UC RIVERSIDE | UNIVERSITY OF CALIFORNIA School of Business
CENTER FOR ECONOMIC FORECASTING & DEVELOPMENT

The Post-Corona Economy

Local Trends / Global Fears

April 2020

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From February

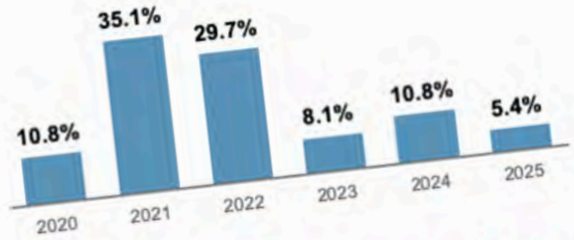
The Economy has been fine…

- 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

WSJ Next Recession Survey Feb 2020

Q&A: Forecasting the Next Downturn

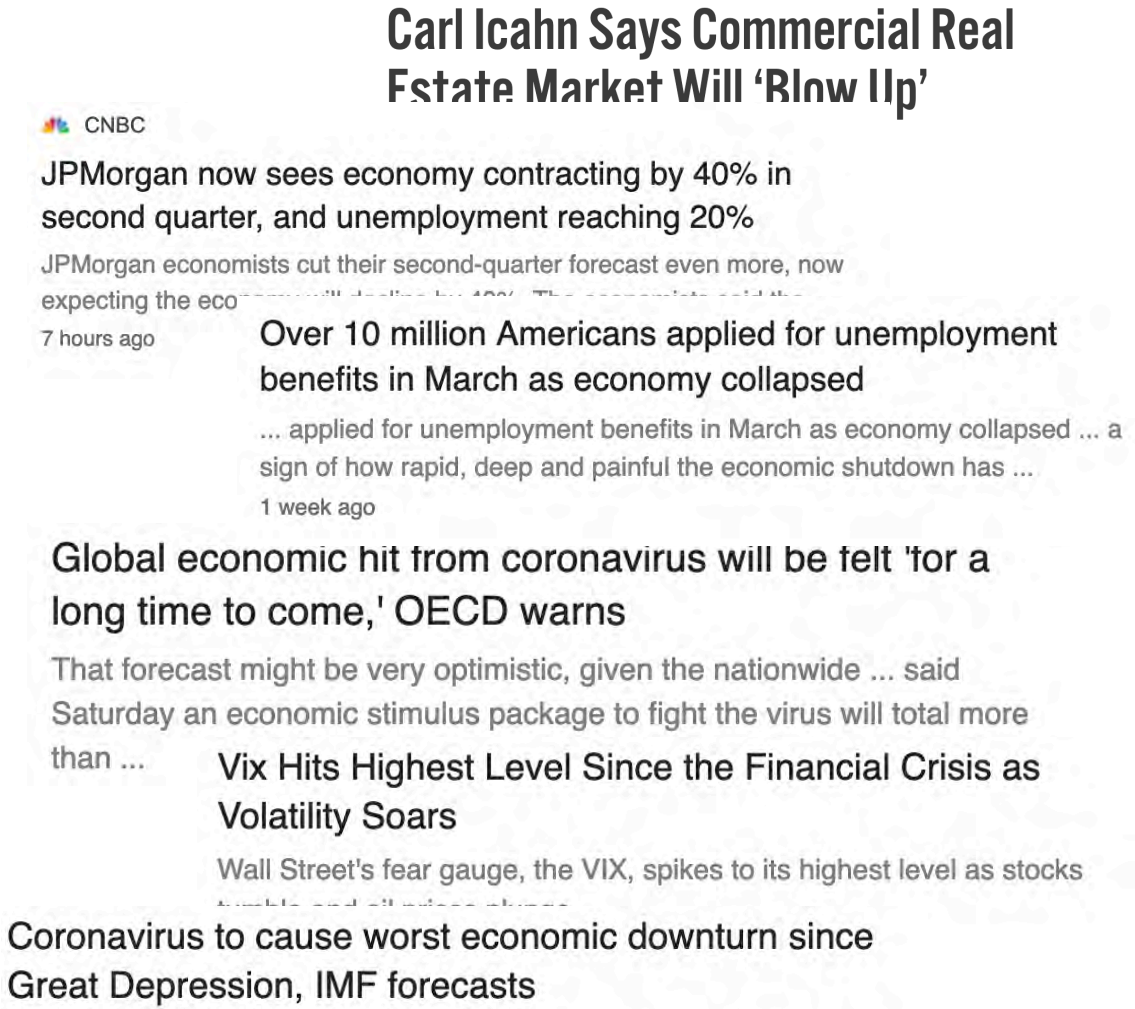
When do you expect the next recession to start?



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
  - —>2 million afflicted, over 100,000 deaths
- Unprecedented public health actions
  - —Shelter-in-place rules, closure of large swaths of the economy
  - —Millions of workers put into unemployment
- The question
  - —How bad will the damage be to the economy?



"A good forecaster is not smarter than everyone else, he merely has his ignorance better organized. "

Grim Views

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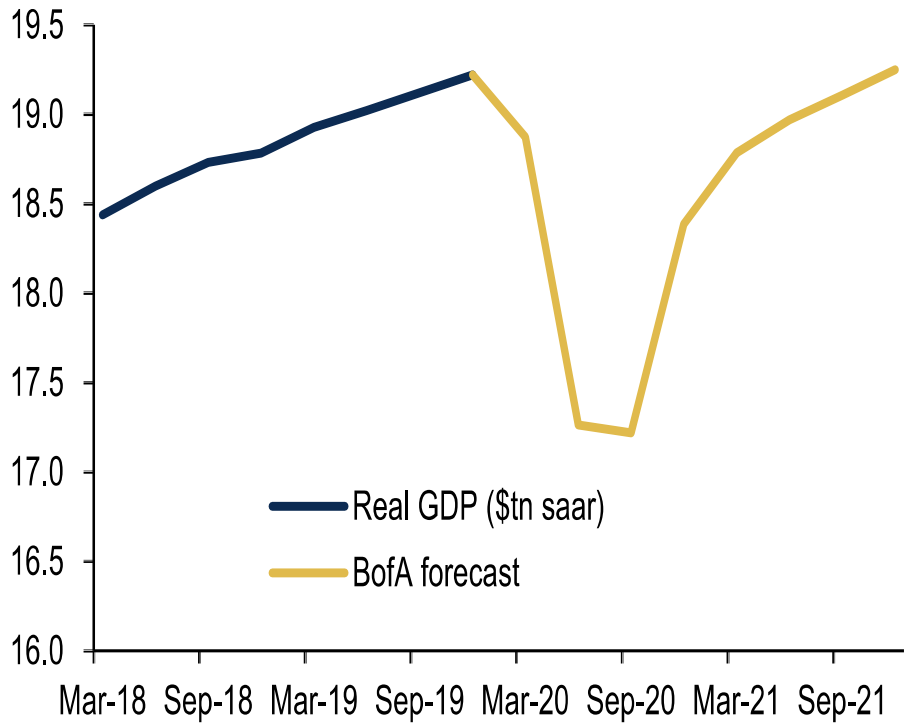
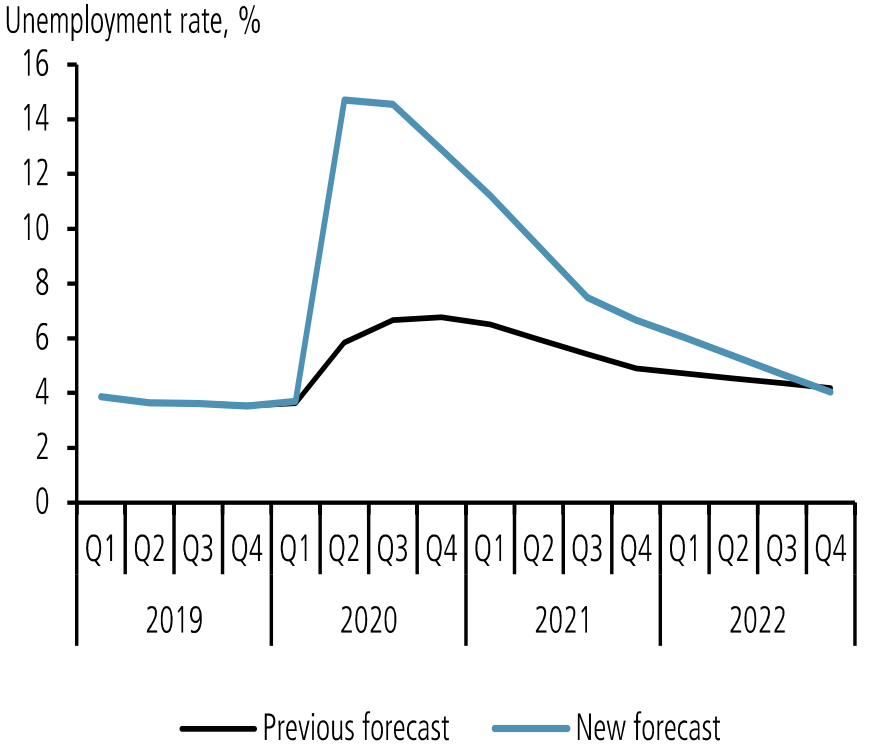
Chart 2: Real GDP trajectory (2012$ saar, trillions)



Source: BofA Global Research, Bureau of Economic Analysis

Figure 3: Unemployment rate



Source: BLS, UBS estimates

Hysteria IS the new normal

For the U.S. Economy, Storm Clouds on the Horizon

Here's a list of recession signals that are flashing red

SEP 2 2019 • 8:30 AM EDT | UPDATED TUE, SEP 3 2019 • 11:31 AM EDT

Economy at 'very real risk' of falling into recession in late 2020, UCLA forecast says

in World Economy News 15/03/2019

Market Outlook

...arket Crisis 2.0: The Jury ...2019

Real Estate Markets Cooling Across The Country, And It's ...t The Winter Effect

Goldman Sachs economists say fears rise that U.S.-China trade war leading to recession

Economy

Trump is heading into reelection with a deep manufacturing recession

September marked the worst month ...

Trump cou... ...bal recession if he ... more China tariffs, ...nomists predict

Morgan Stan... escalates, a recession will be here in 9 ...ths

Housing Is Already in a Slump. So It (Probably) Can't Cause a Re...

DoubleLine CEO Jeffrey Gundlach warns of recession driven by 'cocktail of eco...

PUBLISHED TUE, MAY 14 2019 • 6:44 PM EDT

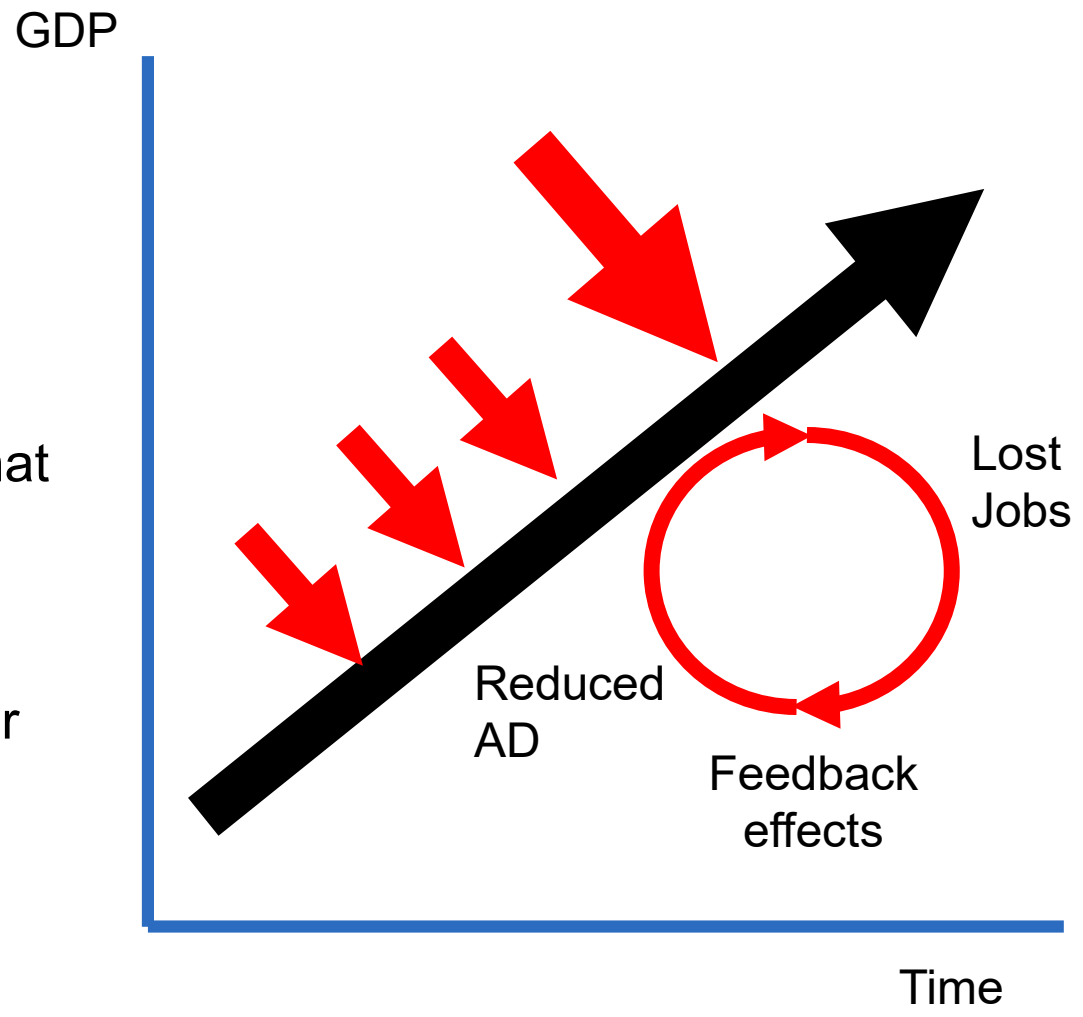
Southern California home sal... crash, a warning sign t...

How to solidify your financial plan in case the trade war sparks a recession

"The economy is on the precipice and this would just push us over into the abyss. I don't think we're very far from recession as it is," Moody's Analytics chief economist Mark Zandi tells me.

What is a Recession?

- Growth is the default
  - —Resource accumulation, increases in efficiency
  - —Always some negative shocks, but not enough to offset growth forces
- Recessions are anomalies
  - —Caused by negative shock to the system that is large, rapid and sustained
  - —Compounded by negative feedback loop
  - —If the is a major shift in the structure of the economy output can stay below potential for years
  - —Employment is a lagging indicator
  - —Local economy's exposure depends on industry mix and structure of labor force



Roots of the great recession

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- $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

The Shock Then

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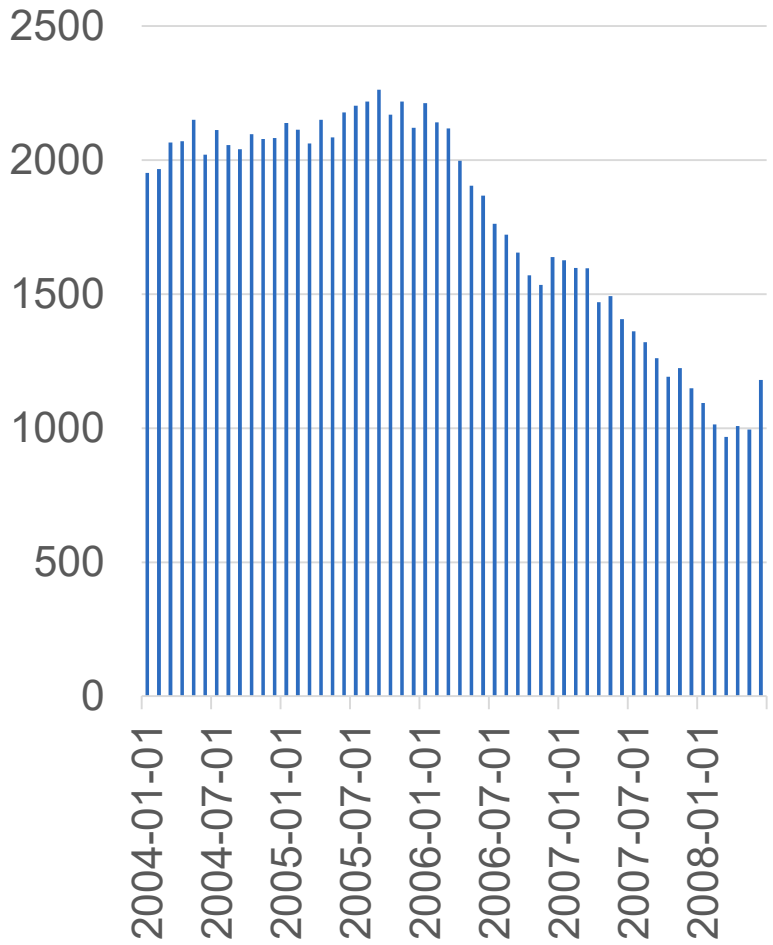
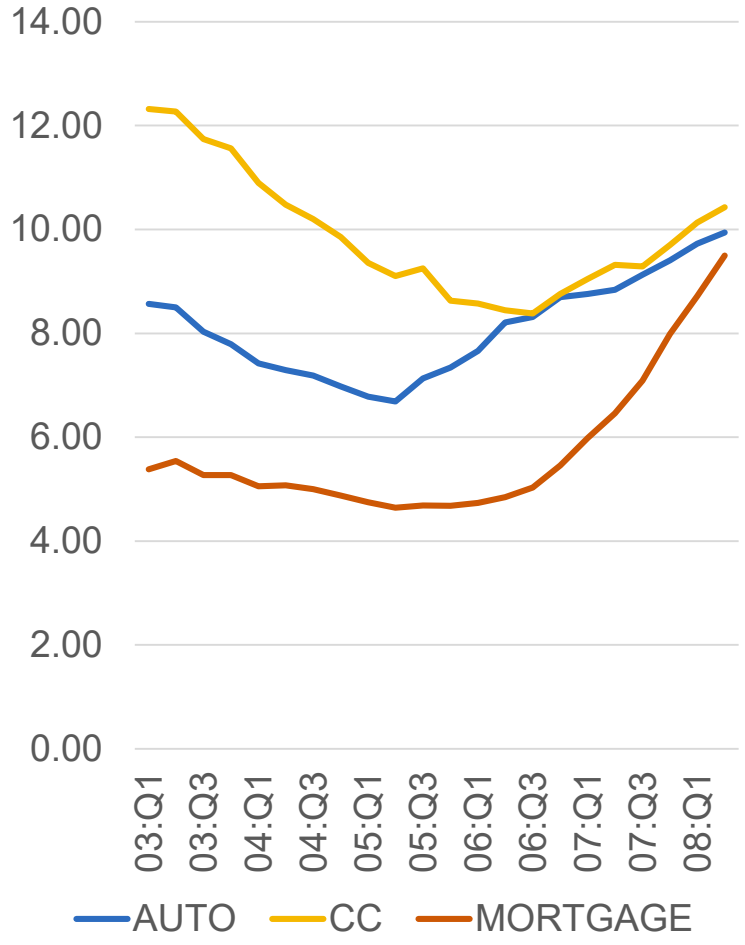
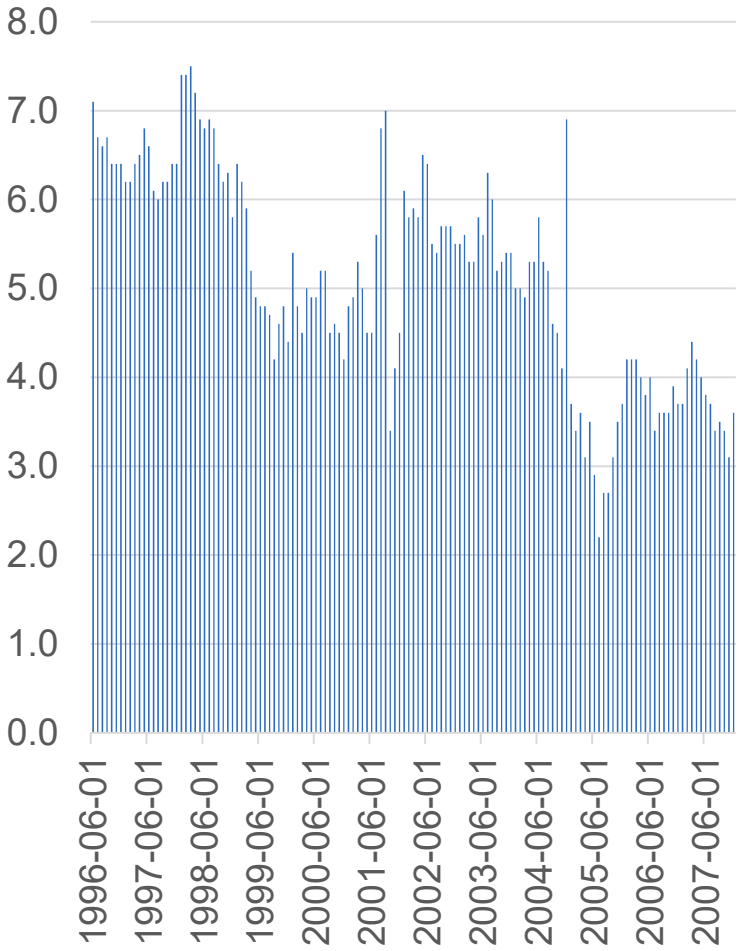
Housing Permits



Delinquency Rates



US Savings Rate



The Impact

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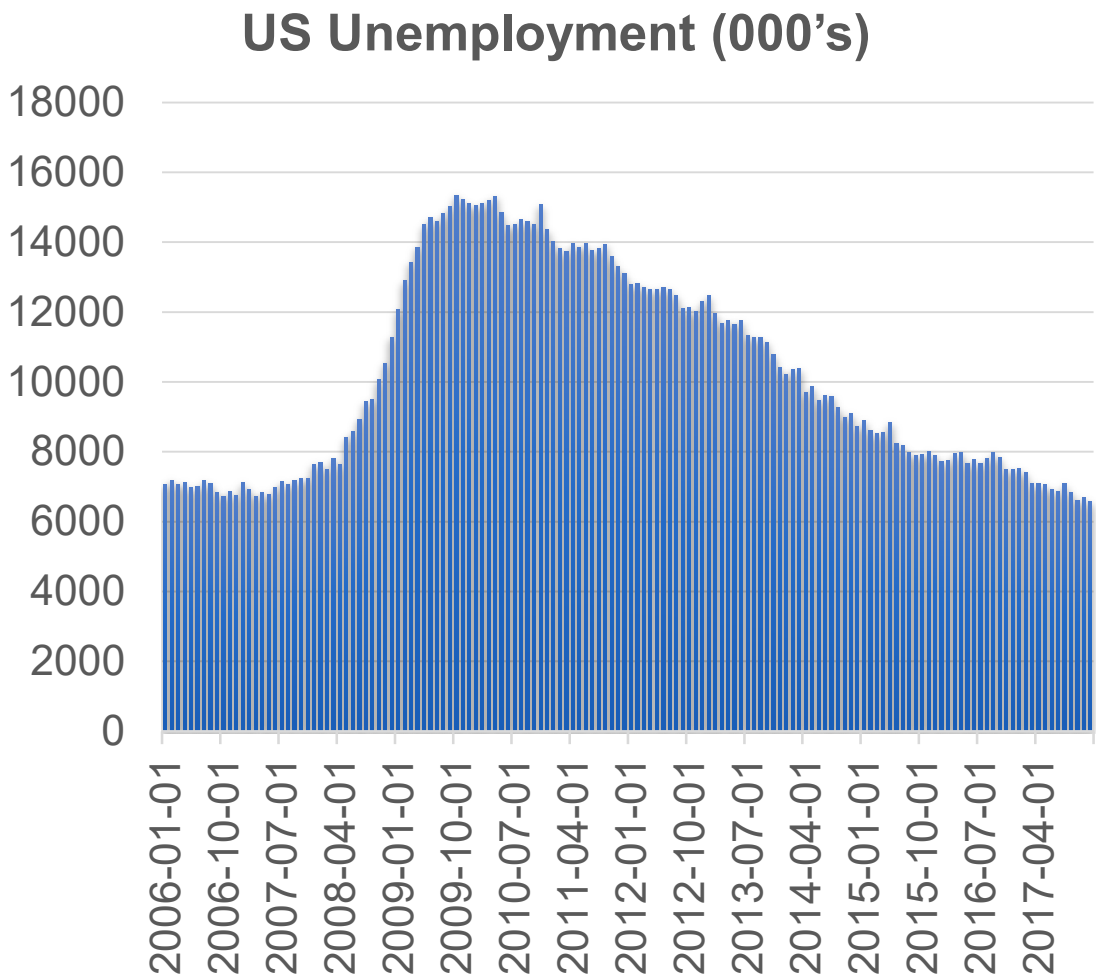

Insured Claims for Unemployment

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This is not a typical business cycle

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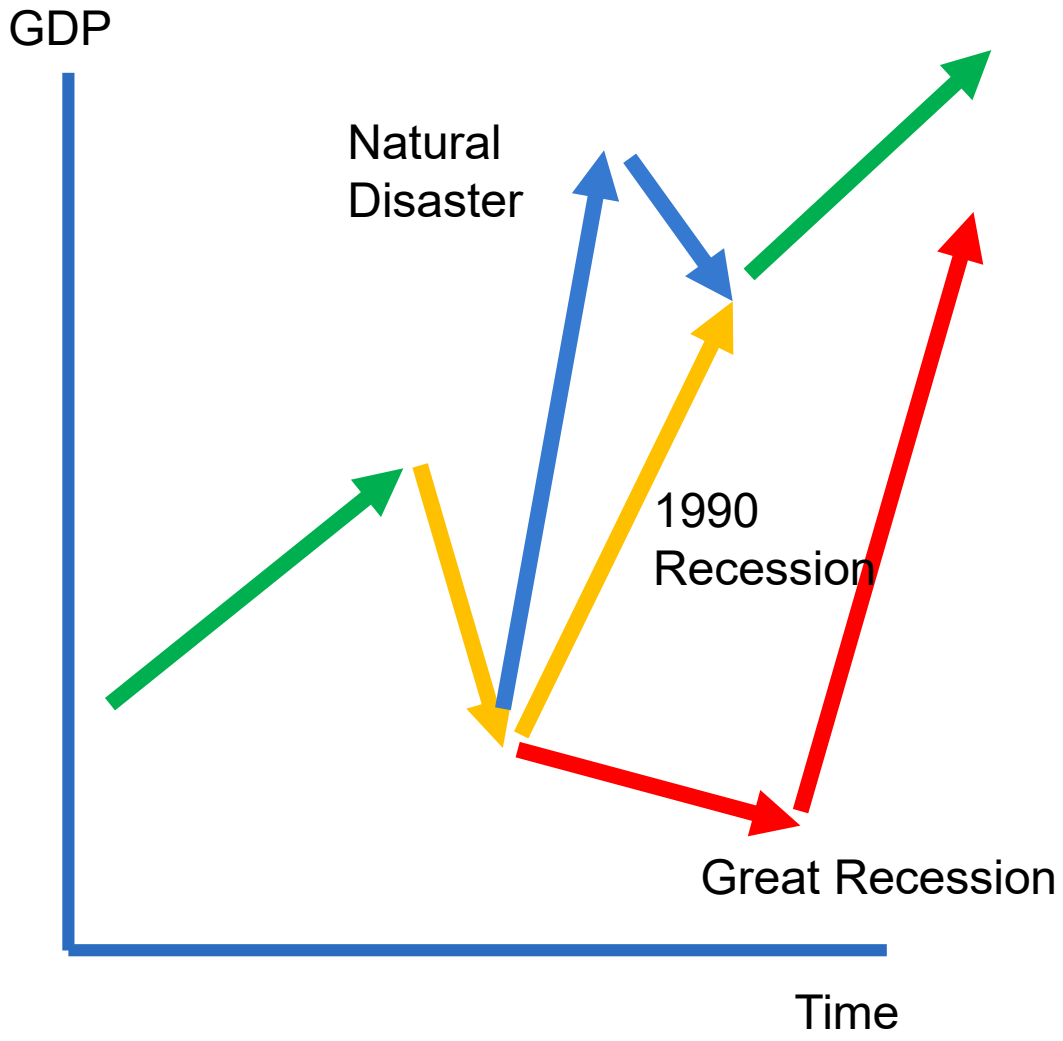
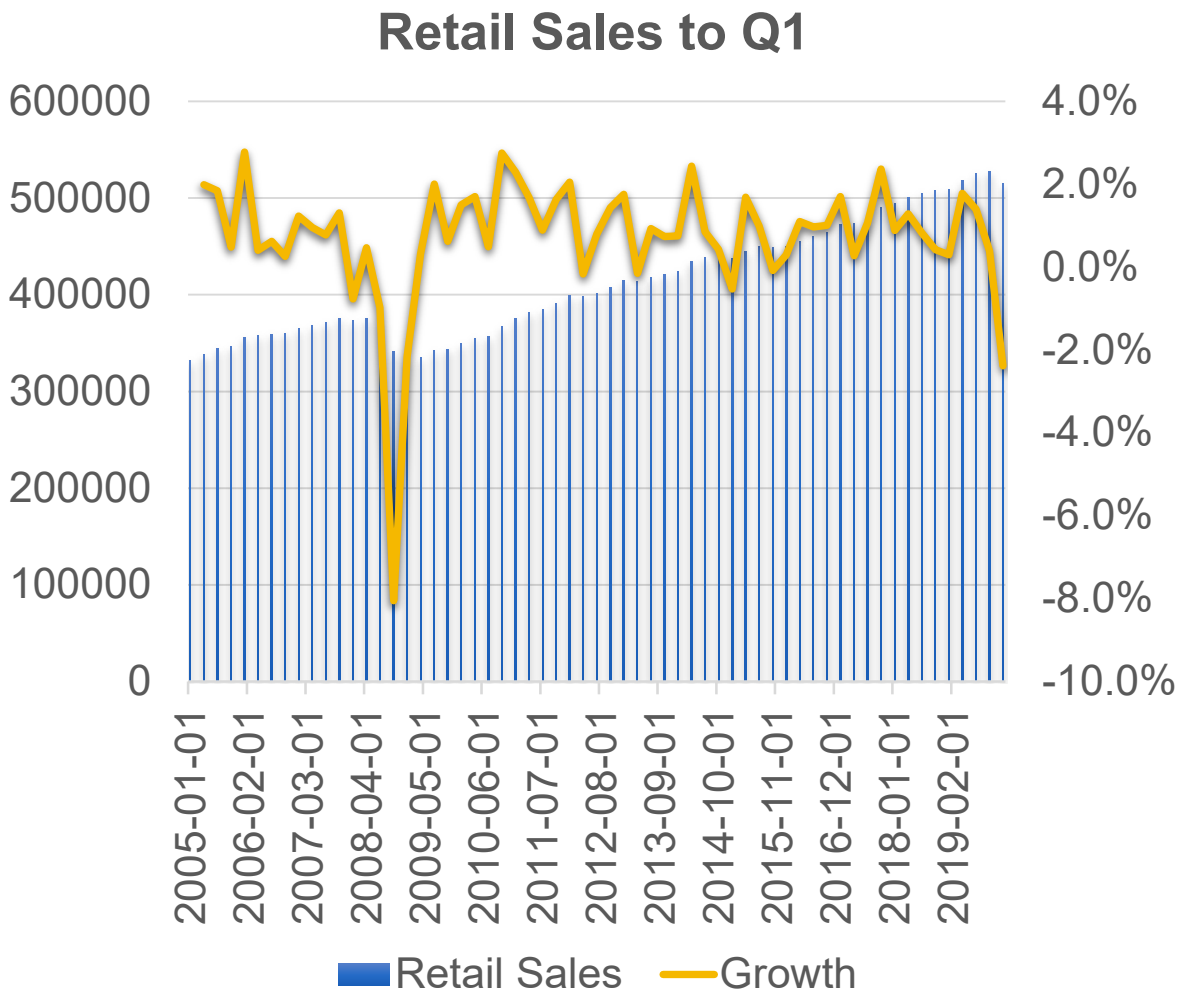
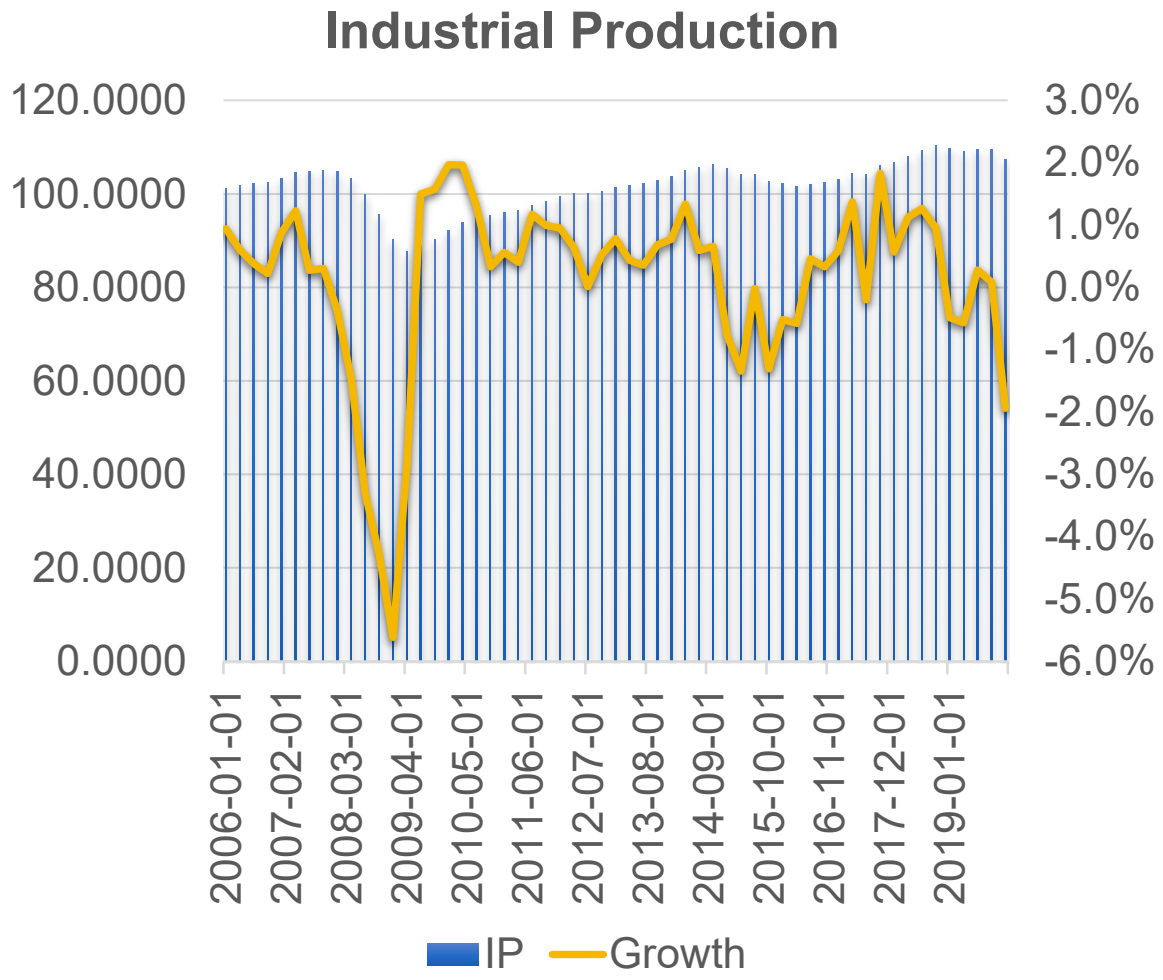
- Shock to system is a function of public health mandates
  - —Very Large, Very Rapid—but not Sustained
  - —Job losses being seen are not (yet) permanent
  - —True sustained harm to economy is building up now
  - —Financial shocks, Supply Chain issue
  - —Still a broad range of potential outcomes
- How bad will it get?
  - —How deep is the shutdown, how long?
  - —How healthy the economy was prior to the pandemic
  - —What the government does to intervene
  - —Will there be a major shift in post virus spending patterns



How deep? Q1 Estimates





How Deep? Q1 Estimates

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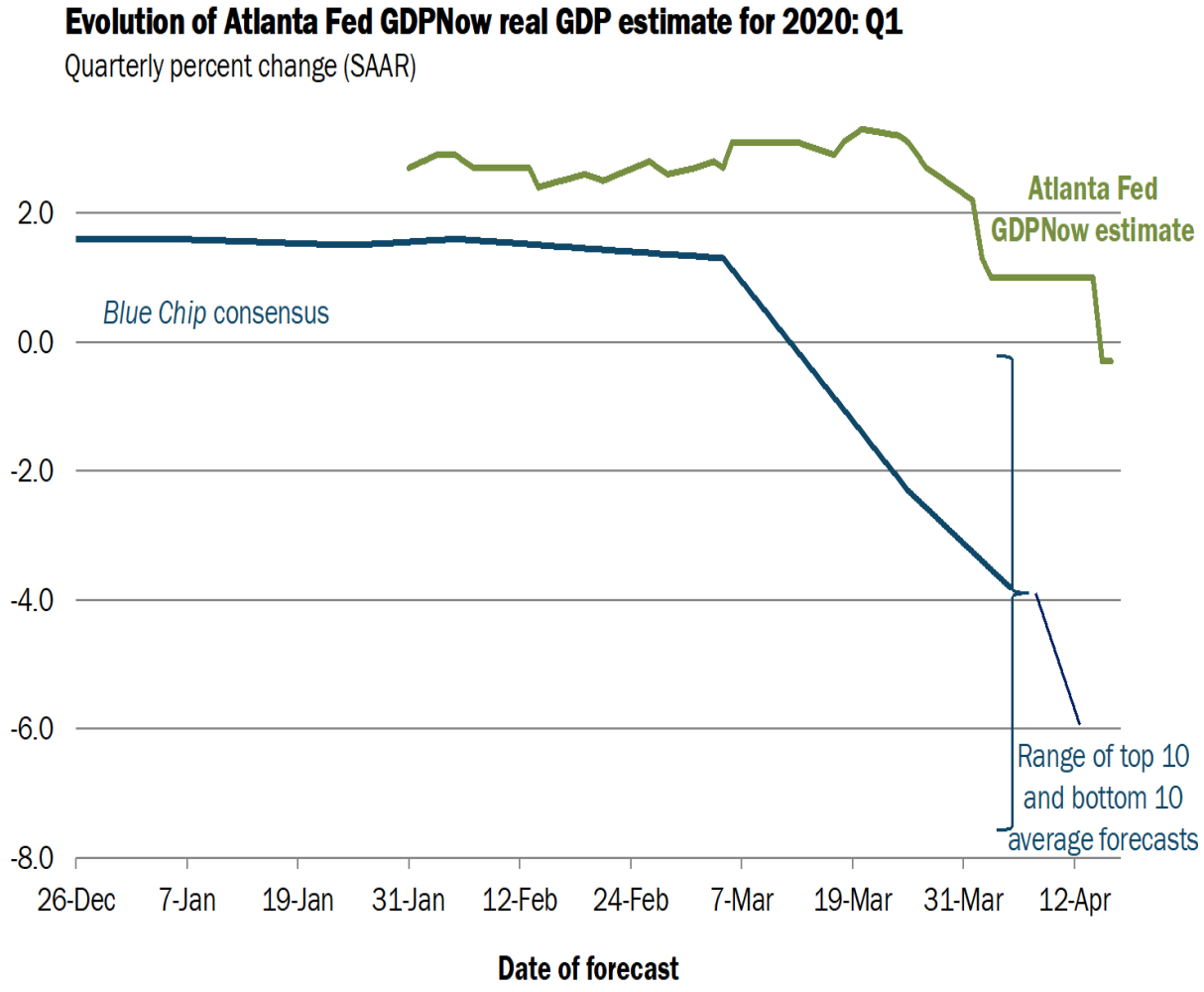
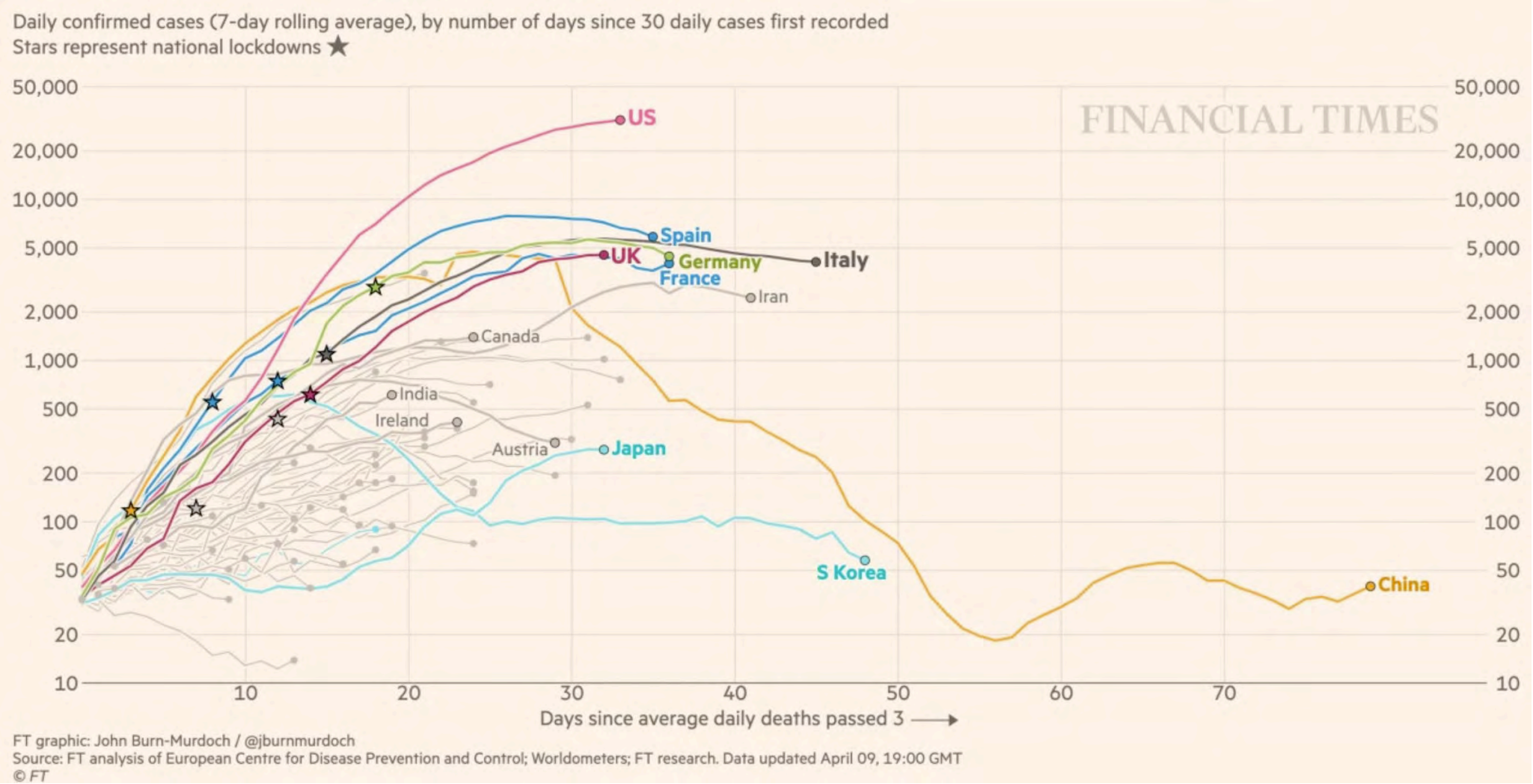
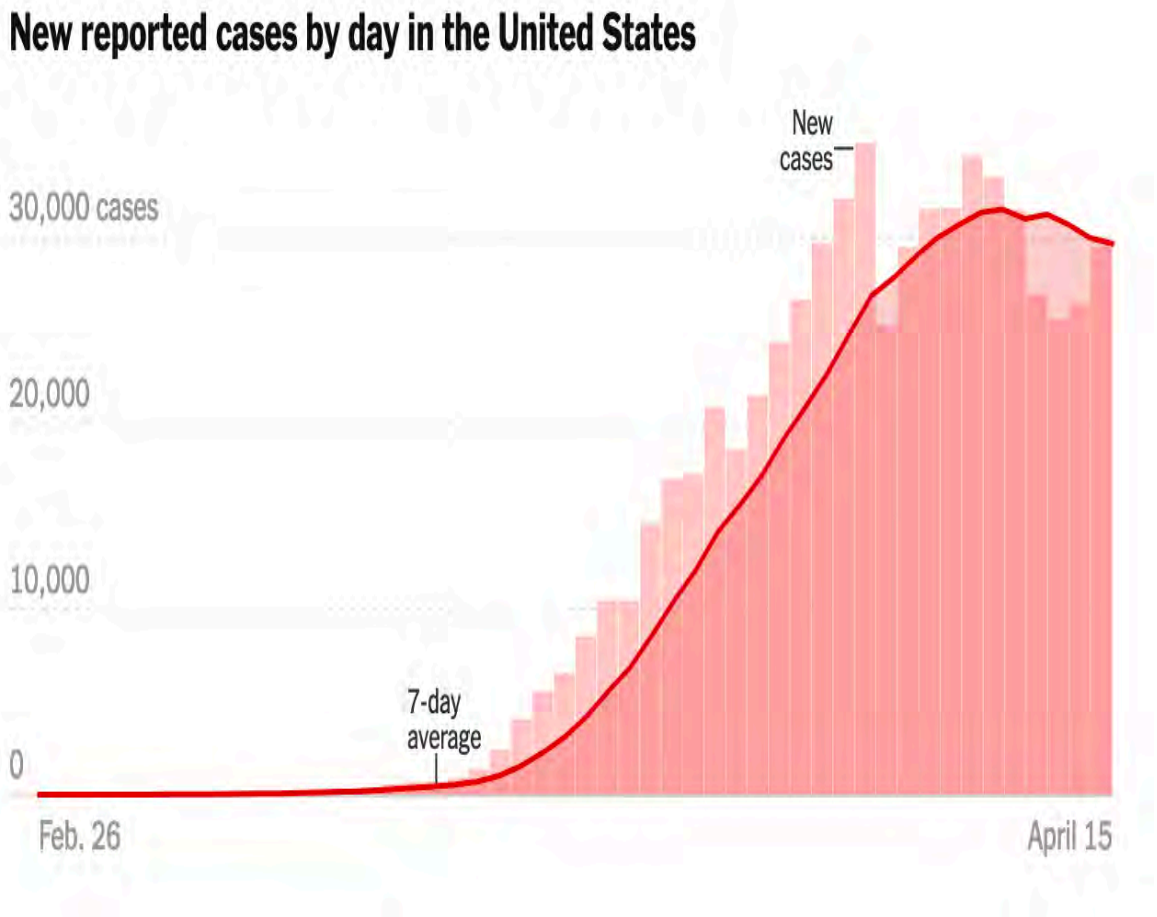
	March		
Total nonfarm	151,786	-701.0	-0.5%
Scenic and sightseeing transportation	36	-1.4	-3.8%
Food services and drinking places	11,866	-417.4	-3.4%
Accommodation and food services	13,930	-446.3	-3.1%
Travel arrangement and reservation	216	-6.5	-2.9%
Leisure and hospitality	16,393	-459.0	-2.7%
Furniture and home furnishings stores	460	-10.4	-2.2%
Offices of dentists	960	-17.2	-1.8%
Child day care services	1,022	-18.6	-1.8%
Support activities for mining	310	-5.4	-1.7%
Sporting goods, hobby, book, music	538	-9.2	-1.7%
Temporary help services	2,893	-49.5	-1.7%
Accommodation	2,065	-28.9	-1.4%
Nonresidential building	836	-10.7	-1.3%
Clothing stores	1,272	-16.3	-1.3%
Rail transportation	158	-2.1	-1.3%
Coal mining	50	-0.6	-1.2%
Mining and logging	708	-7.0	-1.0%
Other ambulatory health care services	322	-3.1	-1.0%



How Long?


Daily confirmed cases (7-day rolling average), by number of days since 30 daily cases first recorded
Stars represent national lockdowns ★
FINANCIAL TIMES
50,000
20,000
10,000
5,000
2,000
1,000
500
200
100
50
20
10
US
Spain
UK
Germany
France
Italy
Iran
Canada
India
Ireland
Austria
Japan
S Korea
China
10
20
30
40
50
60
70
Days since average daily deaths passed 3 ⟶
FT graphic: John Burn-Murdoch / @jburnmurdoch
Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 09, 19:00 GMT
© FT

How Long?



- We are already over the peak of new cases
  - —Efforts are paying off
  - —Need to see substantial declines
- Will there be another major resurgence?
  - —Running down the learning curve
  - —Testing systems in place
- Mid-May for partial reopening
  - —Some activities will be allowed
  - —Some controls will be left in place
  - —Look for small outbreaks
- Q3 will be largely open for business
  - —Some lagging behavioral issues

Q2 GDP: The Wildcard Est -20 to -25% SAAR

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Compensation by Sector	2019:Q3		
Government	2063.7	1.0	2063.7
Health care	1321.2	1.2	1585.4
Manufacturing	1145.0	0.9	1030.5
Professional services	1122.6	1.0	1122.6
Finance and insurance	849.9	0.9	764.9
Retail trade	654.0	0.5	327.0
Construction	588.6	0.9	529.7
Wholesale trade	566.6	0.8	453.2
Administrative	492.8	1.0	492.8
Accommodation and food	422.2	0.5	211.1
Information	407.7	1.0	407.7
Transportation warehousing	396.3	0.9	356.7
Management of companies	367.8	1.0	367.8
Other services	338.0	0.8	253.5
Educational services	207.4	1.0	207.4
Real estate	168.2	0.9	151.4
Arts, entertainment	122.8	0.5	61.4
Mining, quarrying	87.3	0.8	69.8
Total	11322.1		10456.8
			-7.6%

Spending by Sector			
Personal consumption	13998.7		-8%
Household consumption expenditures	13555.7		
Health	2933.1	1.1	3226.41
Housing, utilities, and fuels	2588.8	1	2588.8
Financial services and insurance	1111	1	1111
Food purchased for off-premises	1003.4	1.25	1254.25
Food services and accommodations	973.3	0.2	194.66
Other goods and services	893.4	0.5	446.7
Motor vehicle operation	705	0.8	564
Furnishings, household equipment	572.6	0.5	286.3
Motor vehicles	446	0.2	89.2
Video and audio equipment	359.2	1.2	431.04
Education	304	1	304
Communication	273.5	1.1	300.85
Sports and recreational goods	250.4	0.2	50.08
Membership clubs, sports centers,	211	0.2	42.2
Gambling	142.6	0.2	28.52
Air transportation	104.2	0.1	10.42
Public transportation	56.6	0.5	28.3
Package tours14	13.7	0	0
Net foreign travel and expenditures	-20.9	0	0

How rapid a return to normalcy?

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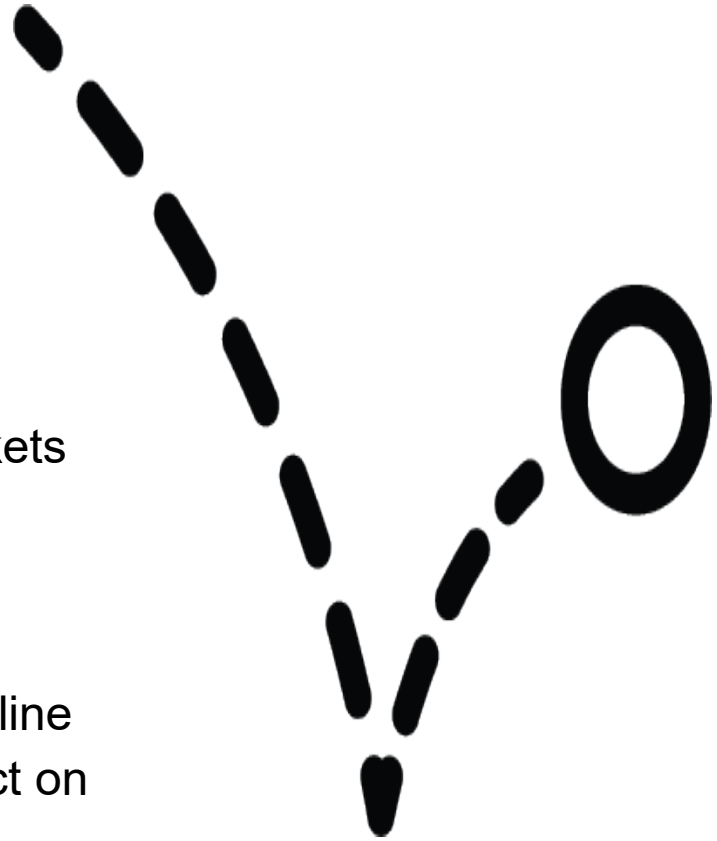
The Bad

- Distributional effects
  - —Some workers lose wealth / others build
  - —Will some businesses stay closed?
- Financial Effects
  - —Lockdown in the credit markets
  - —Defaults / loan losses
- Supply chain effects
  - —Input purchases have secondary effects down the line
  - —Global shock have an impact on exports / imports



The Good

- Economy fundamentally sound
  - —Households with low debt, clean credit
  - —Overall economy well-balanced
  - —Real estate solid
  - —Labor shortage problem
- Government stimulus
  - —$2 trillion package Fiscal, $2 trillion plus monetary
  - —Worker / business financial supports
  - —Household subsidies

Real 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

Consumer Balance Sheets

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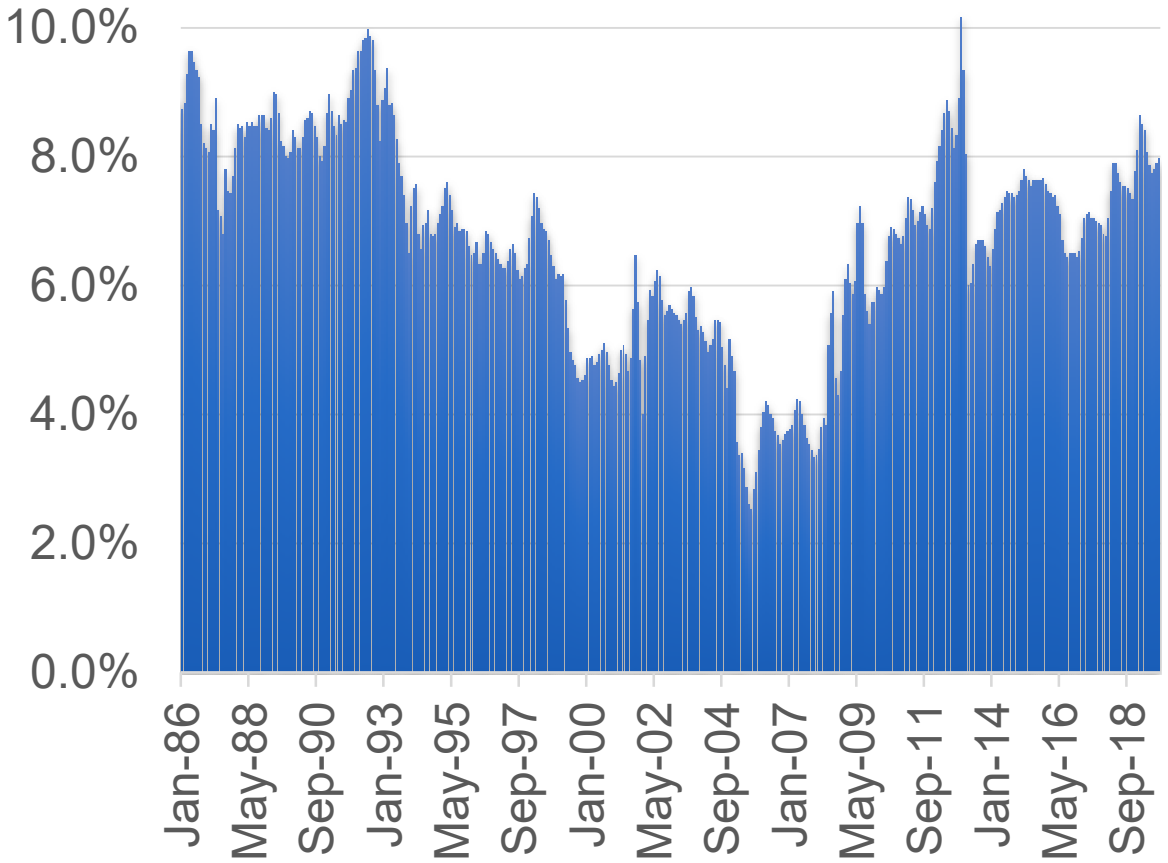
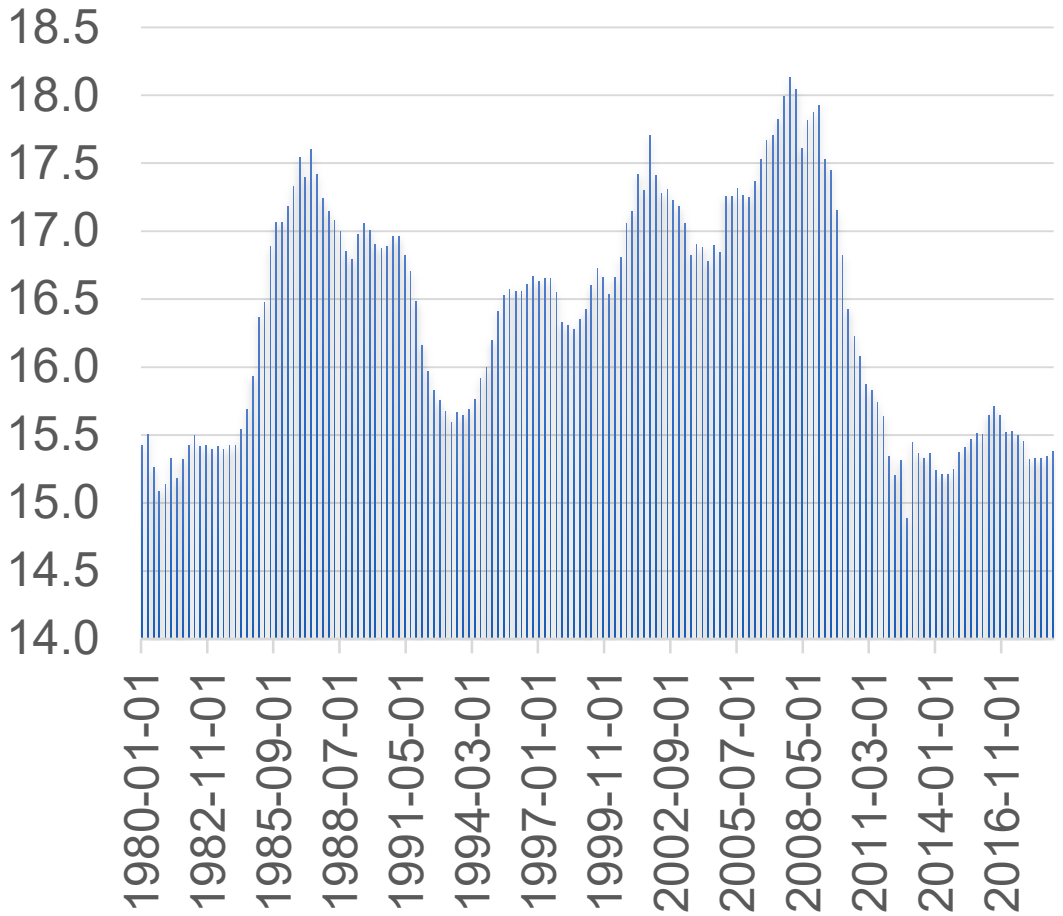
Household Savings Rate



Financial Obligations % DPI



Source: FRED

Distributional Aspects

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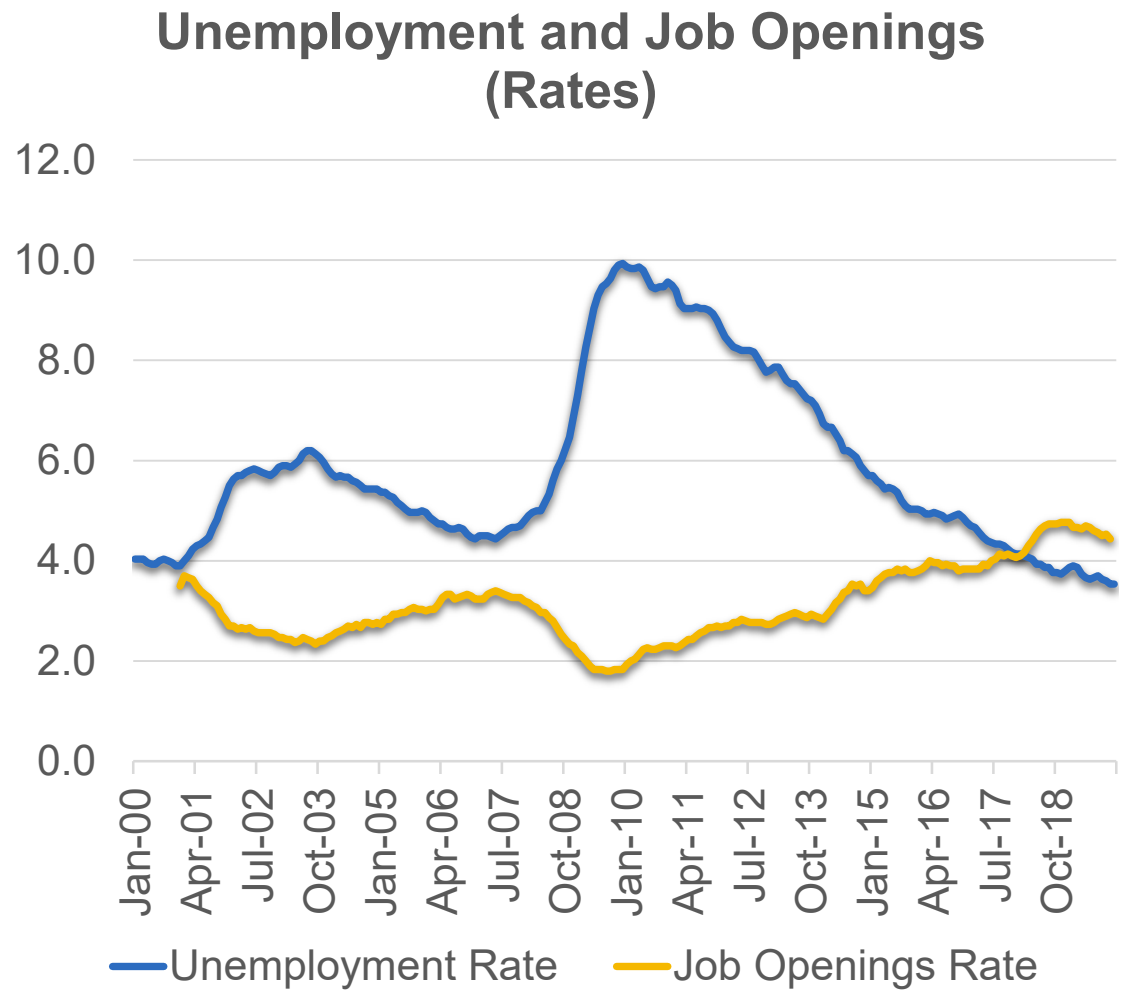
Ratio of debt payments to family income

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

Category	2018	3 Yr Growth
Foreign travel	$ 187	29.0%
Restaurants	$ 822	18.0%
Recreation	$ 1,204	15.0%
Housing	$ 2,224	14.7%
Furnishings	$ 573	14.6%
Medical products	$ 581	14.5%
Air transportation	$ 104	13.5%
Accounting	$ 39	12.9%
Education	$ 304	12.3%
Legal services	$ 107	10.5%
Motor vehicles	$ 446	10.3%
Food	$ 1,003	9.1%
Clothing	$ 408	6.3%
Communication	$ 31	5.5%

Labor Markets



Source: BLS, JOLTS

Missing Workers?

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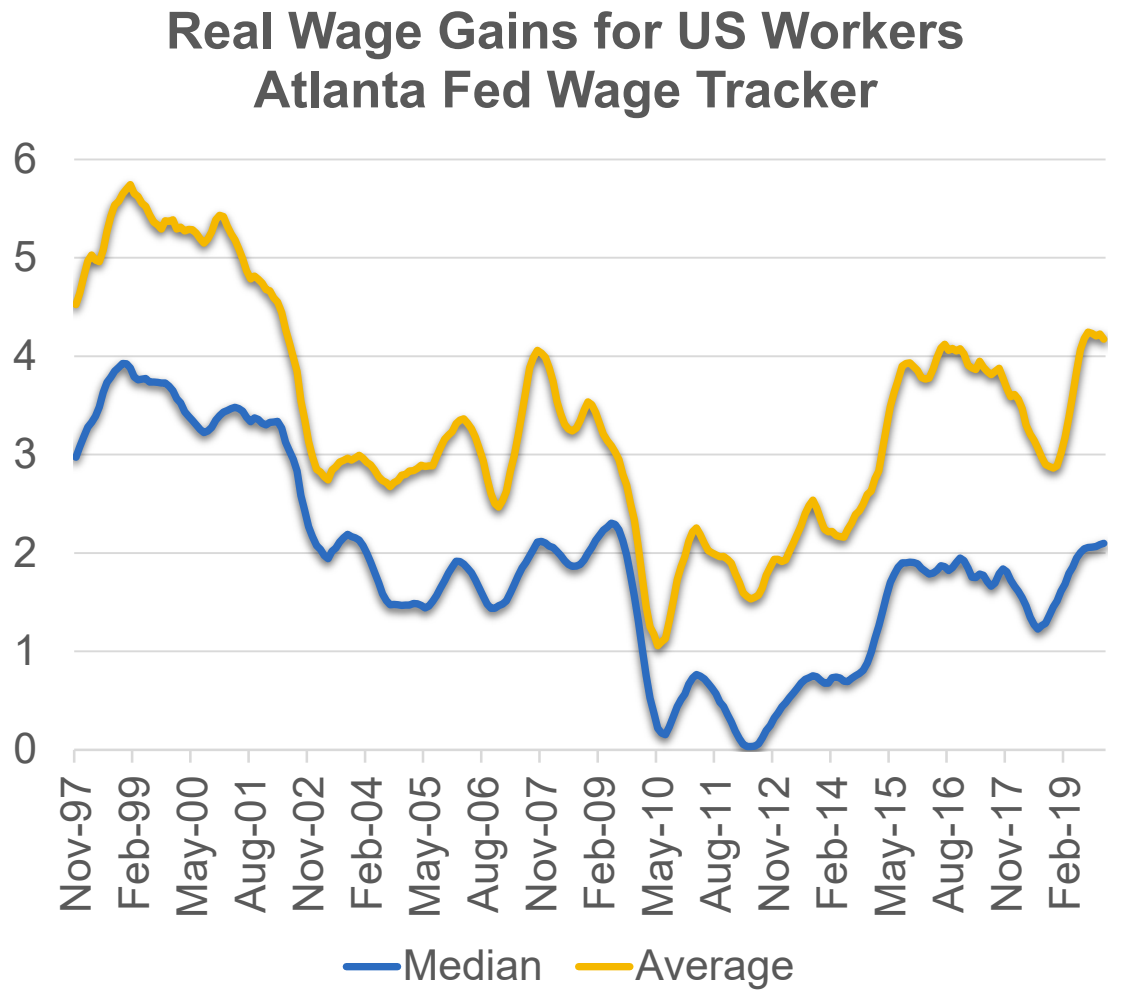
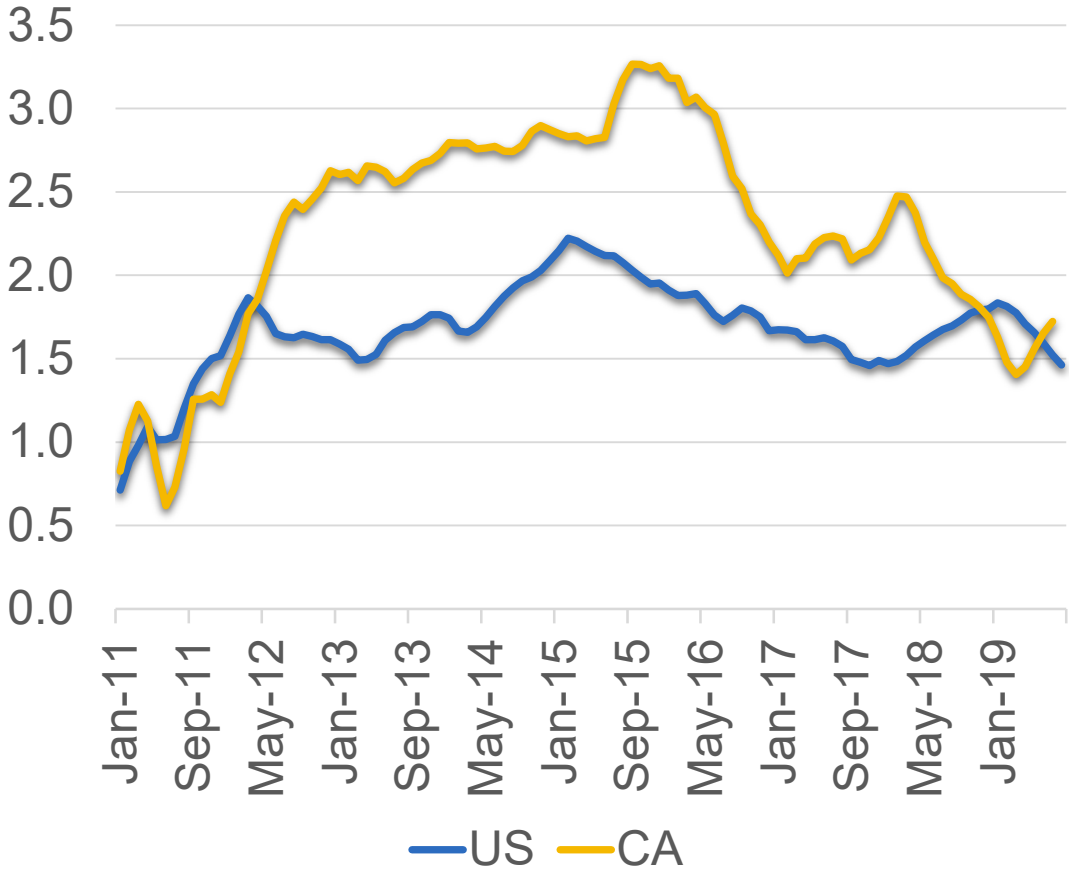


California Slowing Job Growth

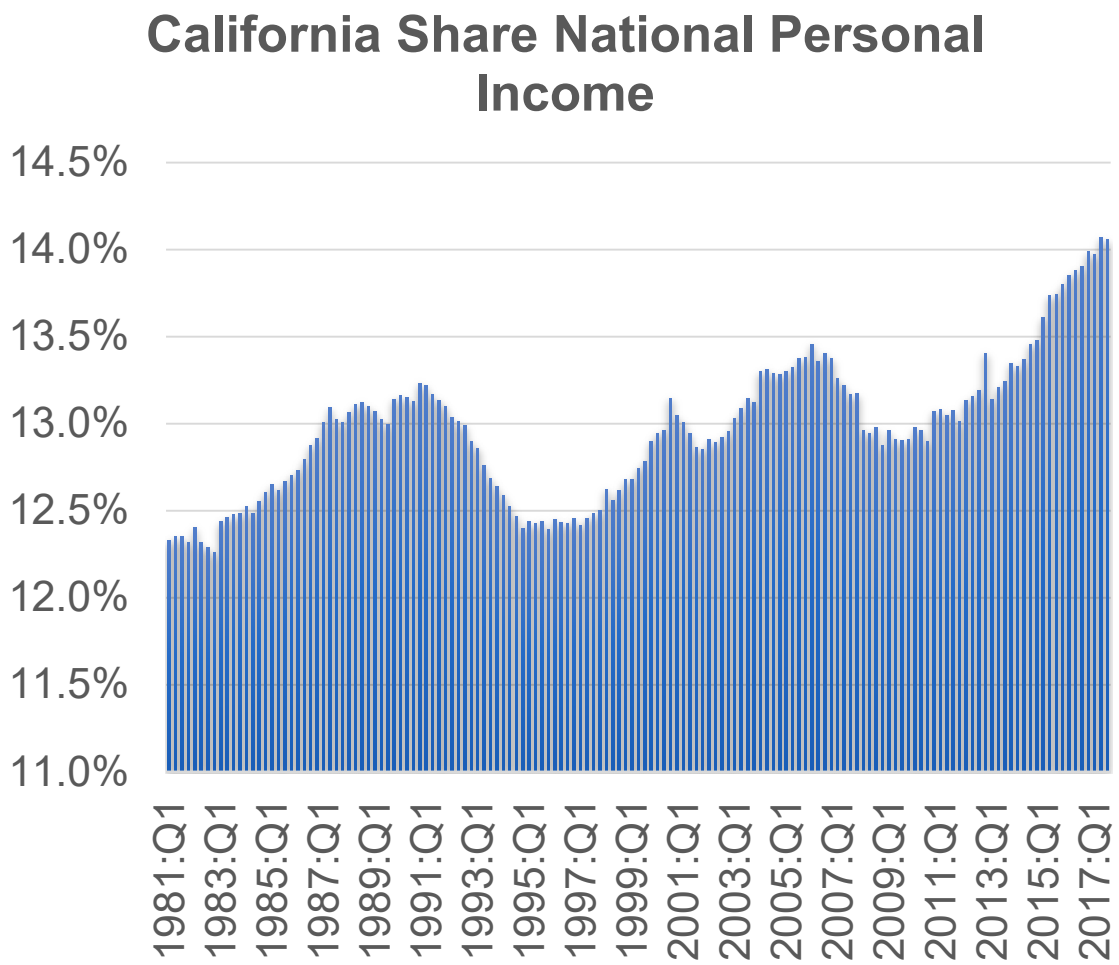
Payroll Job Growth

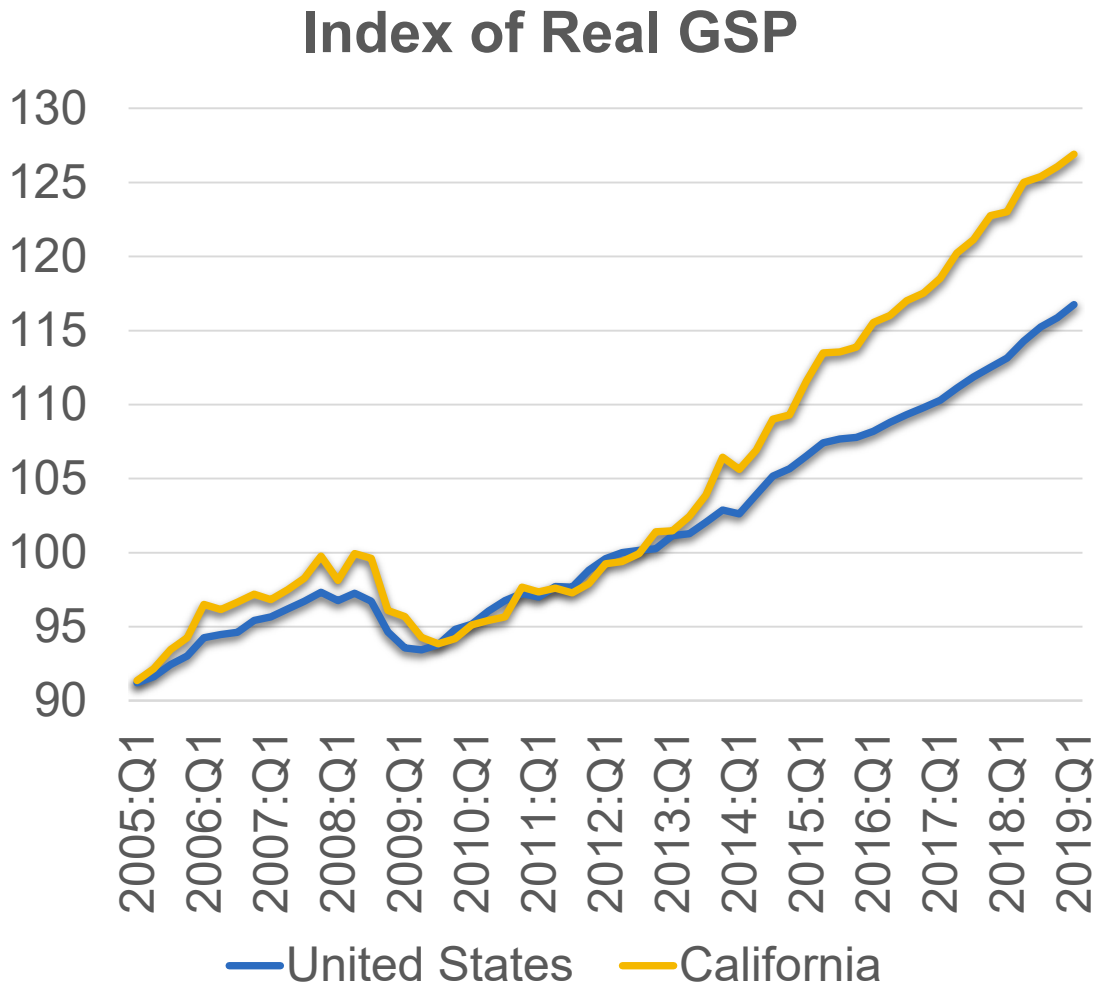


Unemployment Rates

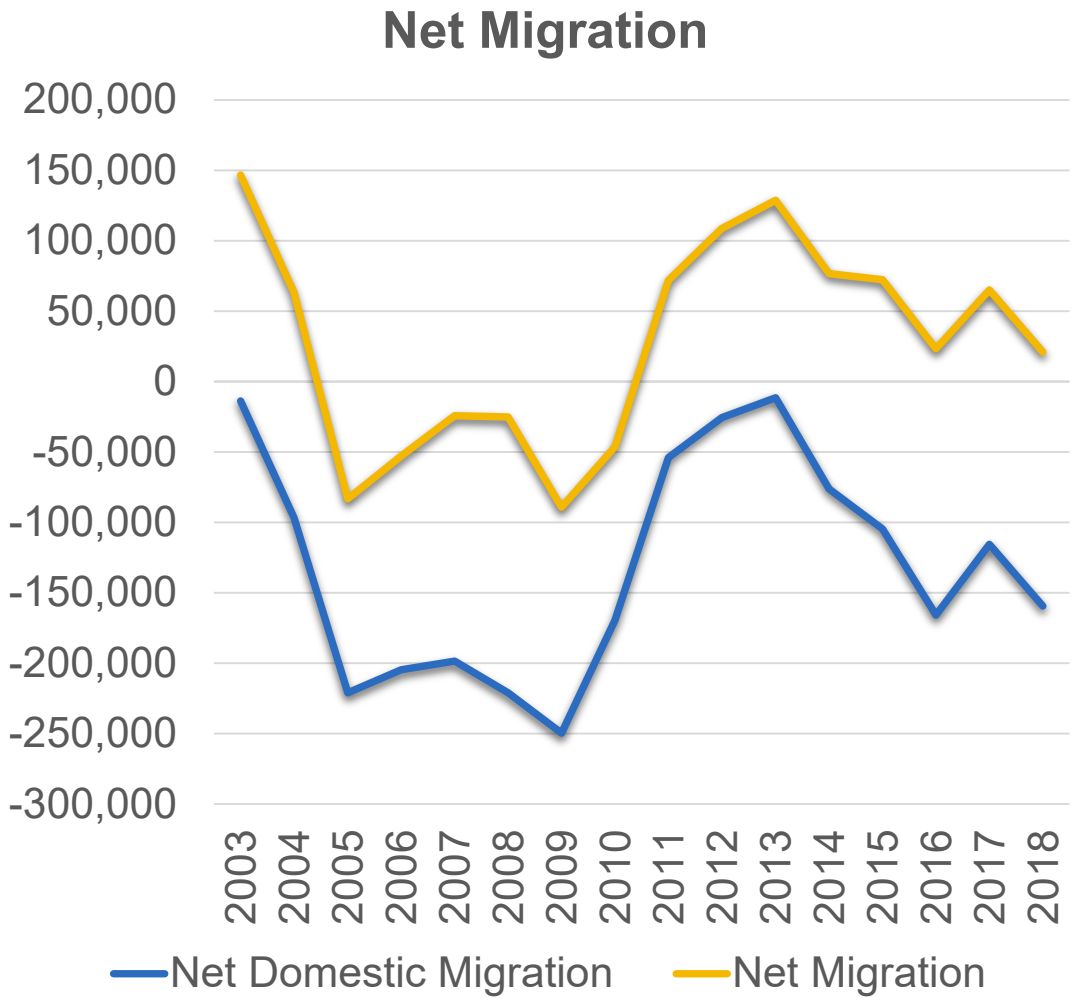
	Curr	Low 90-15		Curr	Low 90-15
Modesto	6.2	7.4	Hanford	7.8	8
Yuba	6.9	8.1	Sacramento	3.6	3.8
Redding	4.6	5.7	San Francisco	2.1	2.3
Chico	4.9	5.7	Fresno	7.3	7.4
Inland Empire	4.0	4.8	**Oakland**	**2.9**	**3.0**
Stockton	6.0	6.7	San Jose	2.5	2.6
Ventura	3.5	4.2	Napa	2.7	2.7
California	**4.1**	**4.7**	SLO	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

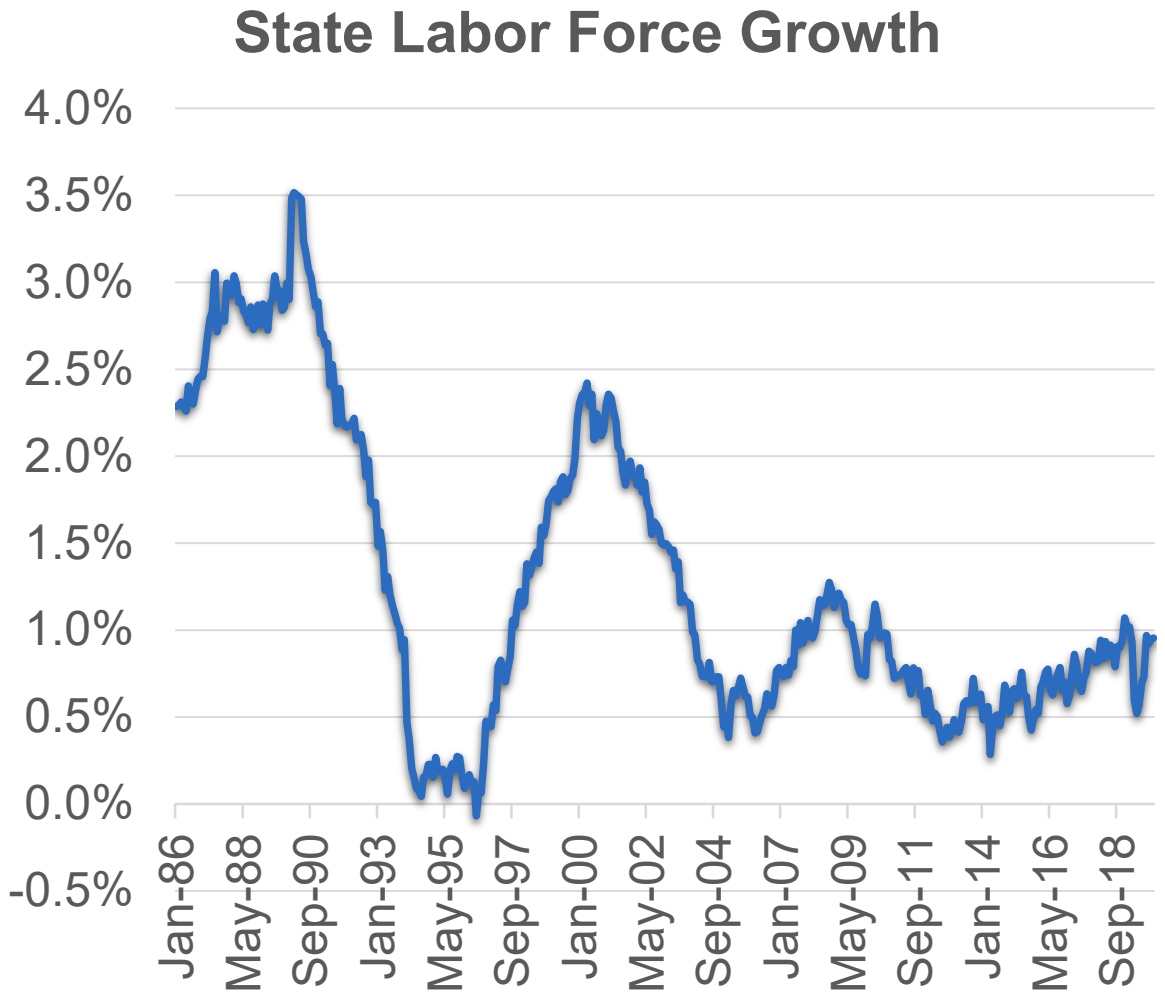
State Rankings





Labor Constraints





Local Employment Base

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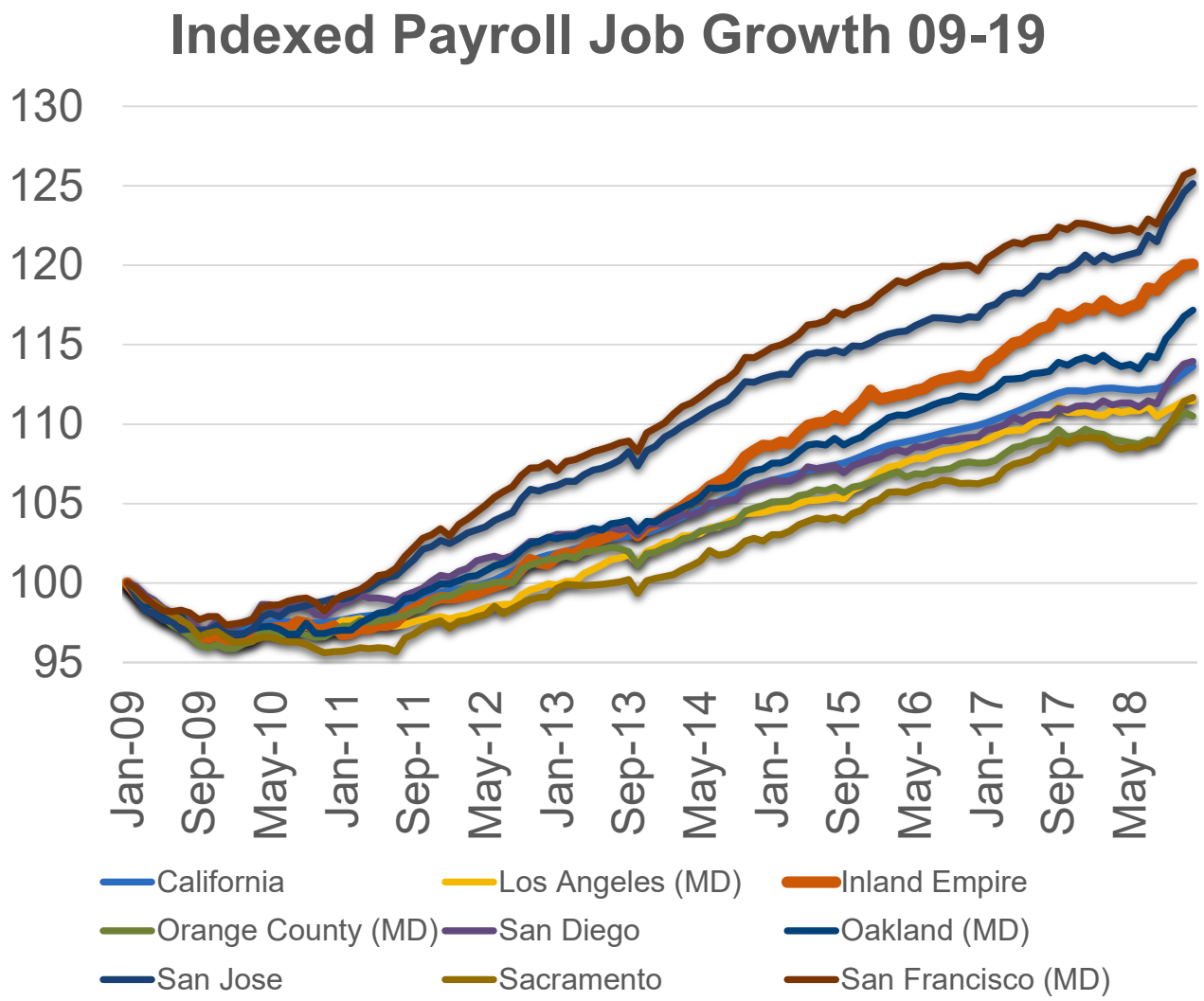

	19-Sep	5 Yr	1 Yr
Inland Empire	1,551,000	3.5%	2.3%
San Francisco	1,191,200	3.5%	3.4%
Fresno	366,900	3.1%	3.4%
San Jose	1,164,000	2.7%	3.1%
Sacramento	1,022,600	2.7%	1.8%
East Bay	1,204,600	2.5%	1.9%
San Diego	1,518,600	2.3%	1.8%
Orange County	1,673,700	2.2%	1.1%
Modesto	180,100	2.1%	0.6%
Santa Rosa	212,100	1.9%	1.1%
Los Angeles	4,569,800	1.6%	1.1%
Ventura	310,400	1.1%	0.4%

Labor Market

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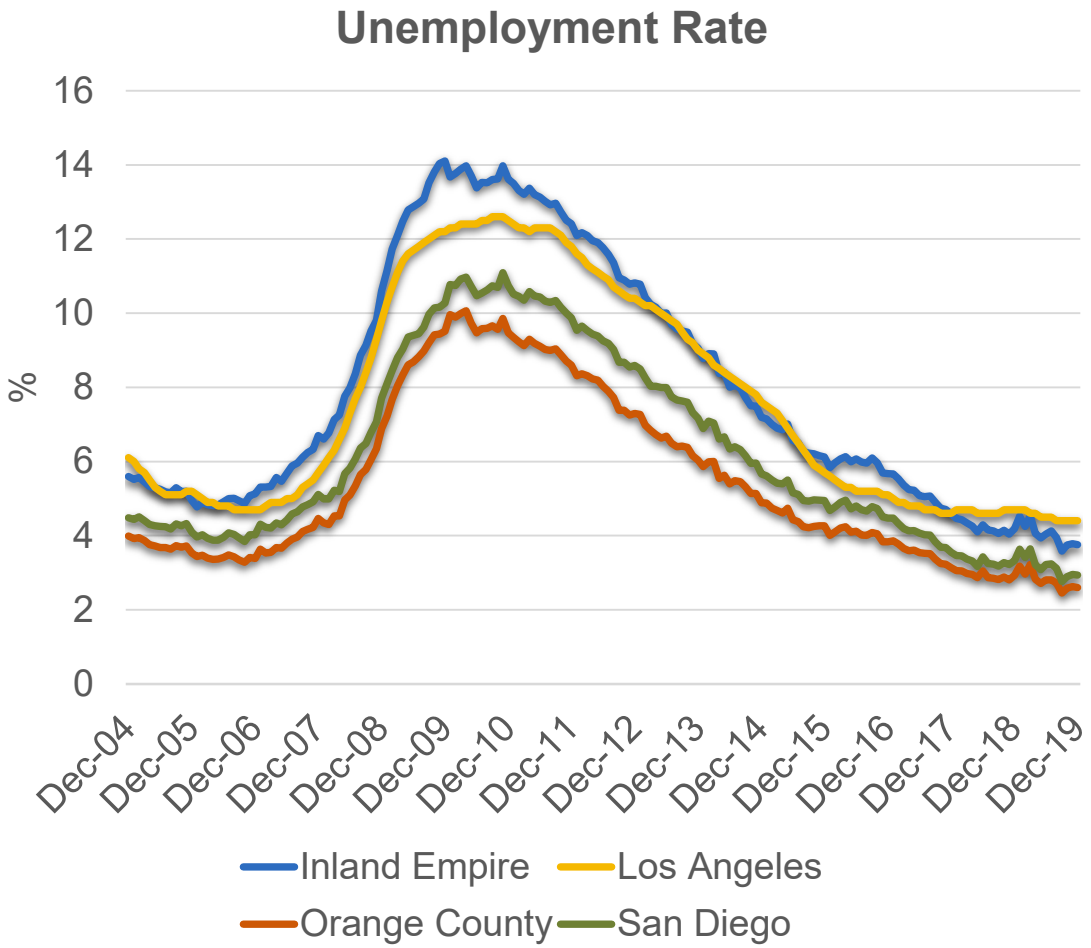
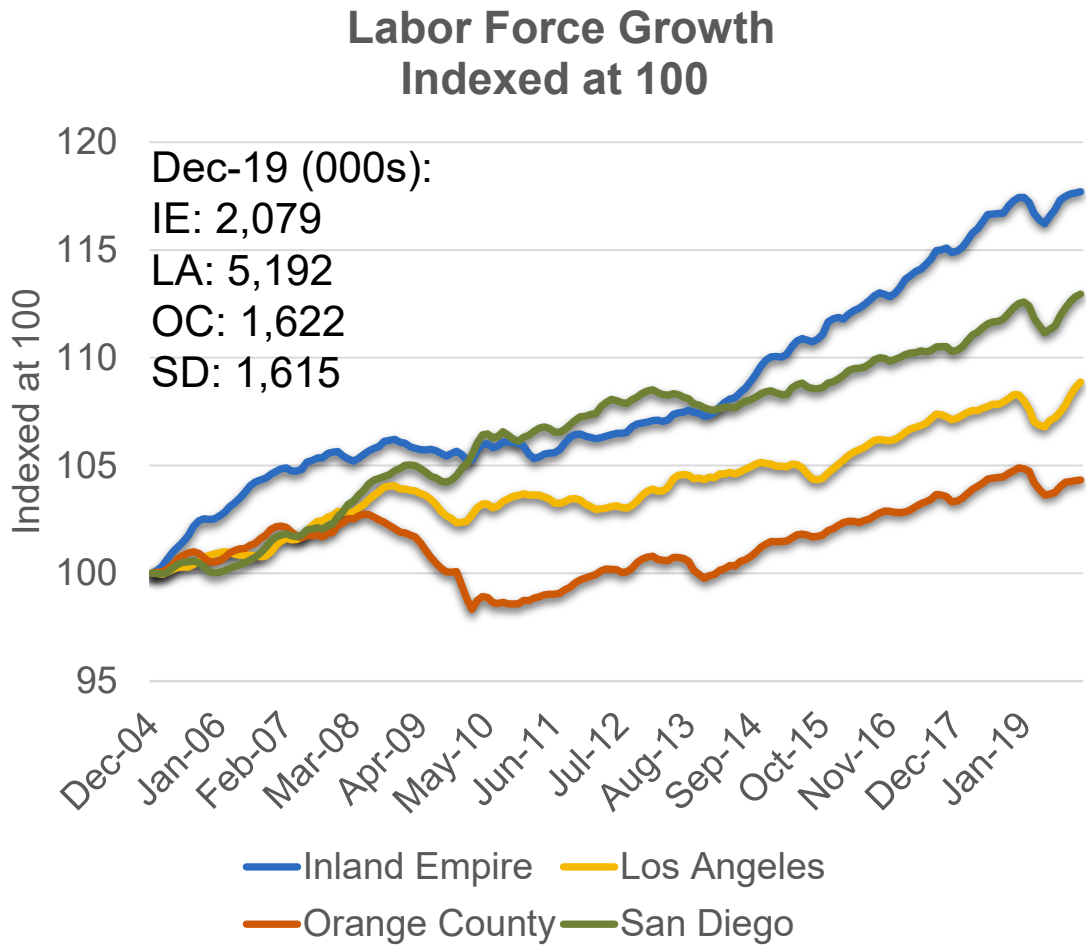
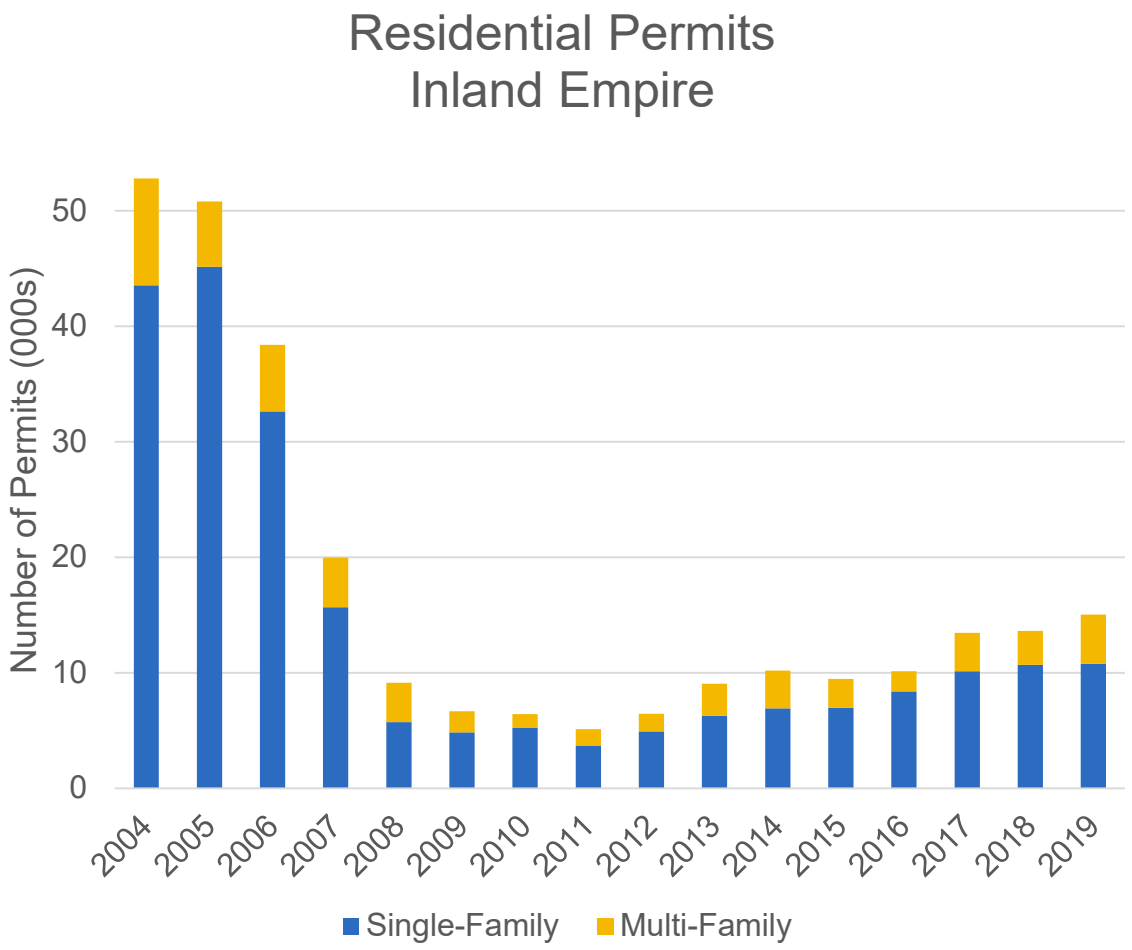




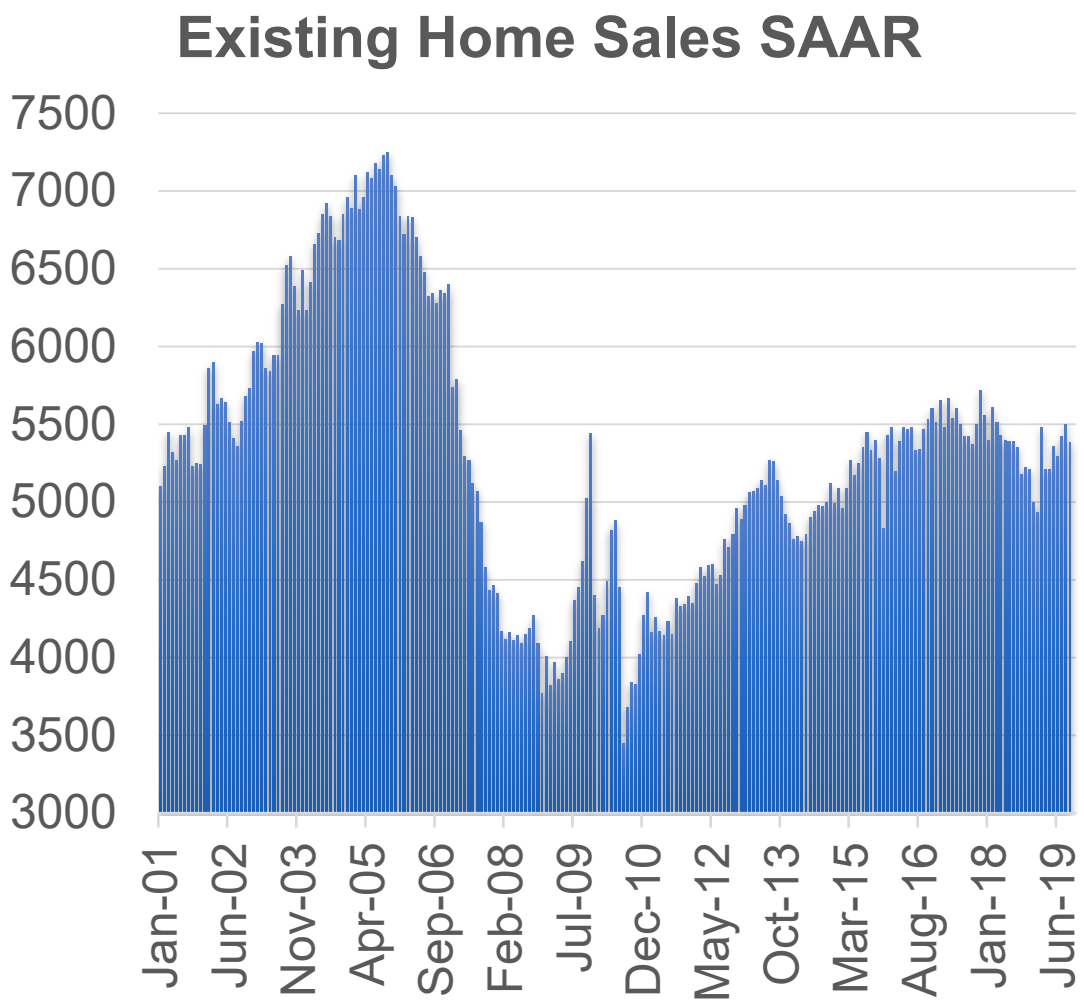
Source: California EDD

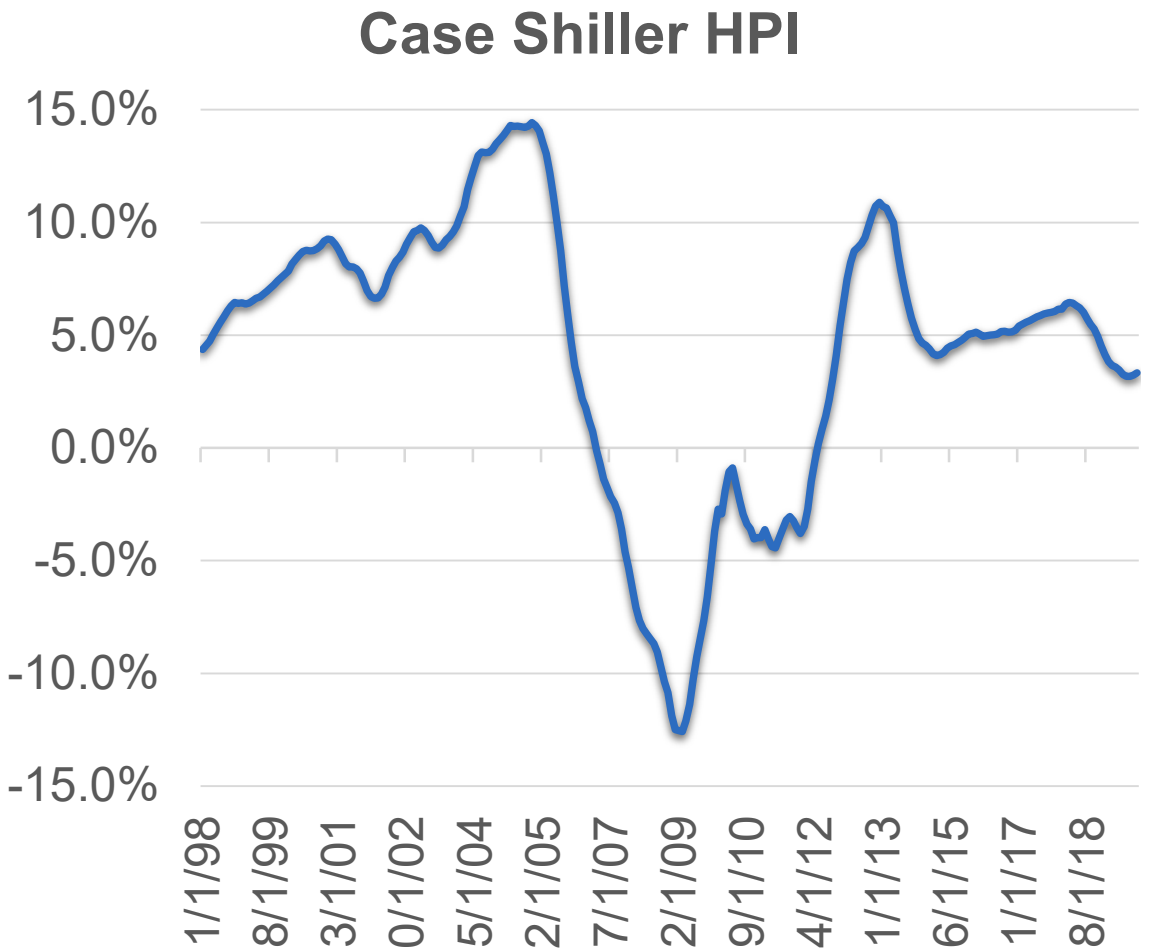
Residential Permits



County	Multi-Family		Single-Family	
	2019	1-Yr Abs. Gr.	2019	1-Yr Abs. Gr.
Orange	6,691	2,458	3,125	-843
San Bernardino	**2,087**	**685**	**4,071**	**760**
Riverside	**1,795**	**355**	**6,484**	**-935**
Los Angeles	15,804	-829	5,558	-163
San Diego	5,010	-1,180	3,043	-344

Housing Markets: Was turning up





Source: FRED

Market Fundamentals

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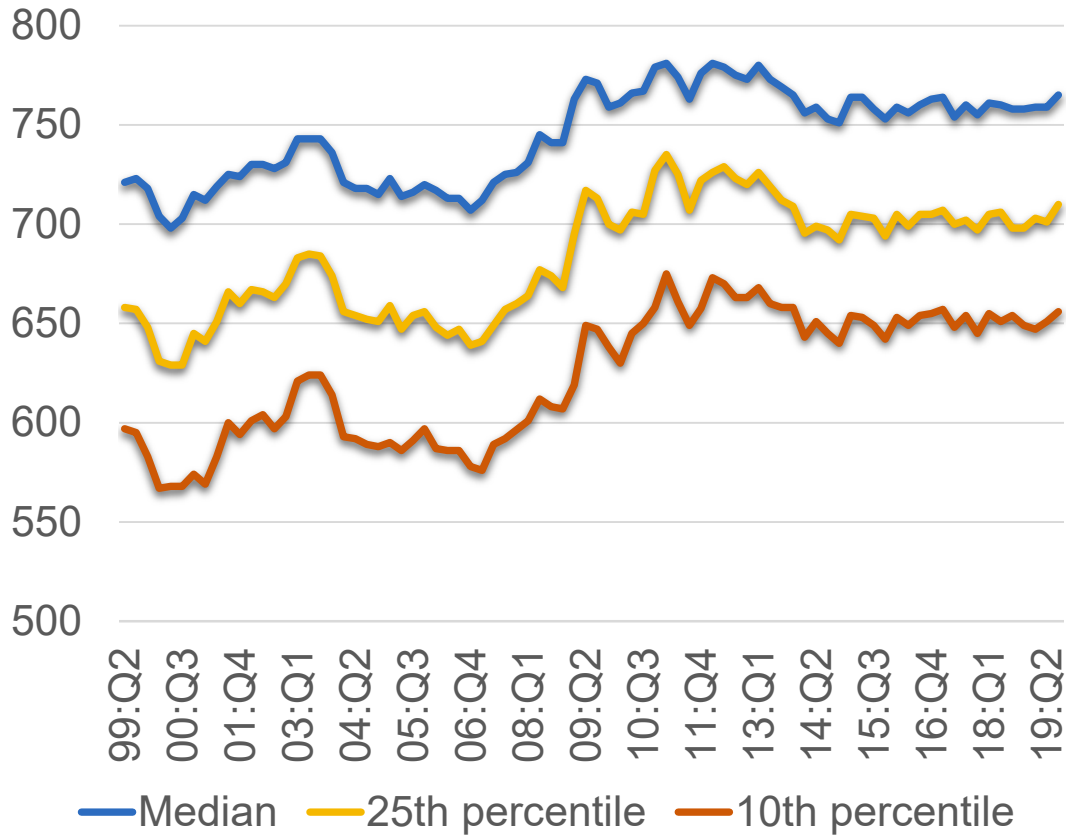
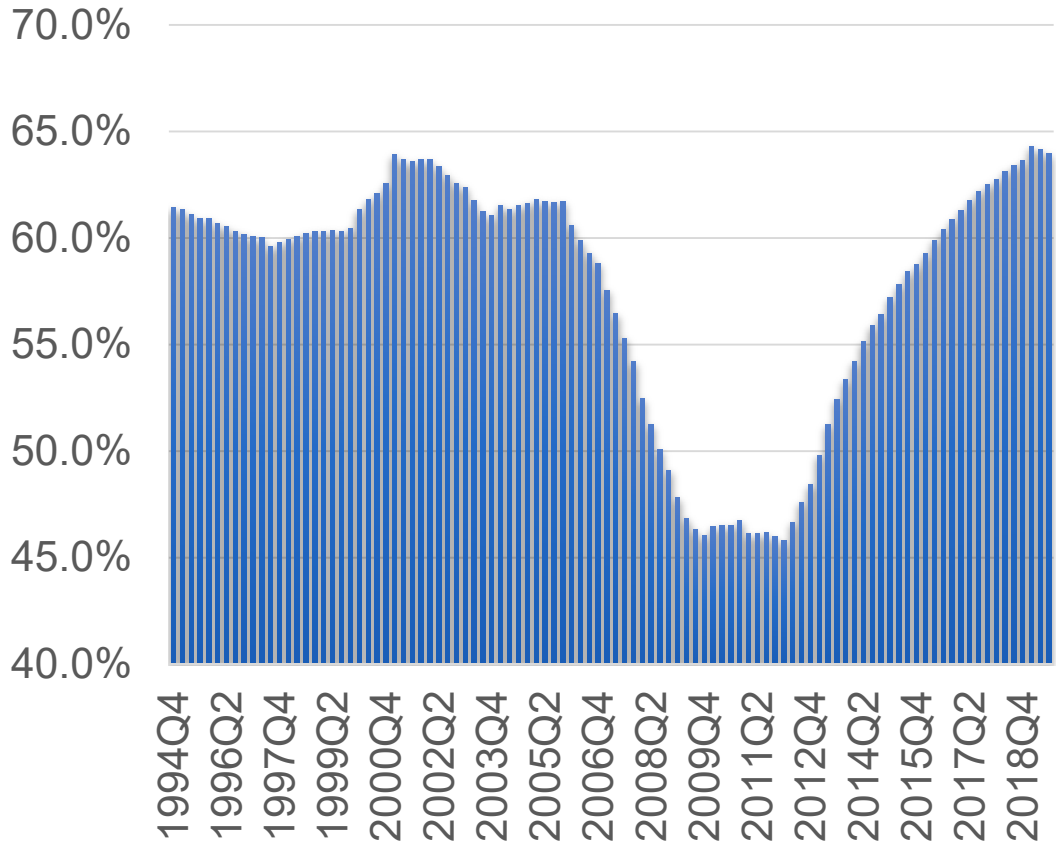
Credit Score for Mortgage Originations



Equity share of Residential Real Estate



Owner and Renter Costs?

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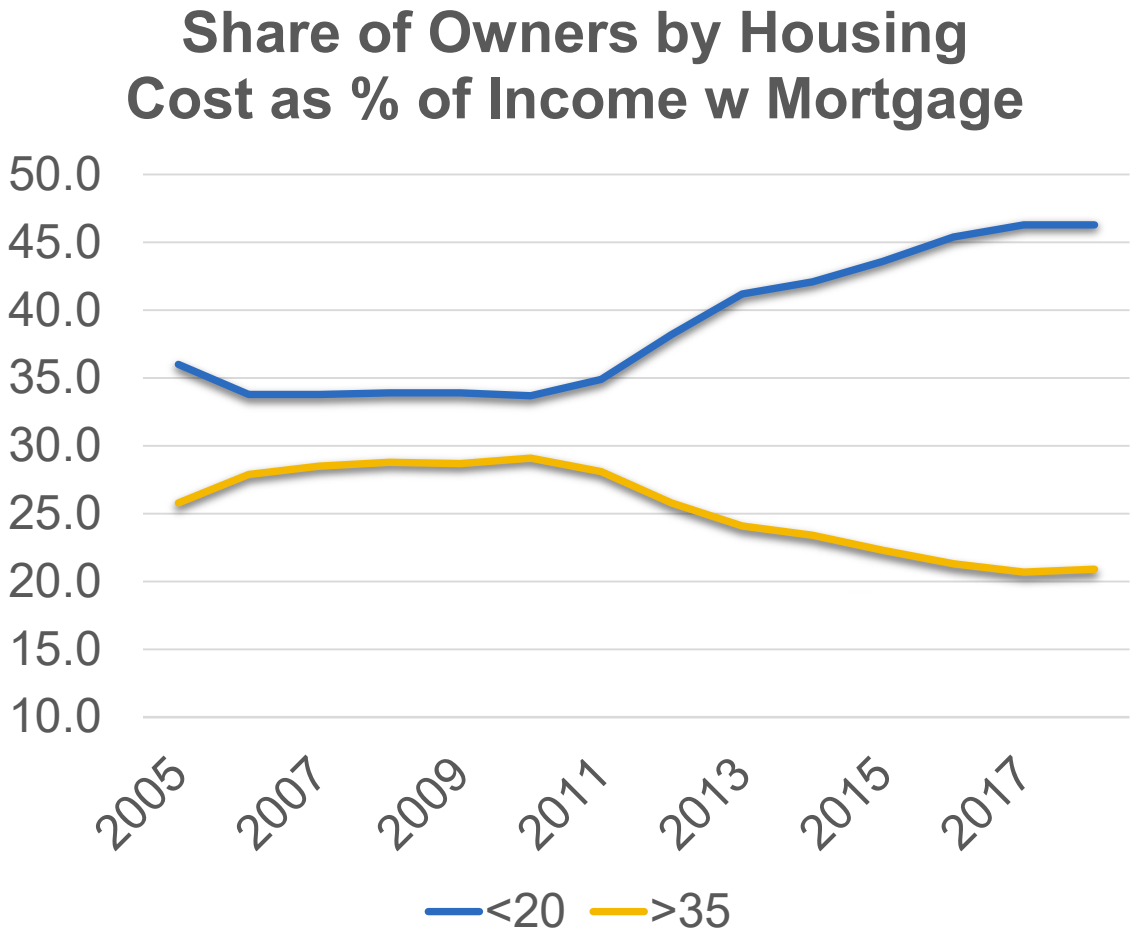

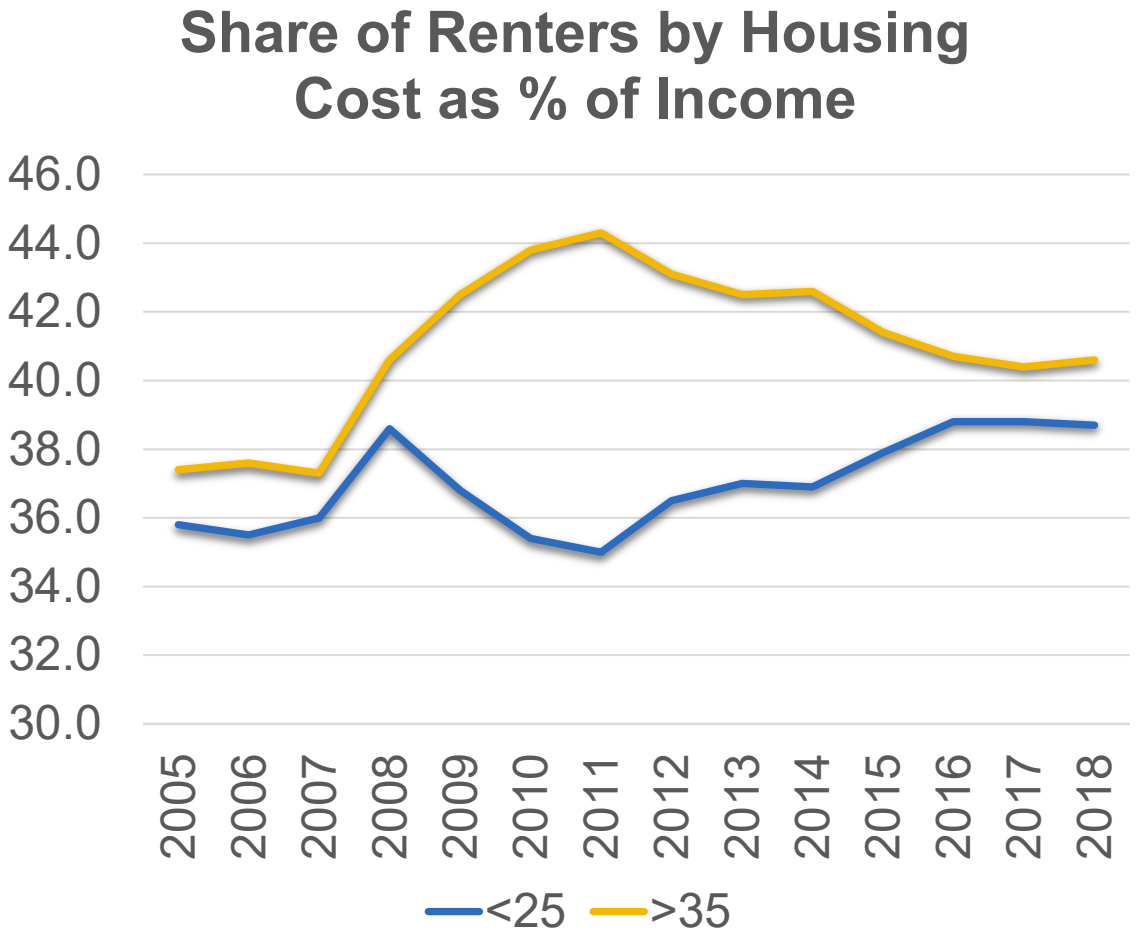

Source: ACS

Debt Bubble Trouble?

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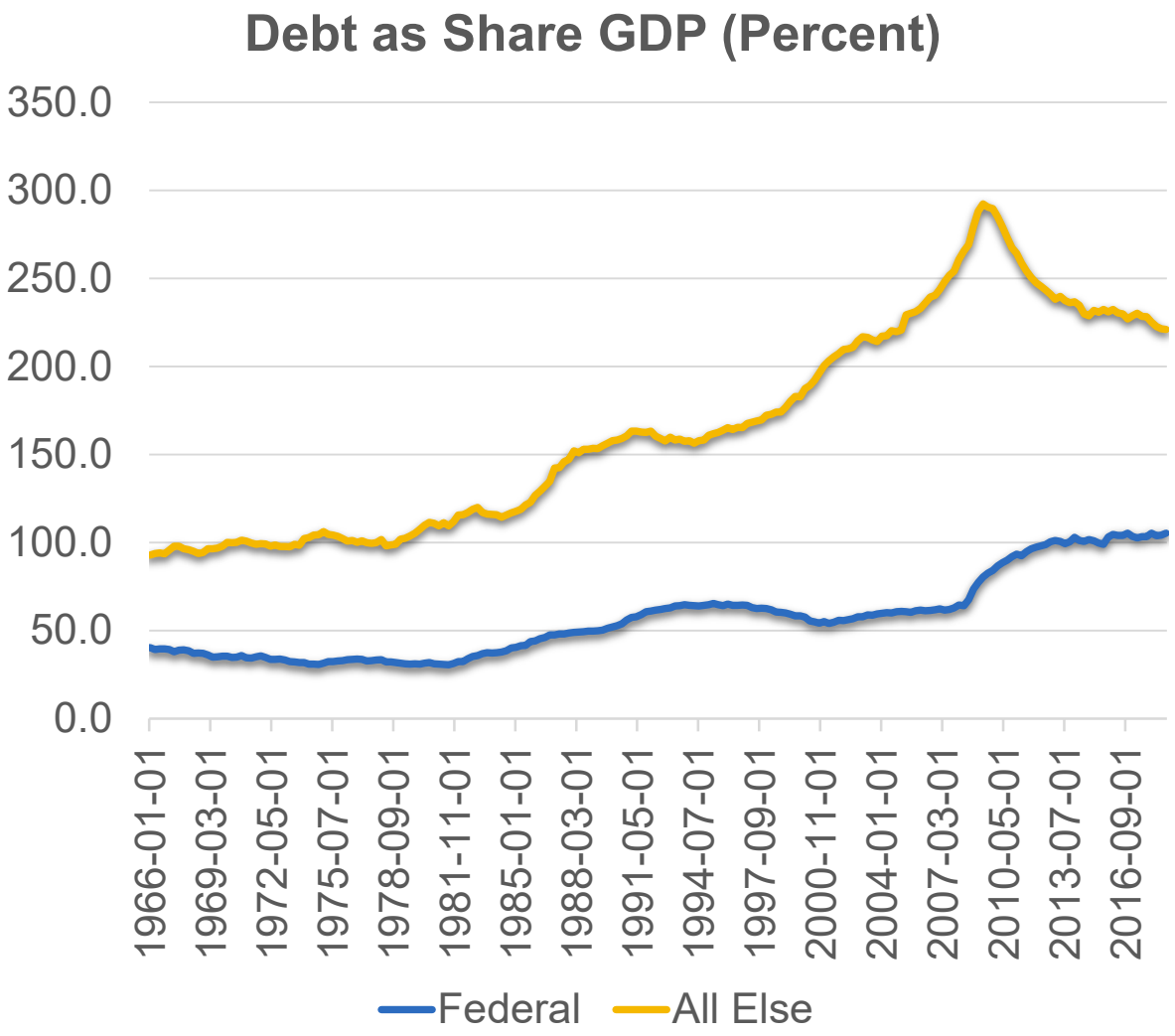

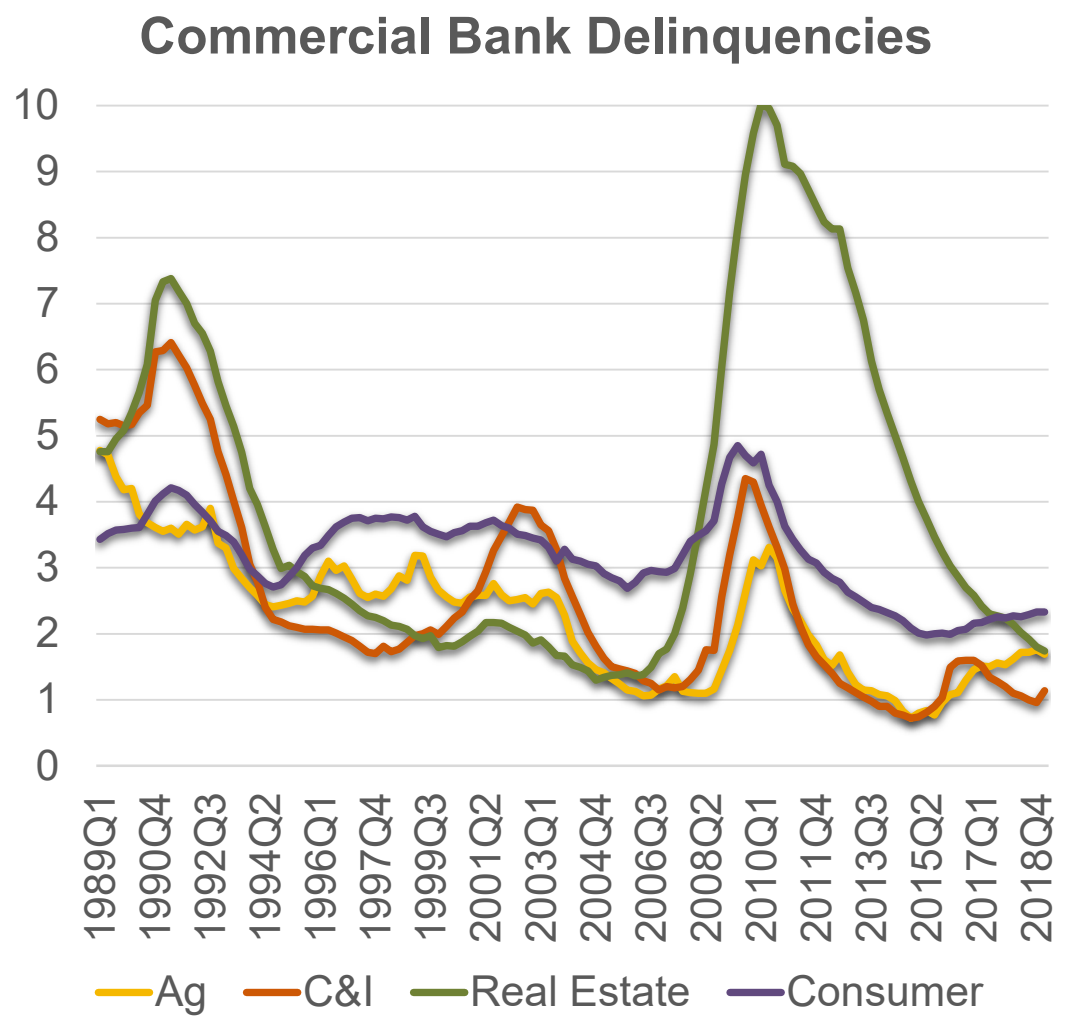

Debt issues?

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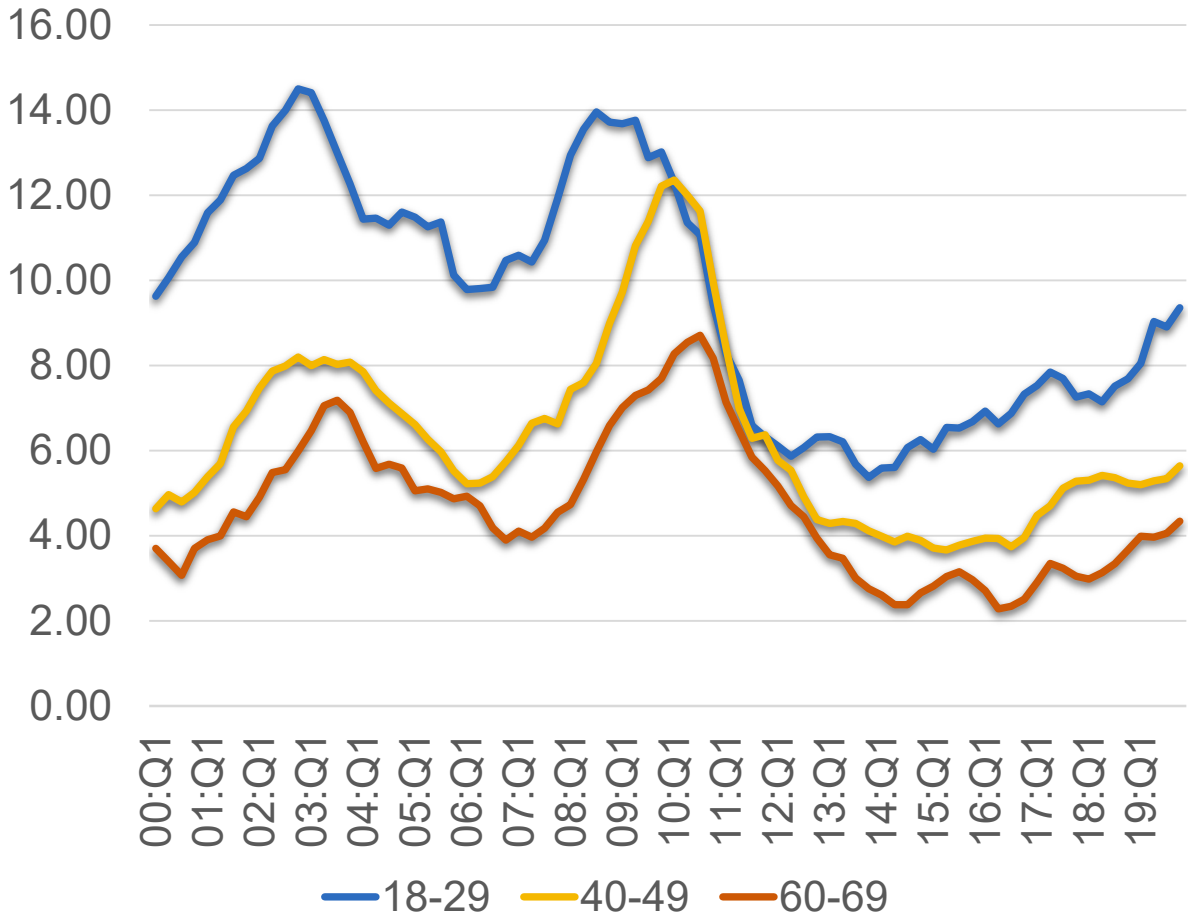
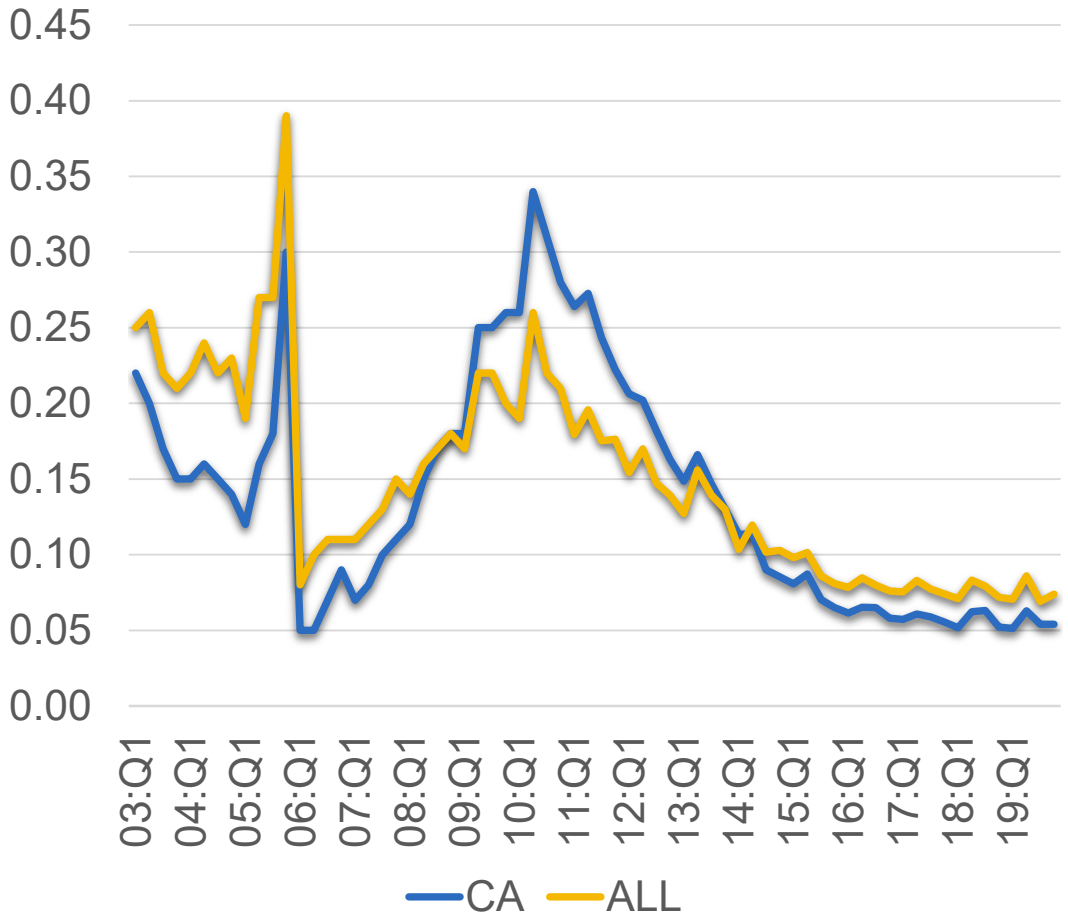
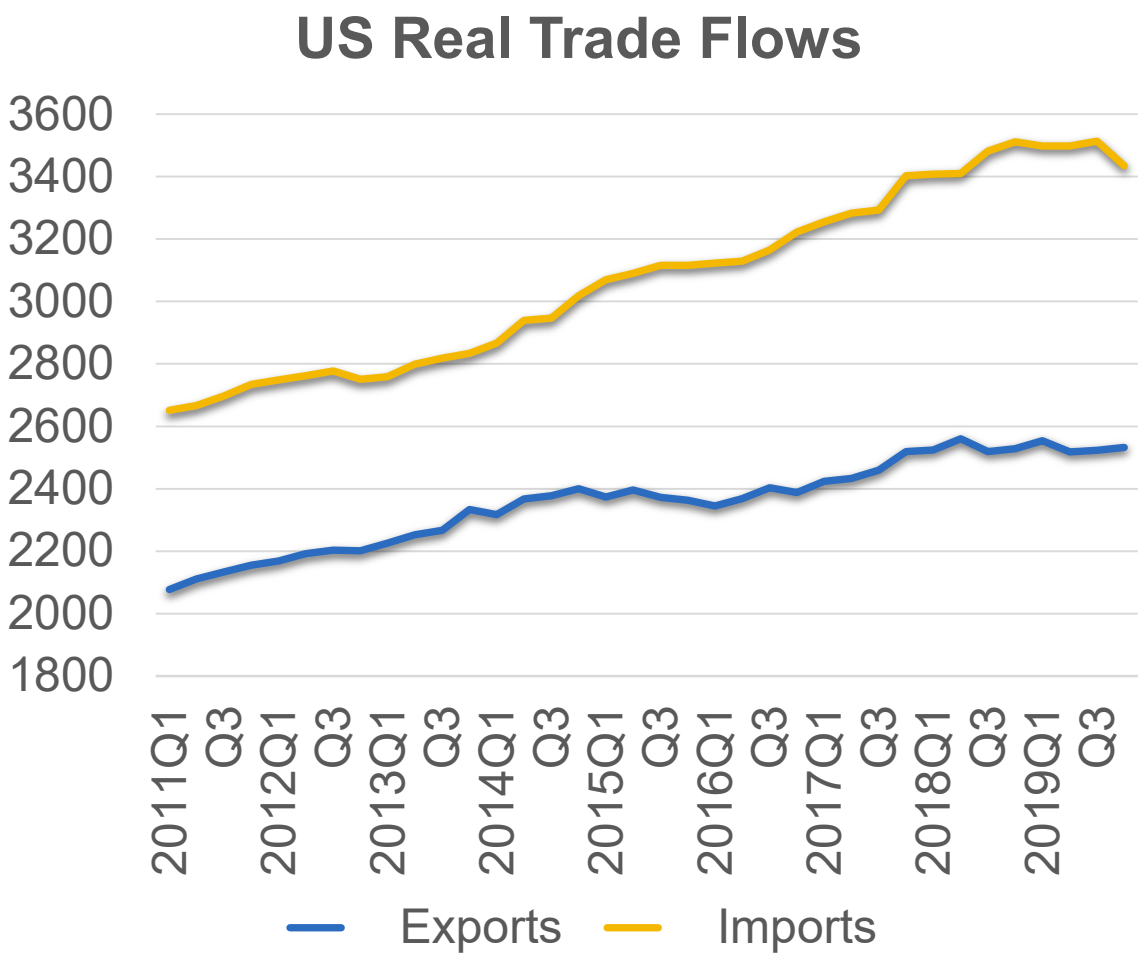
Credit Card Delinquencies by Age



New Personal Bankruptcies



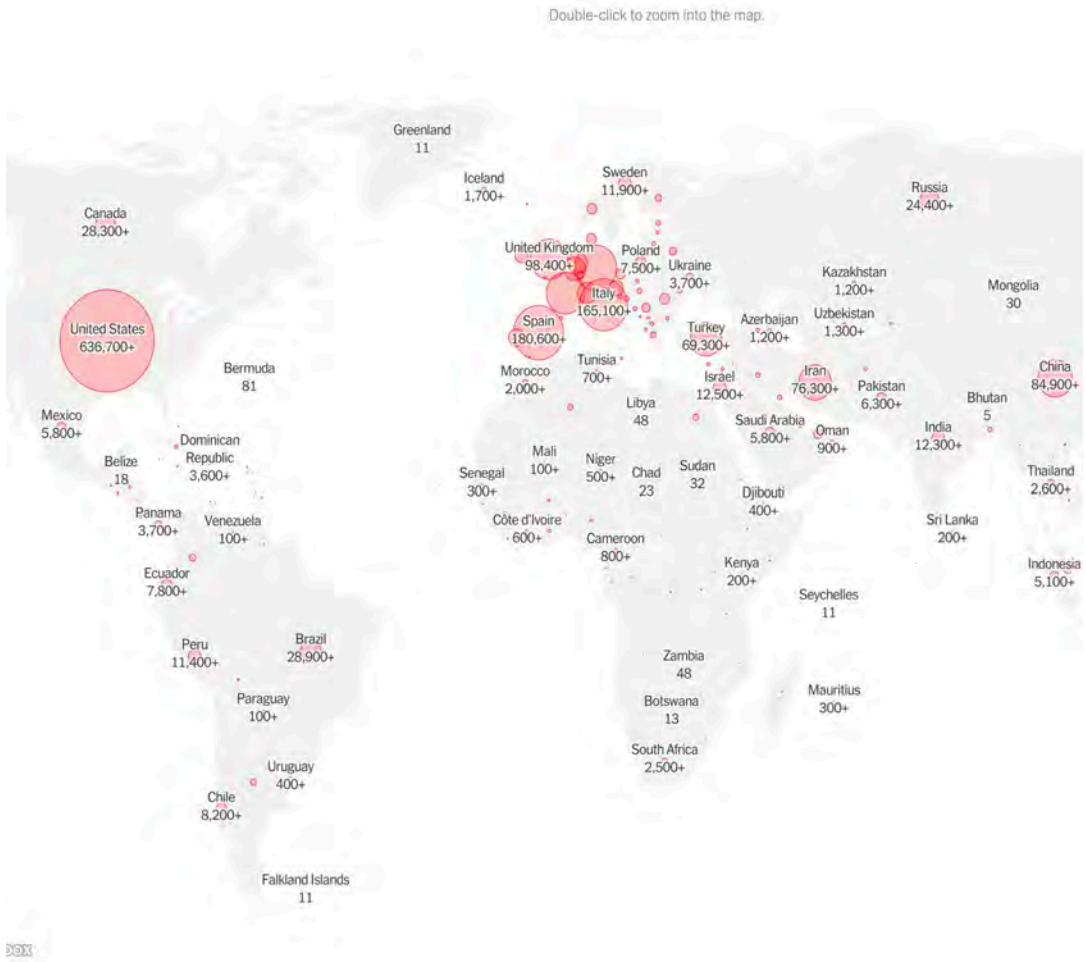
Stressed Global Trade

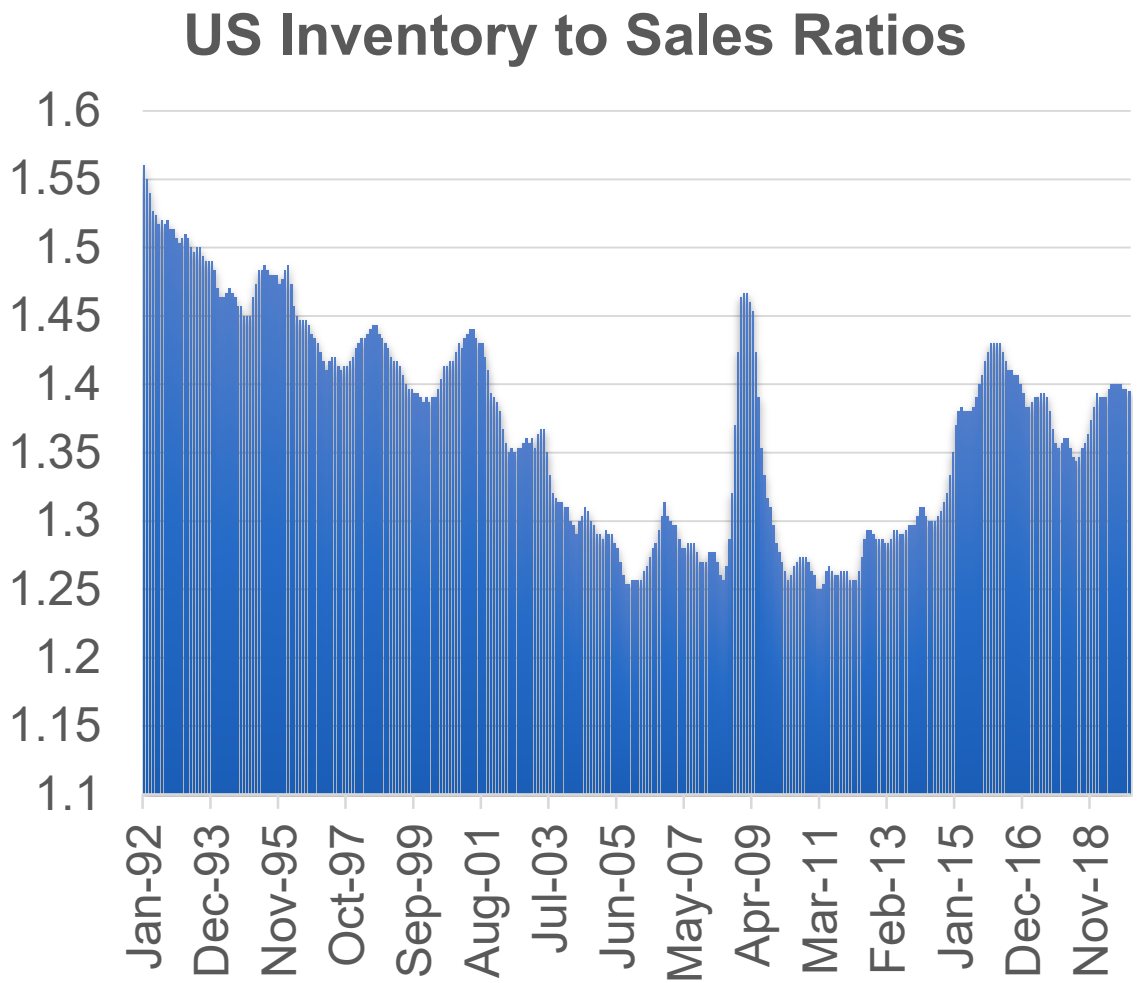


Country	Exports		
Total, All Countries	1,509.90	-1.3%	-19.8
Canada	270.6	-2.1%	-5.8
Mexico	237.3	-3.4%	-8.3
China	97.8	-12.1%	-13.4
Japan	67.9	-0.4%	-0.3
United Kingdom	63.6	4.8%	2.9
Country	Imports		
Total, All Countries	2,296.00	-1.7%	-39.8
China	418.6	-15.2%	-74.9
Mexico	330.5	3.5%	11.1
Canada	292.4	-0.8%	-2.3
Japan	132.1	1.5%	1.9
Germany	116.8	1.0%	1.2

Source: National Bureau of Statistics of China, Board of Gov. Fed. Reserve

Supply Chain Disruptions?





Supply Chains?

Exhibit 1: Our Coronavirus China Industrial Activity Tracker Ticked Up Last Week, While Our Coronavirus US Industrial Activity Tracker Continued to Fall

Government Policy

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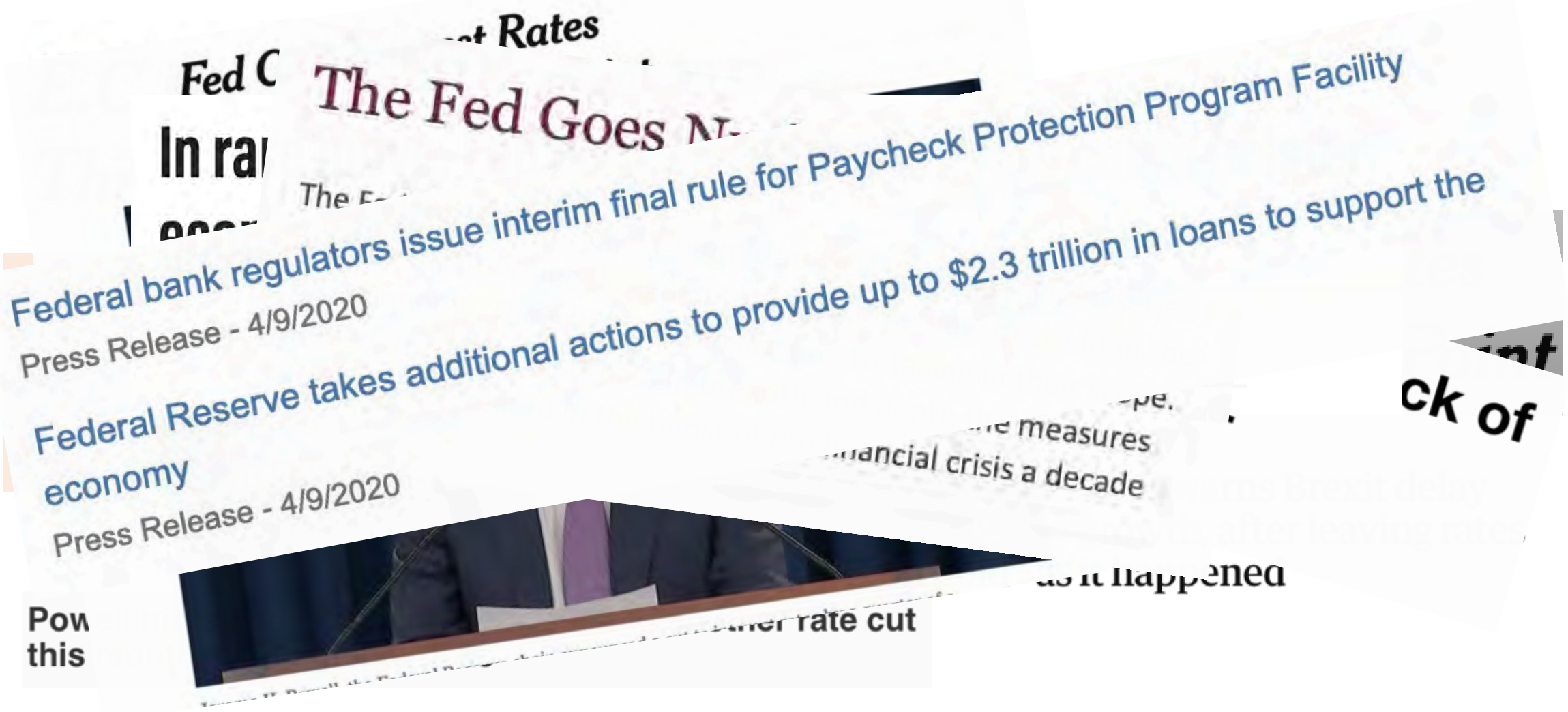
CARES Act

- Households
  - —$300 billion direct payments
  - —$250 billion unemployment expansion
  - —Potential benefits = median weekly income
- Small business
  - —$400-600 billion small business loans
  - —Some forgivable
- Other business
  - —$500 billion economic stabilization
  - —Airlines, national security important
  - —Financial stabilization
- Government support
  - —$350 billion
  - —Direct payments to governments, hospitals, airports, transit

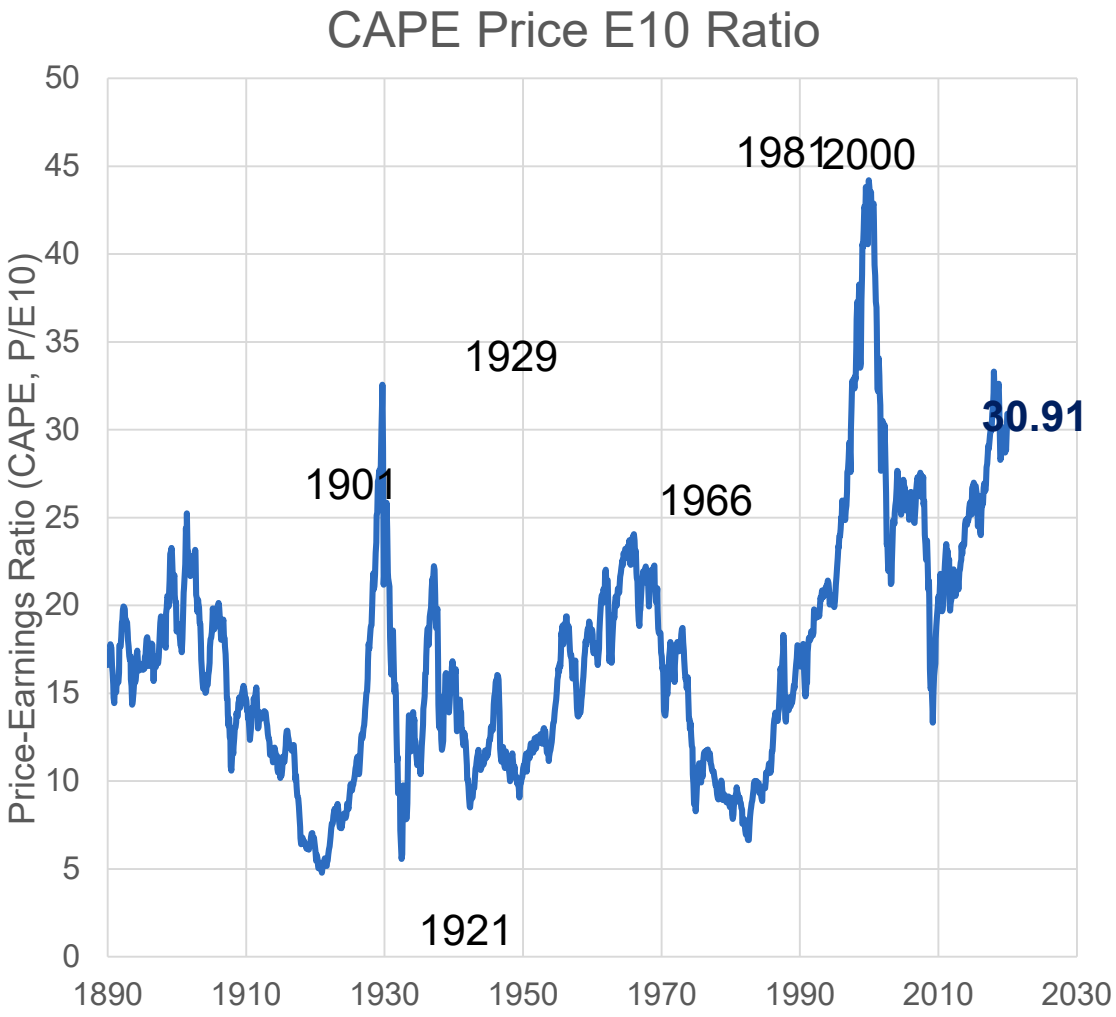
- Other Efforts
  - —IRS, states: delaying tax payments
  - —Local government moratorium on evictions
  - —Large landlords providing rent deferral
  - —Large public mortgage holders allowing owners to defer mortgages
  - —Food programs expanding

Recession fears are forcing Central Banks to Act



Source: Google

So what's up with the markets?



So what's up with the markets?

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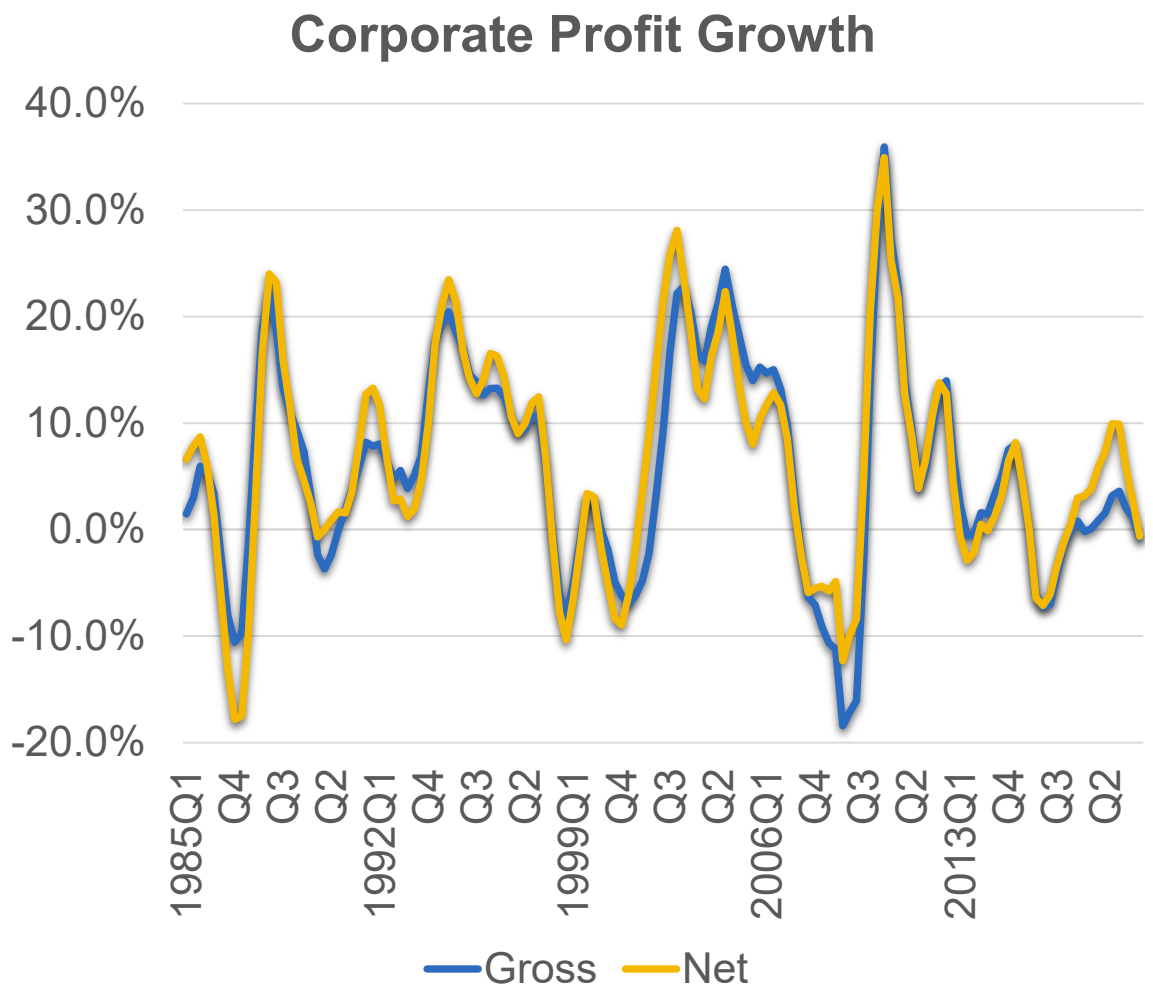

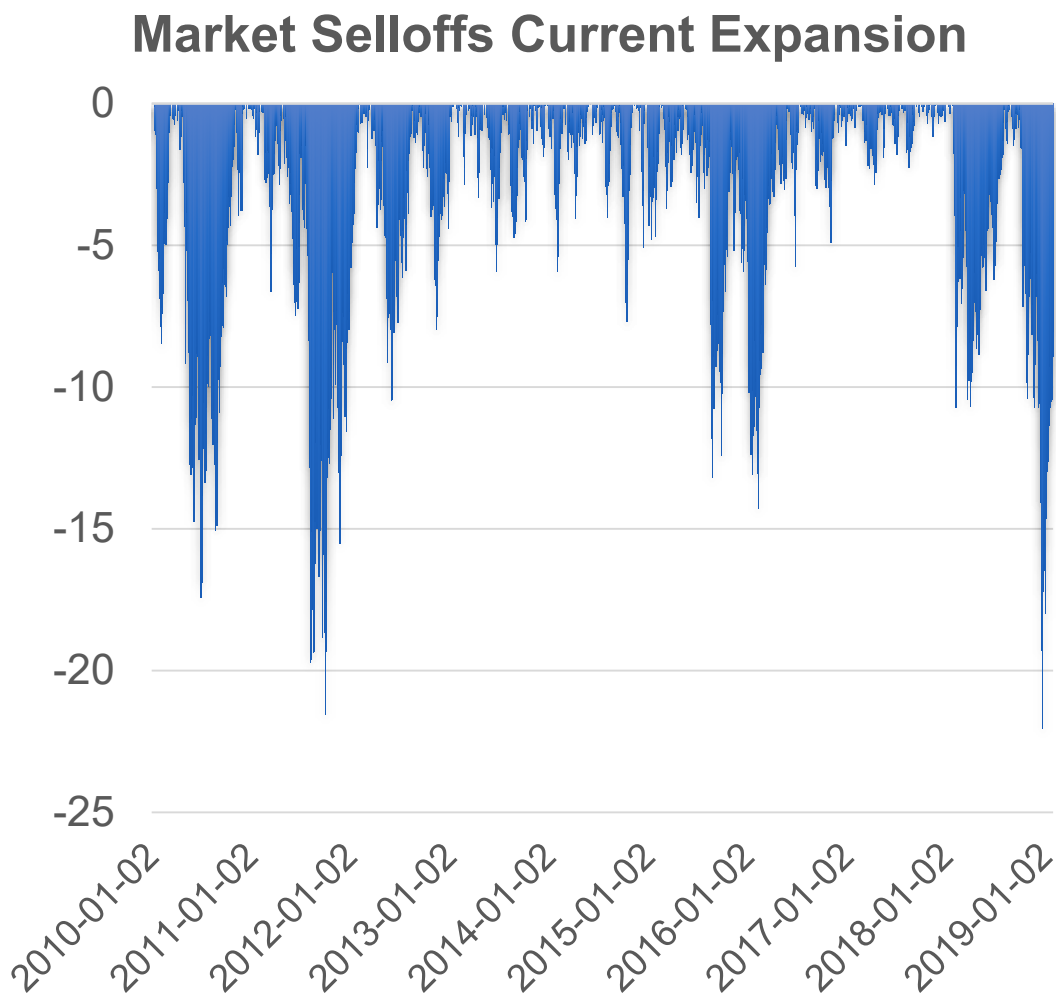

Economic Risks: Now vs Then?

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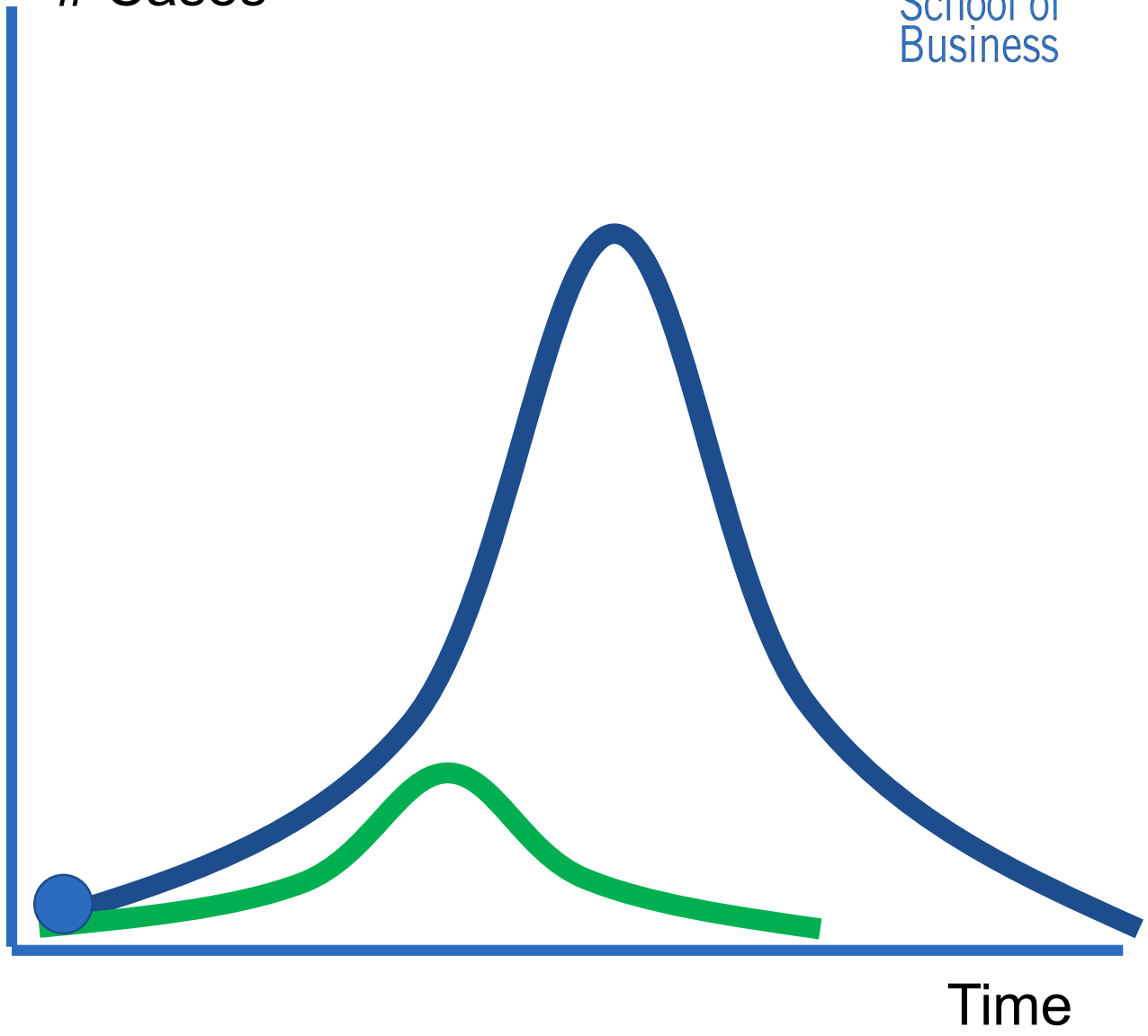
- Then
  - Millions of jobs in real estate / construction / finance permanently lost
  - Financial system pushed to edge by losses
  - Consumer spending limited by lack of access to credit
- Now: Job losses or Job Furloughs?
  - 8 to 10 weeks without work will be a problem for a subset of workers
  - Unemployment insurance will help
  - Expect a surge in initial claims, some modest issues in debt
- Timing is Everything
  - Shock can eventually get into supply chains
  - Short run revenue loss will eventually (how long?) cause businesses to fail
  - How long for true credit impairment?
- Efforts of government
  - Stimulating demand is pointless
  - Help businesses weather the storm with loan guarantees and other programs
  - Expand short term job supports
  - Stop trying to turn this into an election year boast

Source: Bloomberg, NBC, Google Images

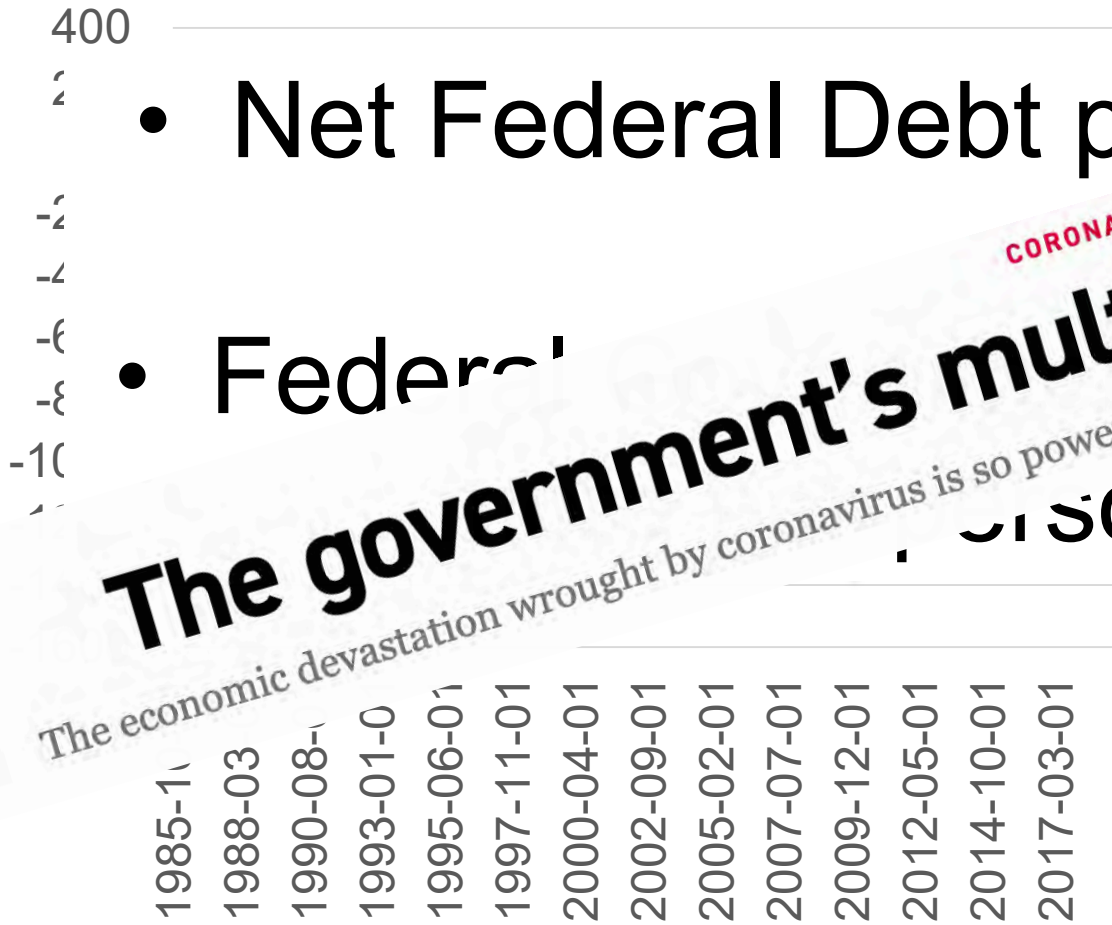
Policy Thoughts

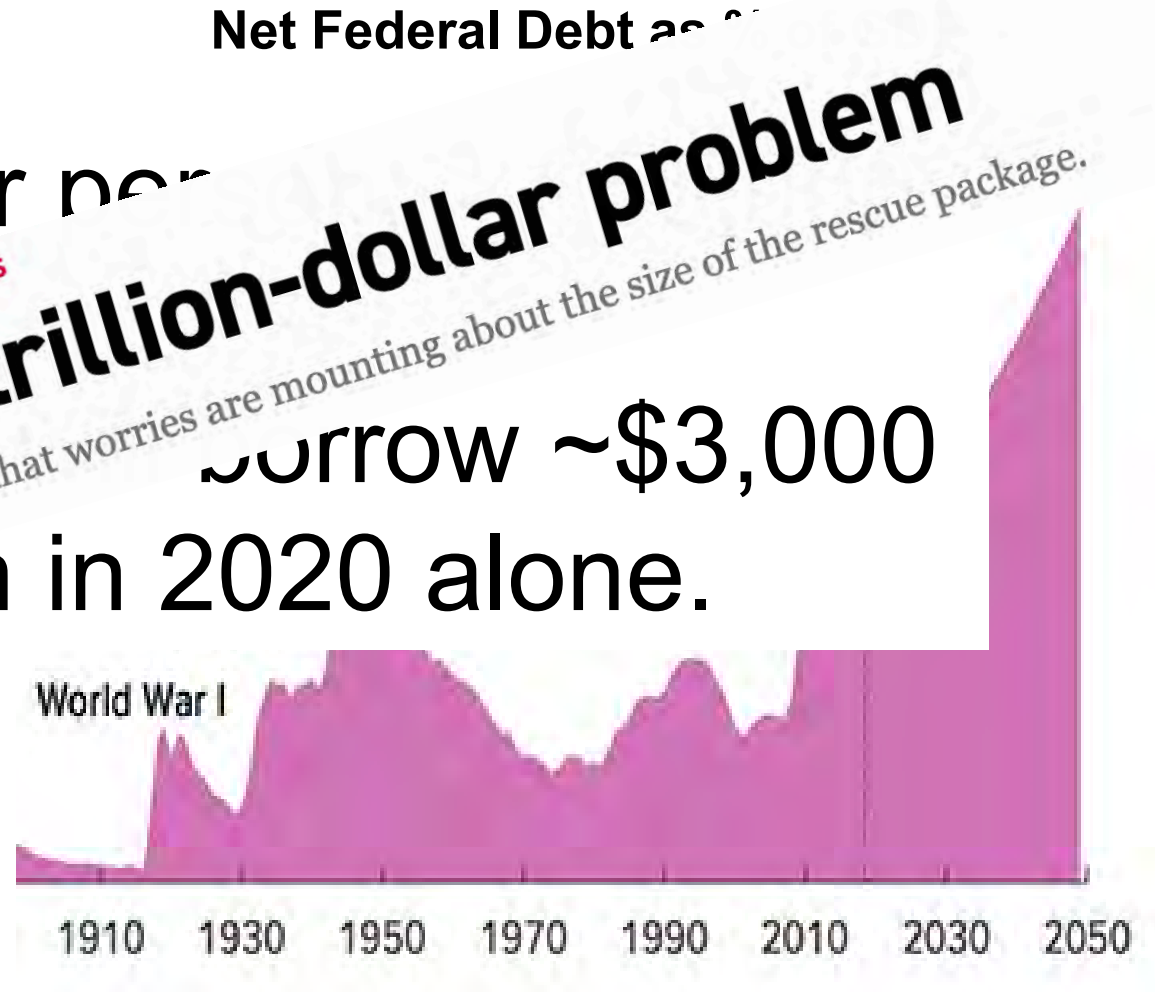
- Don’t be pennywise and pound-foolish
  - —A little panic is good
  - —Policy makers should accept inevitability of some demand shock
  - —Efforts to flatten the curve: cancel events, shut down large gatherings, close schools in effected areas
  - —The quick cases are under control the less this will mean in the end



The Real Debt Crisis

- Net Federal Debt per per
- Federal borrow ~$3,000 per person in 2020 alone.





Source: DOF, ACS

2020: Looking Ahead

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- Baseline Forecast
  - 0% Q1, -25%Q2, 20% Q3, 5% Q4
  - Is that a recession?
  - Unemployment back below 5% by year end
  - Moderate upticks in debt distress
  - Stock market—who knows
  - Little impact on real estate / venture capital
- Wildcards
  - Second round of outbreaks / economic shutdowns
  - Global situation
  - Retail / restaurants already distressed
  - Can financial chaos create its own crisis?
  - Will consumers go back to normal behavior, or will there be a long run shift

”A forecaster is an expert who will know tomorrow why the things he predicted yesterday didn't happen today. "

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Thank You

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