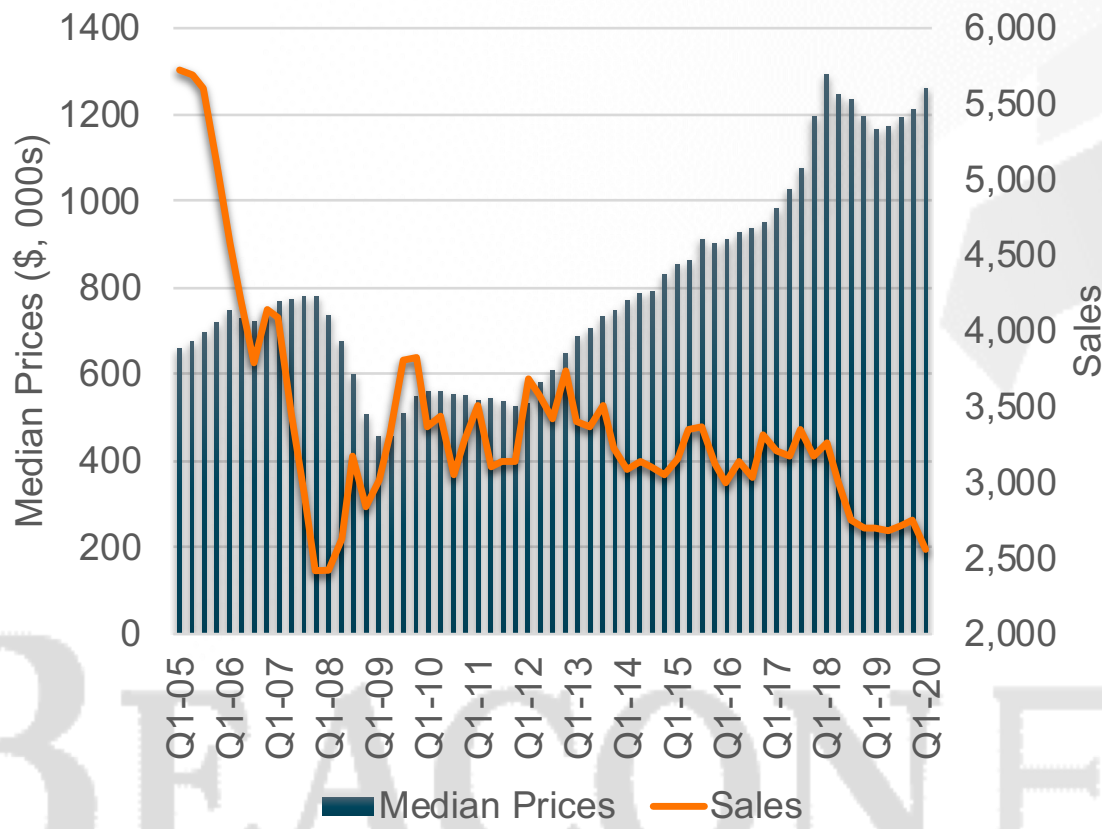
County	Median Prices		Sales	
	Q1-20 ($000s)	1-Yr % Growth	Q1-20	1-Yr % Growth
Santa Clara	**1261.5**	**8.2**	**2556**	**-5.5**
Contra Costa	637.4	3.4	2792	-5.8
San Francisco	1502.8	-0.1	621	-3.6
Alameda	855.1	-1.8	1705	-39.1

Housing Affordability

Median Rent as % of Household Income

Legend: Alameda, San Francisco, Santa Clara

Share of Rent Burdened Households

Legend: Alameda, San Francisco, Santa Clara
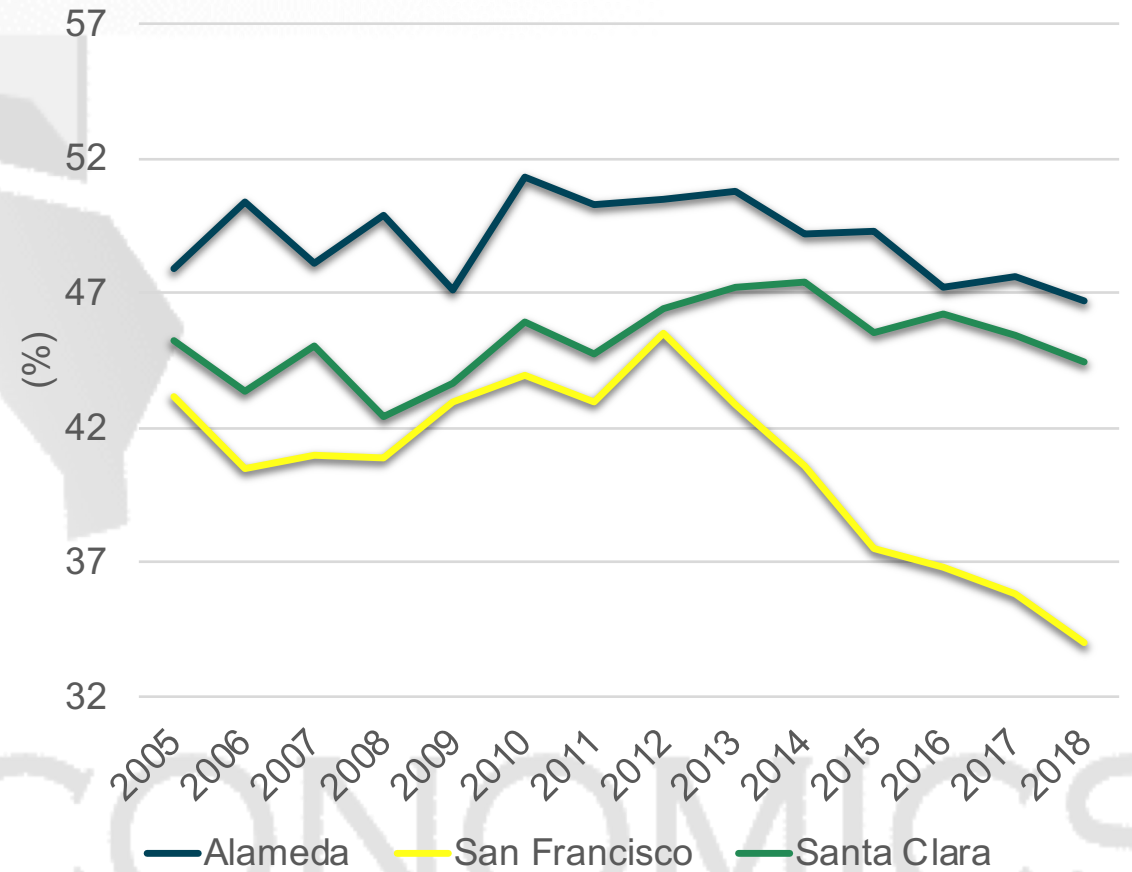
Residential Construction Activity

Residential Permits

Permits Issued
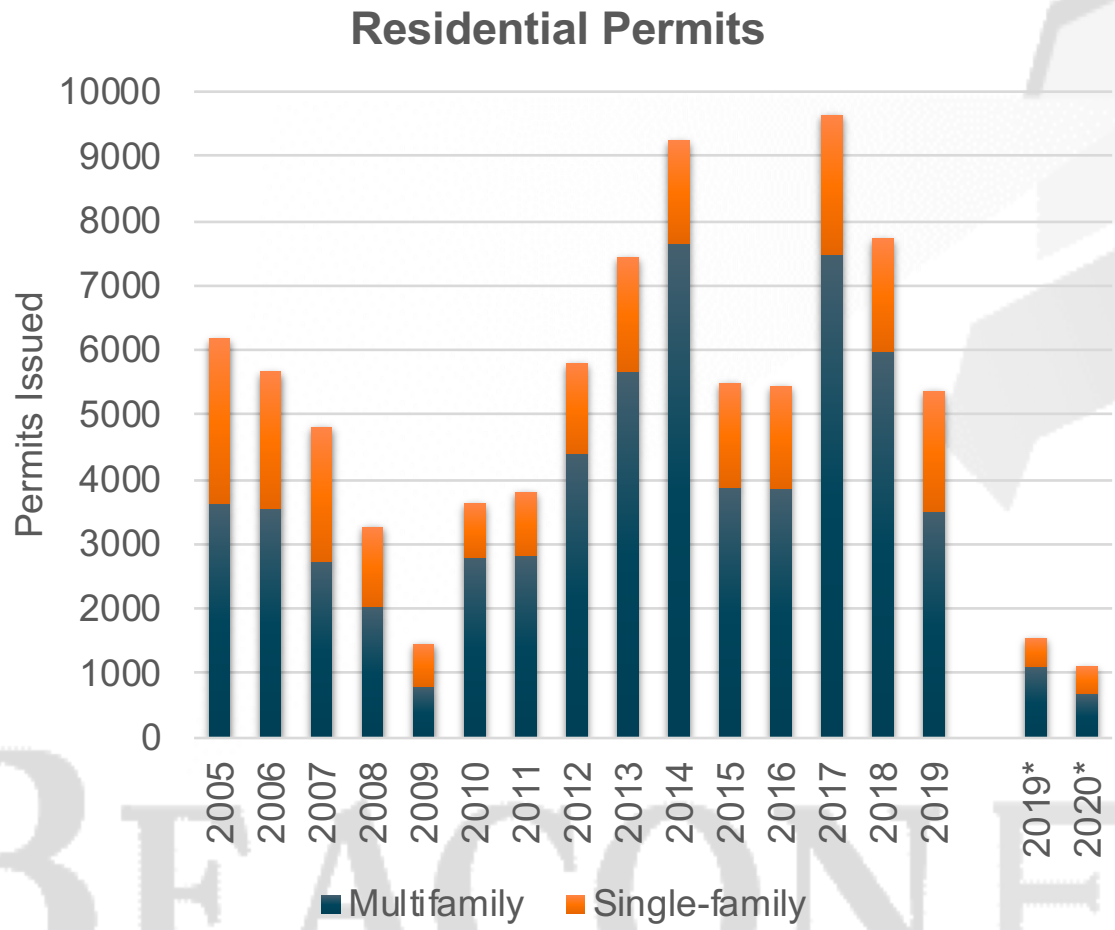
County	Single-family		Multifamily	
	Q1-20	1-Yr Change	Q1-20	1-Yr Change
Contra Costa	411	62	158	-267
San Francisco	15	13	954	-25
Santa Clara	**393**	**-13**	**446**	**-608**
Alameda	303	-96	212	-803

*Year-to-date through Q1

Disincentives

Hypothetical City			Full Service - with 6% UUT	
	Single-family Residential	Multi-family Residential	Industrial	Retail
CITY EXPENDITURES				
Police Department	9,000	42,750	4,950	14,063
Fire Department	6,040	28,690	3,322	9,438
Public Works	1,200	5,700	1,320	3,750
Planning & Community Devlpmt	800	3,800	880	2,500
Parks & Community Services	2,600	12,350	429	1,219
Library	1,500	7,125	n/a	n/a
General Government	2,540	12,065	1,298	3,688
TOTAL EXPENDITURES	$ 23,680	$ 112,480	$ 12,199	$ 34,656
NET	$ 11,520	$ (37,258)	$ 12,704	$ 81,465

Annual Revenue Could Drop by Tens of Billions of Dollars in a Recession
(Dollars in Millions)
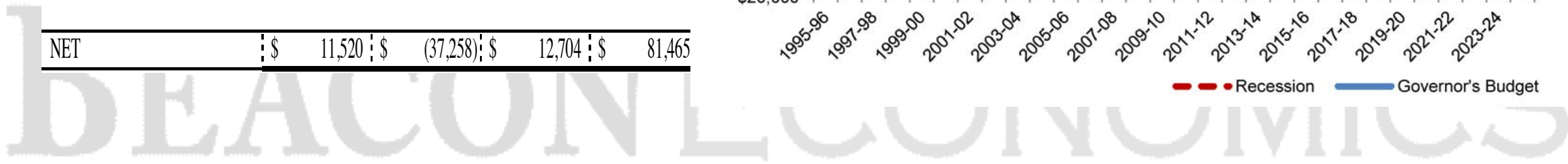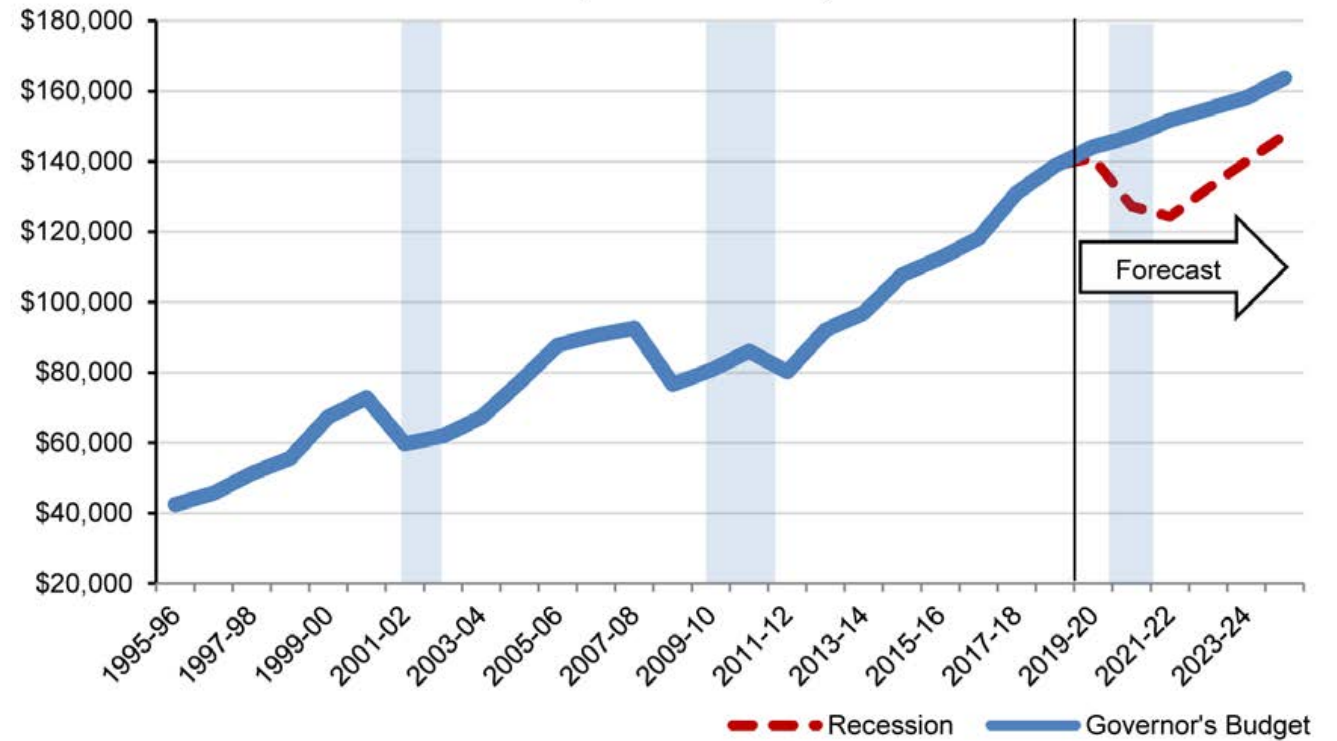
Rent Control Redux

- **Current Rules**
  - Relatively high limits, still not full control
  - Done in face of vote rejection
  - May encourage steadier rent increases (less ebb and flow)

- **Self Defeating**
  - Hurts supply, both through direct NPV as well as from investor confidence
  - Encourages higher income families to live in older house stock
  - Displaces lower income families

- **Damage to come?**
  - New efforts to encourage rent control
  - Not enough effort to encourage supply will drive problem

- **Time to push back**
  - Miserabilism has kept pro-business groups on their heels
  - Time to take back the message-- things are good, they are getting better and business is part of the solution

4: Policy (Over)reaction

CARES Act: $2.5 trillion in a $5.5 trillion quarter

- **Households**
  - $300 billion direct payments
  - $250 billion unemployment expansion
  - Potential benefits = median weekly income
- **Business**
  - $400-600 billion small business loans
  - $500 billion economic stabilization for airlines, national security important industries etc
- **Local government support**
  - $350 billion, direct payments to governments, hospitals, airports, transit

- **The Fed**
  - Rate cuts
  - Full QE efforts
- **Other Efforts**
  - IRS, states: delaying tax payments
  - Local government moratorium on evictions
  - Large landlords providing rent deferral
  - Large public mortgage holders allowing owners to defer mortgages
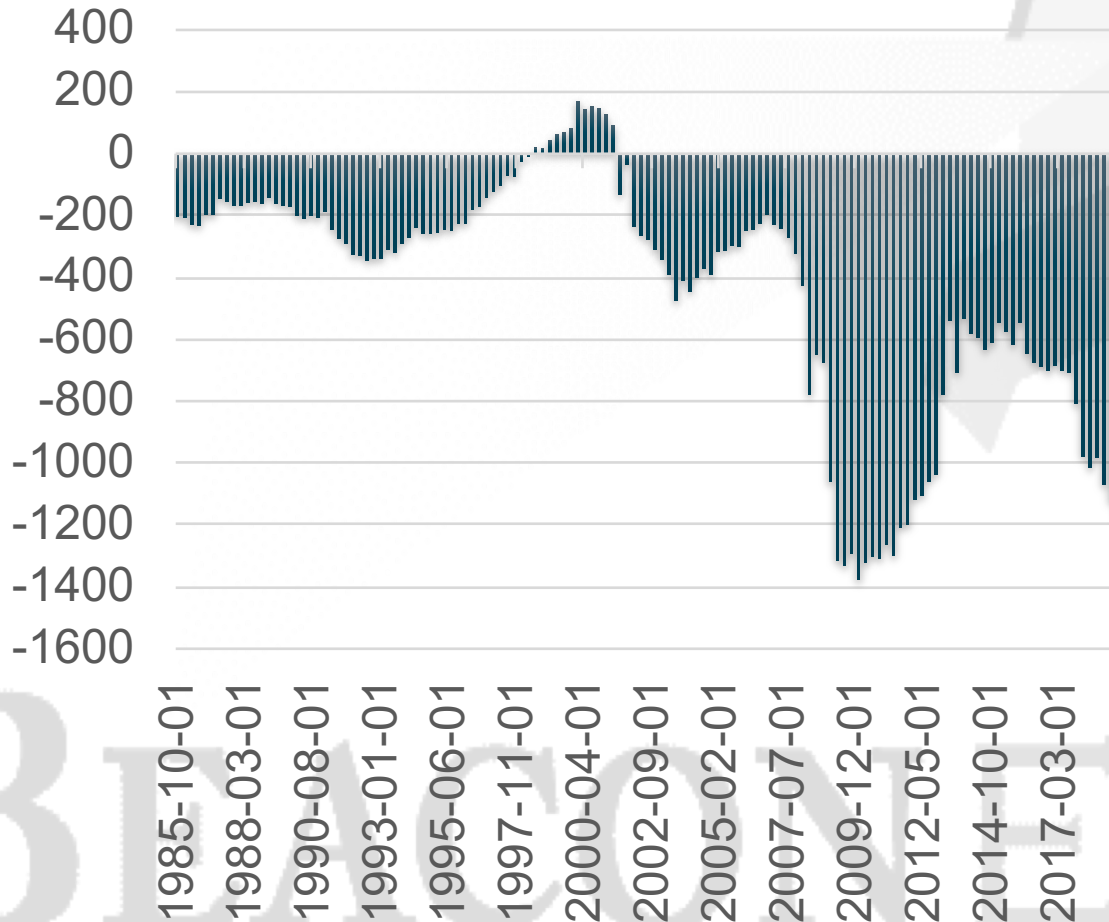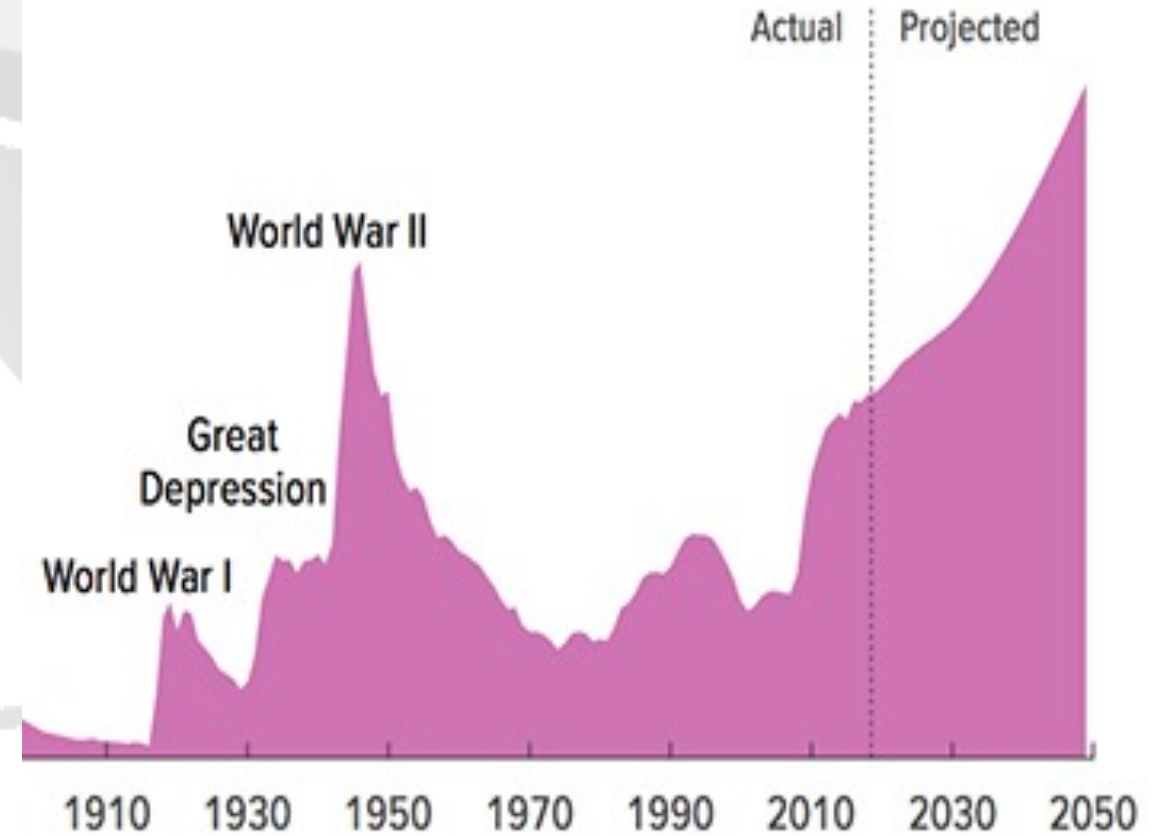 - Food programs expanding

The Real Debt Crisis

- Net Federal Debt per person: > $50,000
- Federal Government will borrow ~$11,000 more per person in 2020 alone.

Federal Budget Deficit

Net Federal Debt as % of GDP

5: Consumer / Business Behavior

Consumer Behavior

- **This is not a "new normal"**
  - Polio, smallpox, plague, etc
  - Spanish flu, MERS, SARS
  - Terrorism episodes
  - No permanent change in consumer behavior seen

- **Financial outcomes**
  - Solid fundamentals a cushion
  - Some households hurt by lost income albeit offset by UI / payments
  - Other households building savings / pent up demand

Business Behavior

- **Shakeout in stressed sectors**
  - Oversupply of restaurants
  - Retail shifting to online

- **Slowdown in investment second half of year possible**
  - Working to rebuild sales
  - Investing more in 'safe' workplace needs
  - Pause in some hiring

- **Perhaps a good lesson?**
  - More flexibility for remote work
  - Some long run impact on business travel

The Big 5 questions

1. How long will the shutdowns last?
2. How deep are the closures?
3. How healthy the economy was prior to the pandemic
4. What the government does to intervene
5. Will there be a major shift in post-pandemic spending patterns

So what's up with the markets?

CAPE Price E10 Ratio

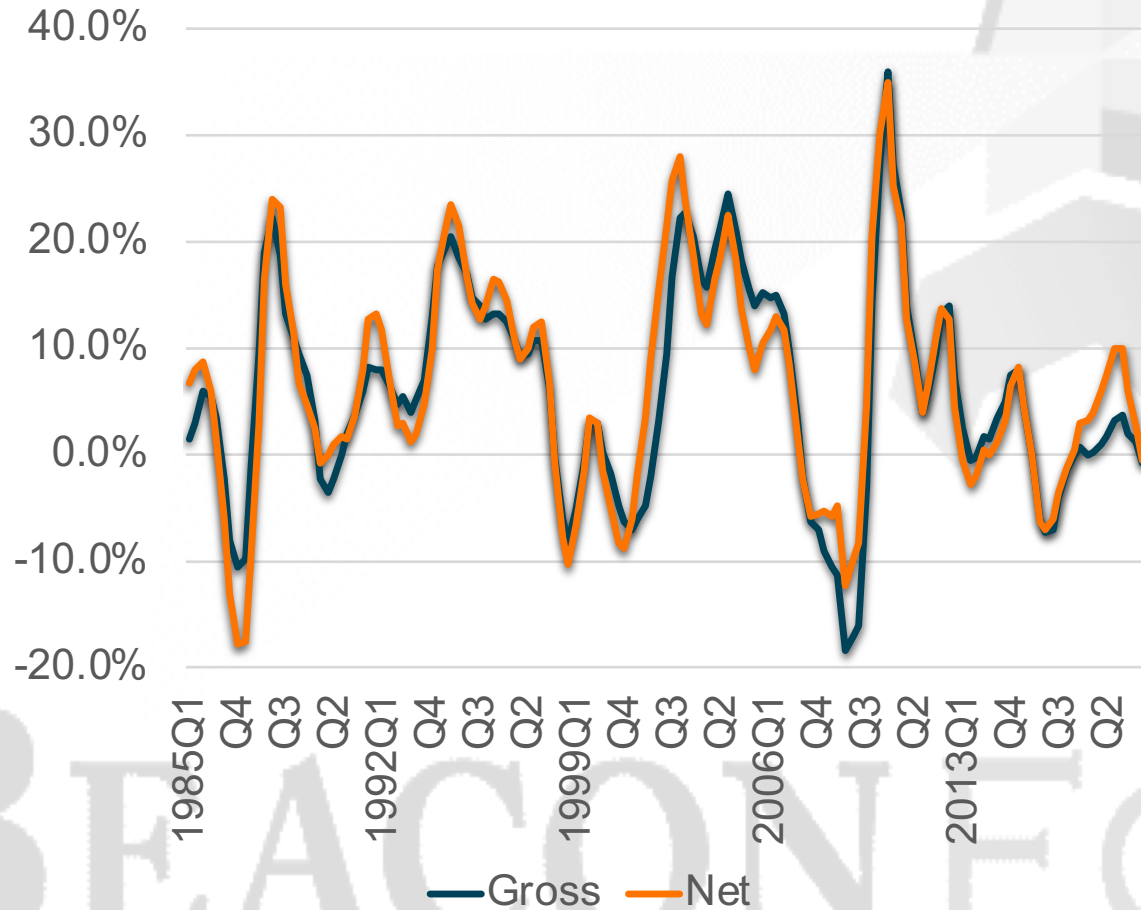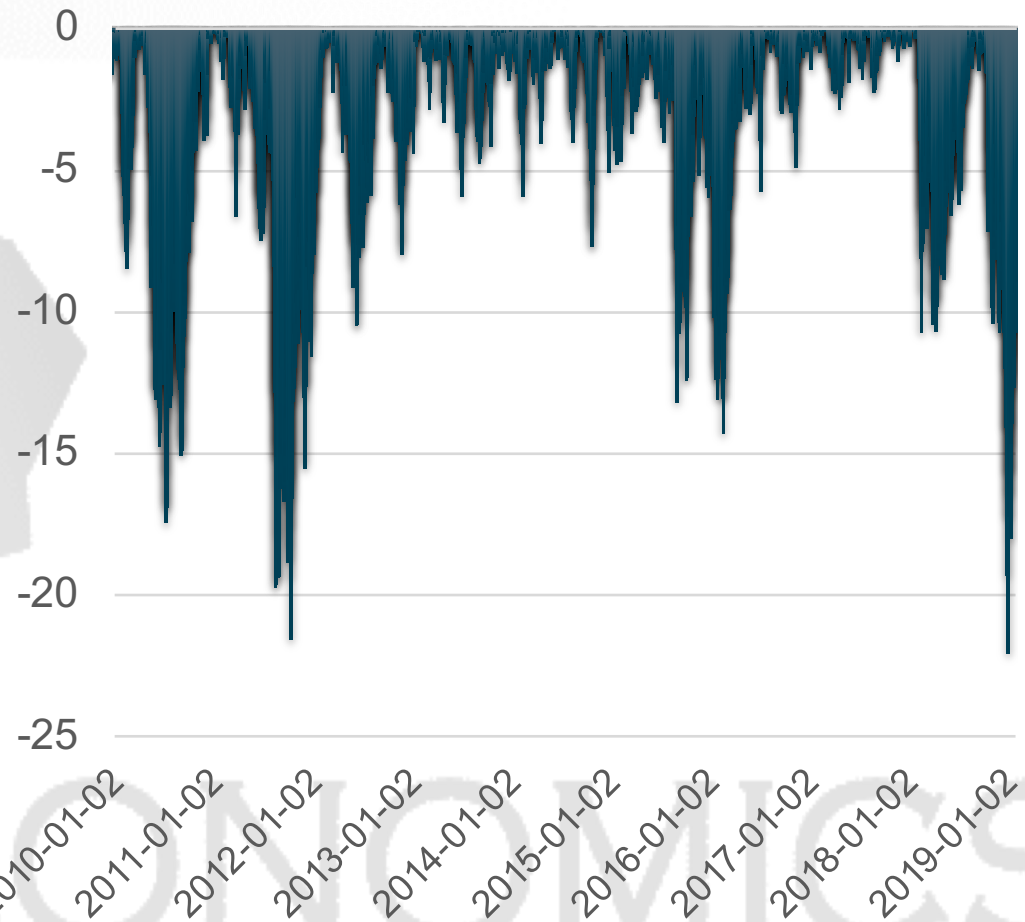# So what's up with the markets?

Corporate Profit Growth — line chart (Gross, Net), 1985Q1–present

Market Selloffs Current Expansion — chart, 2010-01-02 to 2019-01-02

Economic Risks: Now vs Then?

- **Then**
  - Millions of jobs in real estate / construction / finance permanently lost
  - Financial system pushed to edge by loan losses

- **Now: Job Furloughs**
  - 3 months to get virus under control
  - 10 weeks without work will be a big problem for a small subset of workers
  - Unemployment insurance, direct payments will help a lot

- **Then: Huge changes little help**
  - Economy highly distorted
  - Government policy—late to the game

- **Now: Few changes too much help**
  - Economy was is solid shape
  - Massive government involvement
  - Expand short term job supports

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 public health policy
- Baseline Forecast
  - -4.8% Q1, -20%Q2, 20% Q3, 5% Q4
  - Is that a recession?
  - Unemployment back to or below 5% by year end
  - Moderate upticks in debt distress
  - Stock market—who knows
  - Little impact on long run real estate values
  - Retail / restaurants / tourism to lag

- Wildcards
  - Second round of outbreaks / economic shutdowns
  - Global situation
  - Retail / restaurants already distressed
  - Can financial chaos create its own crisis?
  - How long until entertainment / travel gets going
  - Local and federal government budgets
- The true enemy: Miserabilism
  - Much of today's public health mandates / economic projections excessively negative
  - More bad policy driven by a basic lack of context

What can Beacon do for you?

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>
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> ### Continue the conversation.
>
> Contact **Dr. Chris Thornberg** directly at **chris@beaconecon.com** or **310.571.3399**

> ### Let's discuss your goals and needs.
>
> Beacon has **6 Practice Areas** covering a range of services and products.

············ *Our 6 Practice Areas* ············

Housing, Land Use, & Real Estate Advisory

Sustainable Growth and Development

Economic & Revenue Forecasting

Economic, Fiscal and Social Impact Analysis

Regional and Sub-Regional Analysis

Litigation and Testimony

Portfolio Spotlight

Regional and Sub-Regional Analysis

Beacon conducts analysis at an international, national, state, county, and city level -- and even down to the zip code, pending data availability. We analyze data on **Employment, Industry, Real Estate, and Consumption**.

Past Clients:
- City and County of Los Angeles
- City and County of Riverside
- East Bay Economic Dev. Agency

Impact (Economic, Fiscal, Social) & EB5 Analysis

Beacon has evaluated the impact of entities **like universities, music festivals, infrastructure projects, and real estate development projects**. Beacon has also conducted impact analyses that combine more than one of the above like that of **L.A's Olympic bid**.

Past Clients:
- University of Southern California
- Metropolitan Water District
- LA 2024 Olympic Bid Committee

Sustainable Growth & Development

Beacon conducts industry and policy analysis on topics like **green innovation, tech and workforce development, and industry sector strategies**. Beacon has strong in-house expertise around **housing policy** and **economic development** support.

Past Clients:
- California Apartment Association
- Long Beach Downtown Dev. Corp.
- Santa Cruz Workforce Dev. Board

Housing, Land Use, & Real Estate Advisory

Economic & revenue forecasting

Litigation and testimony

Thank You