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CENTER FOR ECONOMIC FORECASTING & DEVELOPMENT

The Covid Recovery:

How long to get back to normal?

January 2021

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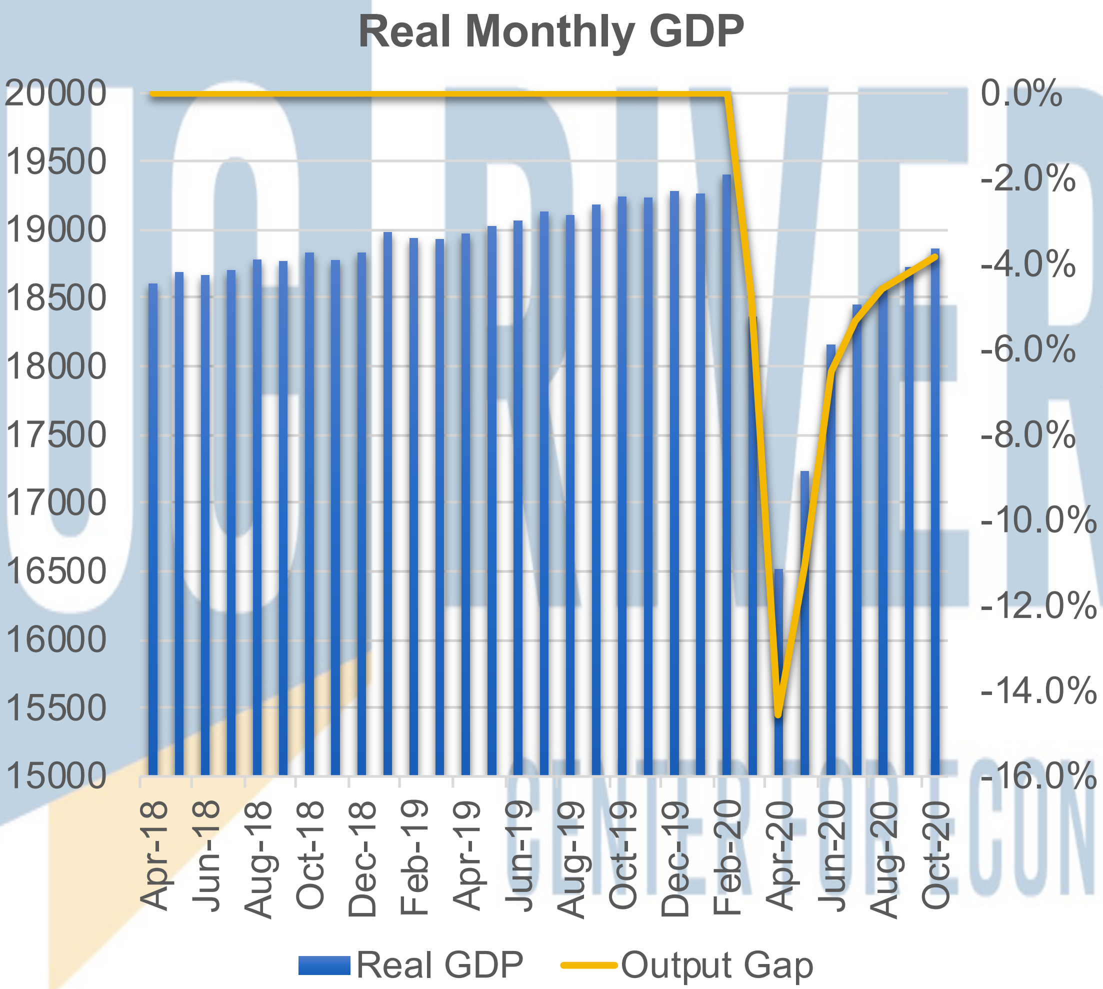
Happy New Year!

- Biggest surge in COVID cases yet
- Slow rollout of vaccines
- December job losses
- Rising unemployment insurance claims
- Riots in DC, a second impeachment
- Inauguration threats
- Russian hacking, Iranian threats

The Pandemic Recession

- The Economic Debate
  - —The macro debate, “U”, “V”, or whatever… most called “U”, slow recovery
  - —This is not the great recession
  - —UCR outlook ”V”—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

The Recession Ended in April



	2020			Diff from
	Q1	Q2	Q3	19Q4
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%

Consumers Leading the Way

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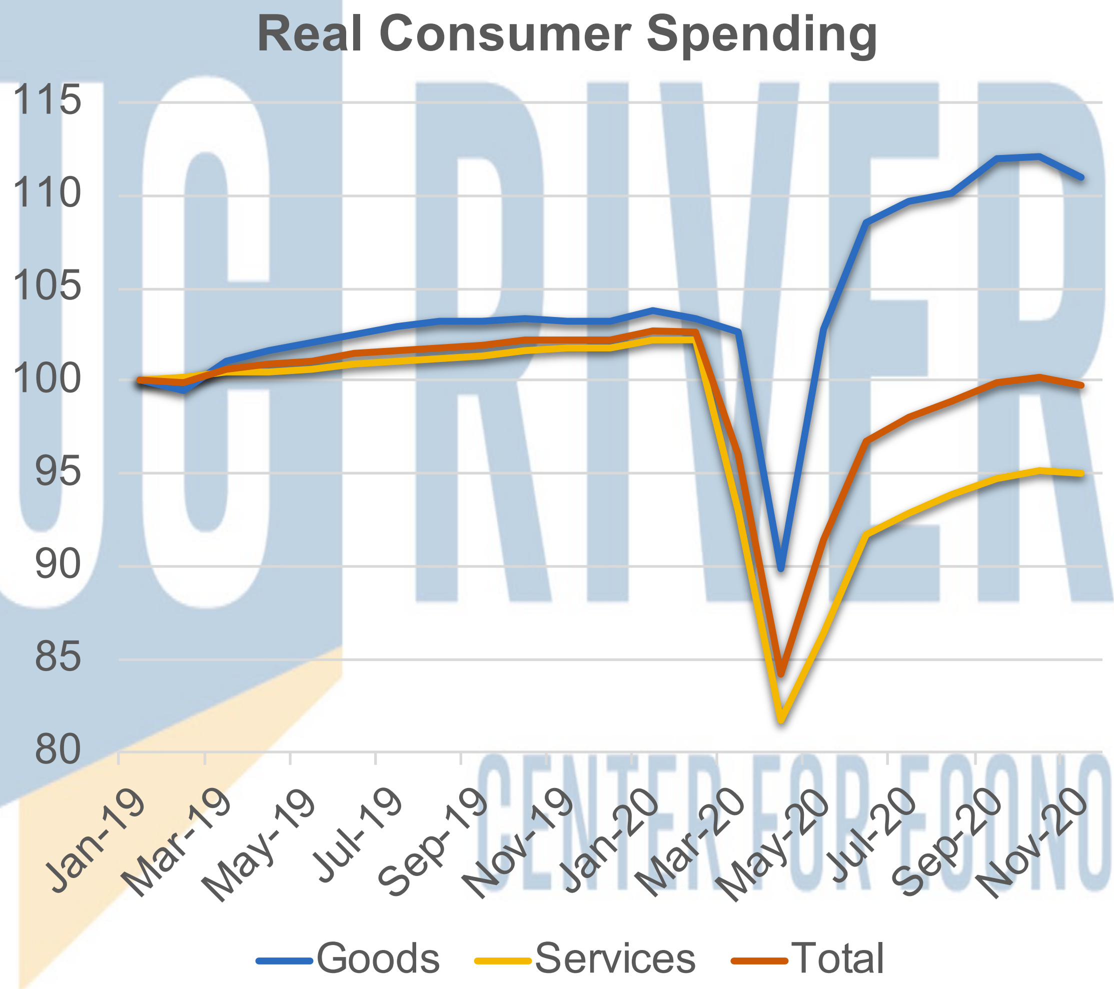
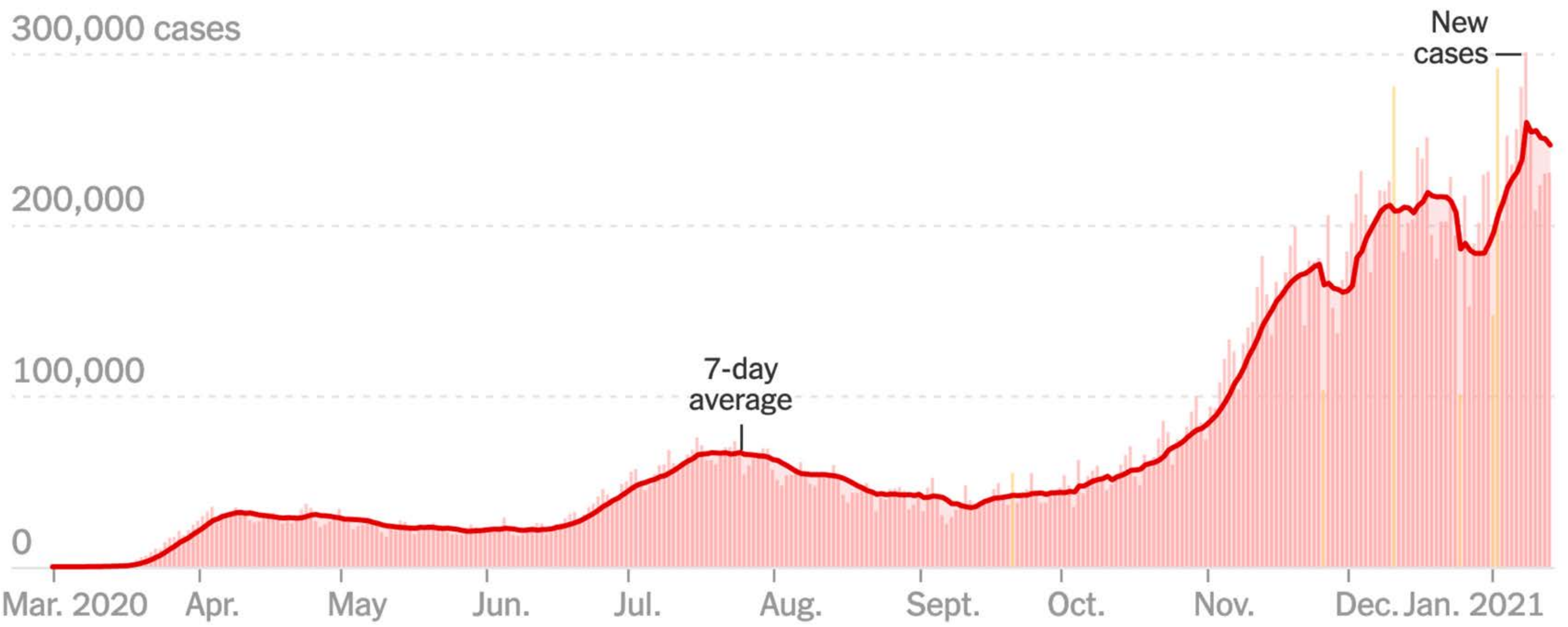


Retail Sales Numbers

	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

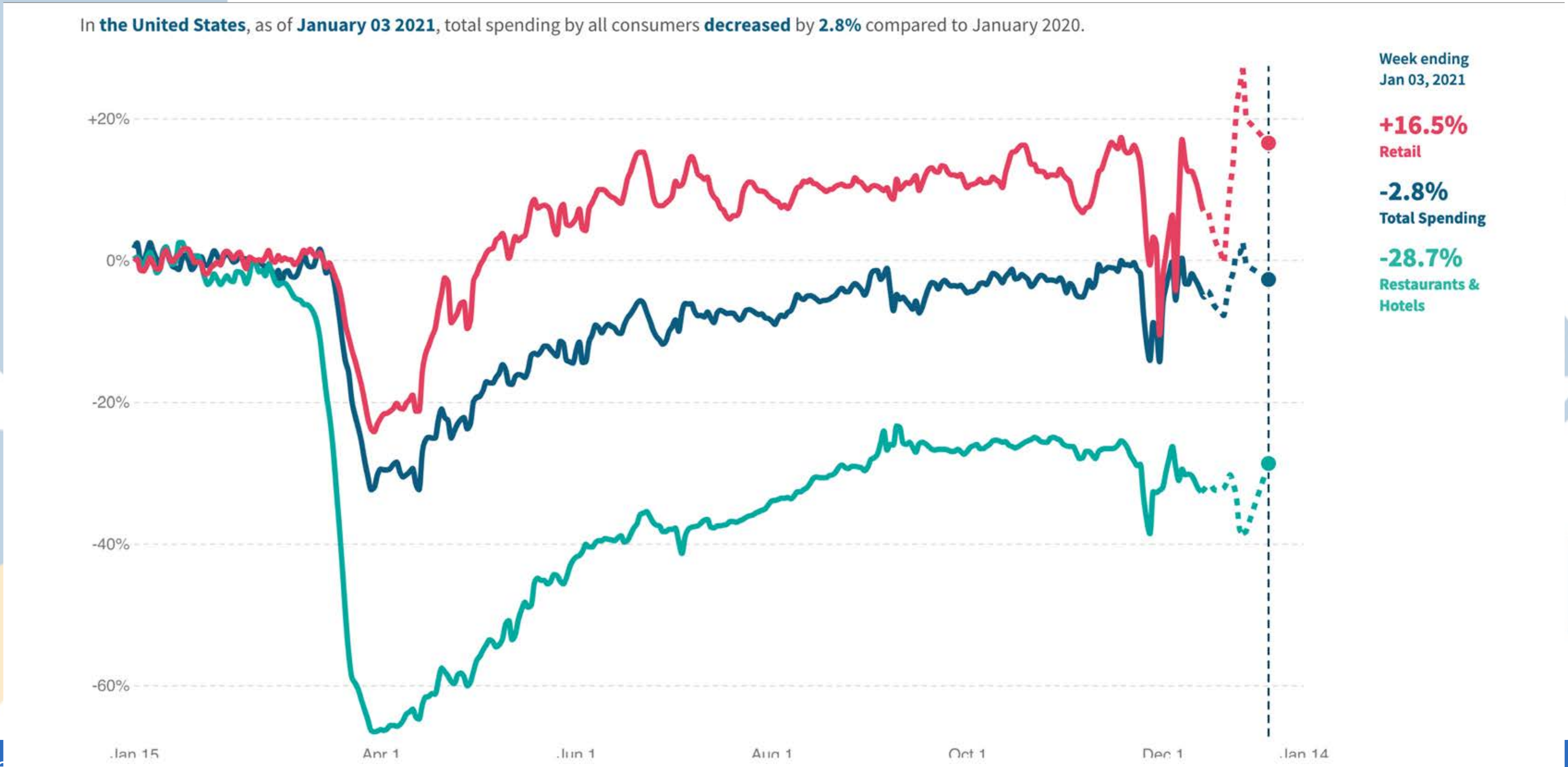
Source: American Community Survey

A third US surge



Consumer Mitigation

Opportunity Insight: Consumer Spending for US

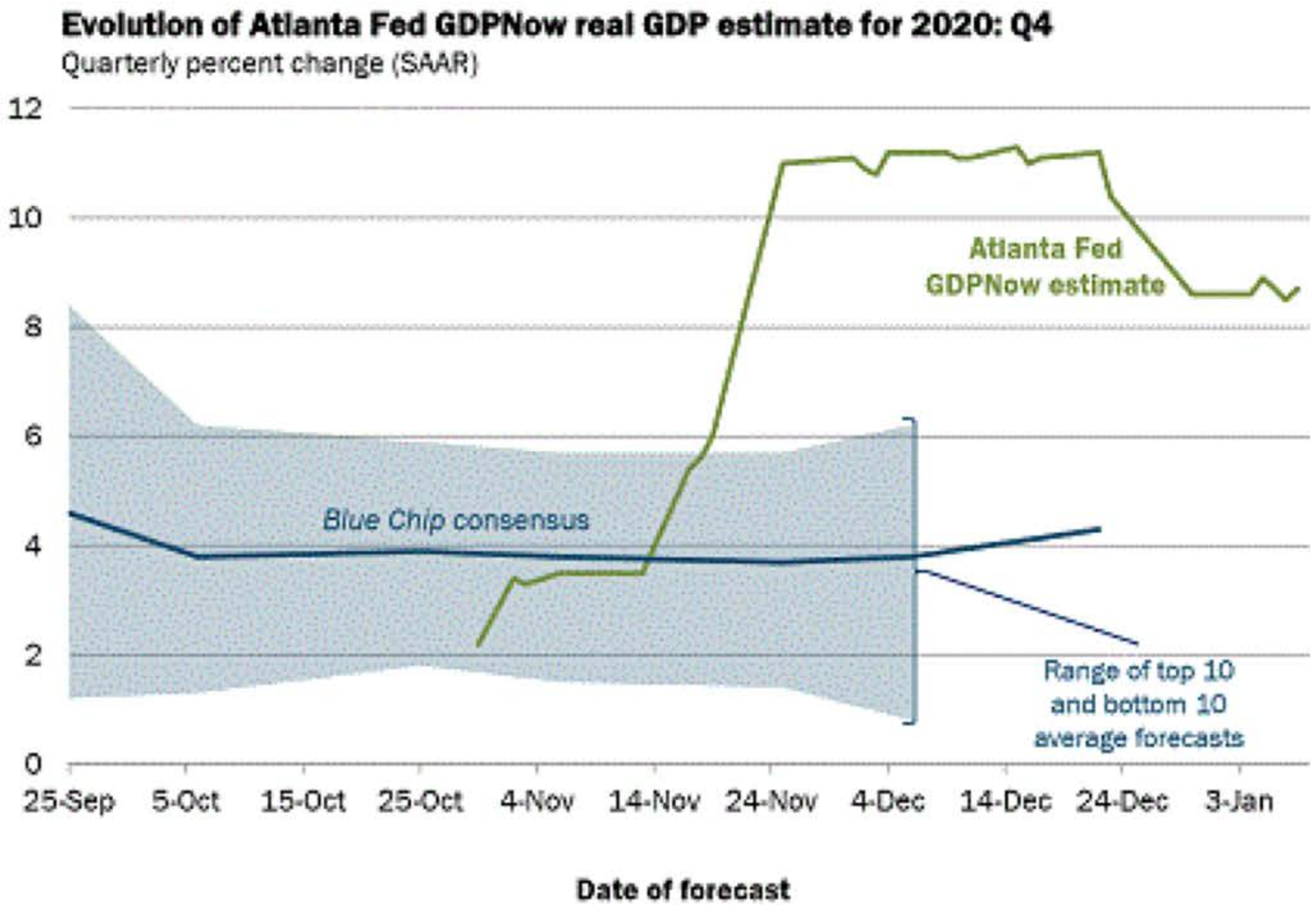


Evolution of forecasts

FEDERAL RESERVE BANK of ATLANTA | GDPNow™

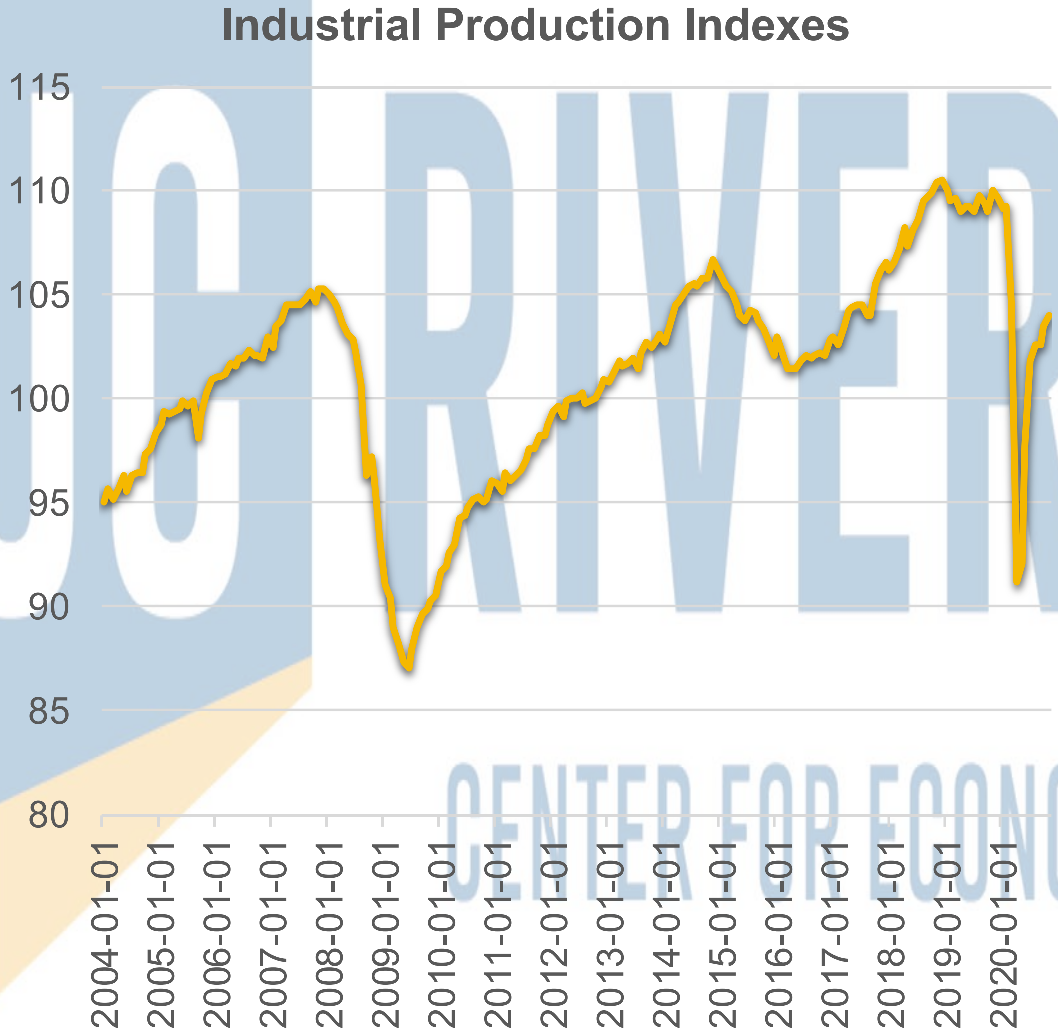
GDPNow is not an official forecast of the Atlanta Fed. Rather, it is best viewed as a running estimate of real GDP growth based on available economic data for the current measured quarter. There are no subjective adjustments made to GDPNow—the estimate is based solely on the mathematical results of the model.

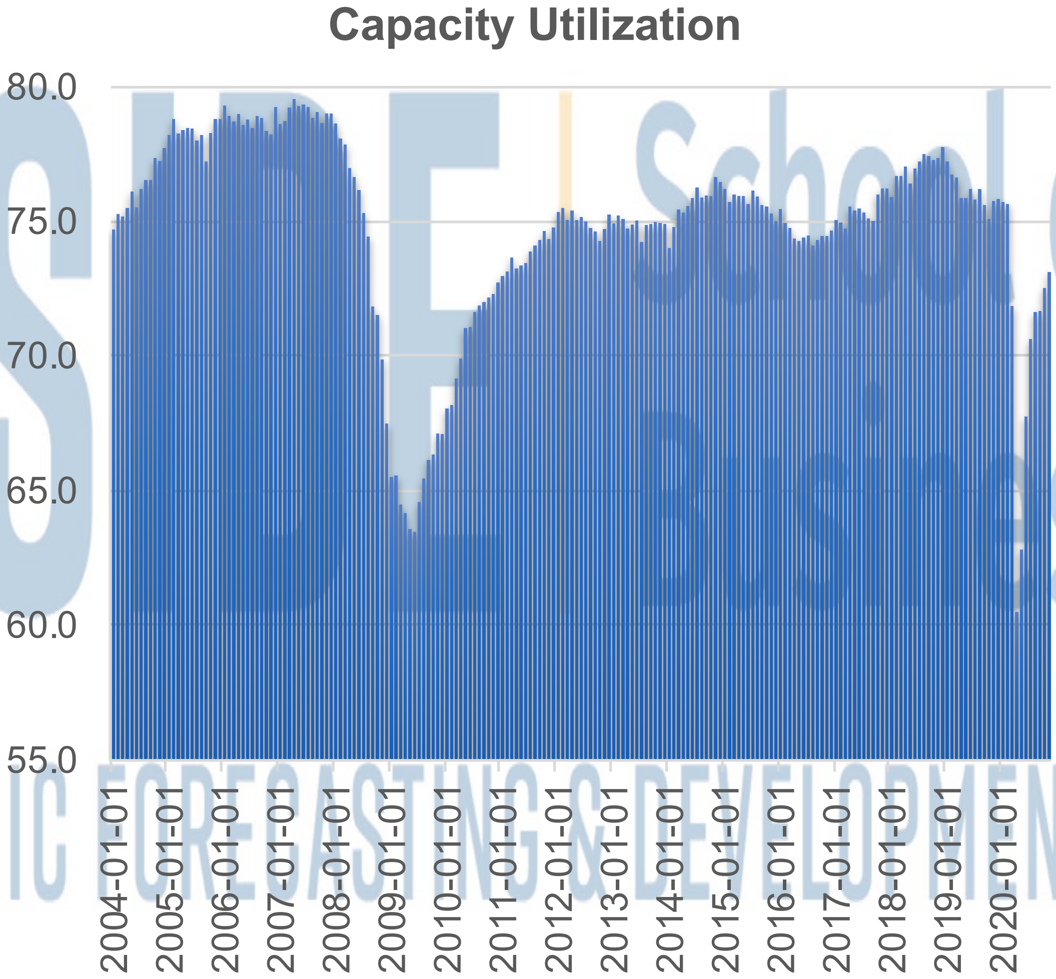
In particular, **it does not capture the impact of COVID-19 and social mobility** beyond their impact on GDP source data and relevant economic reports that have already been released. It does not anticipate their impact on forthcoming economic reports beyond the standard internal dynamics of the model.



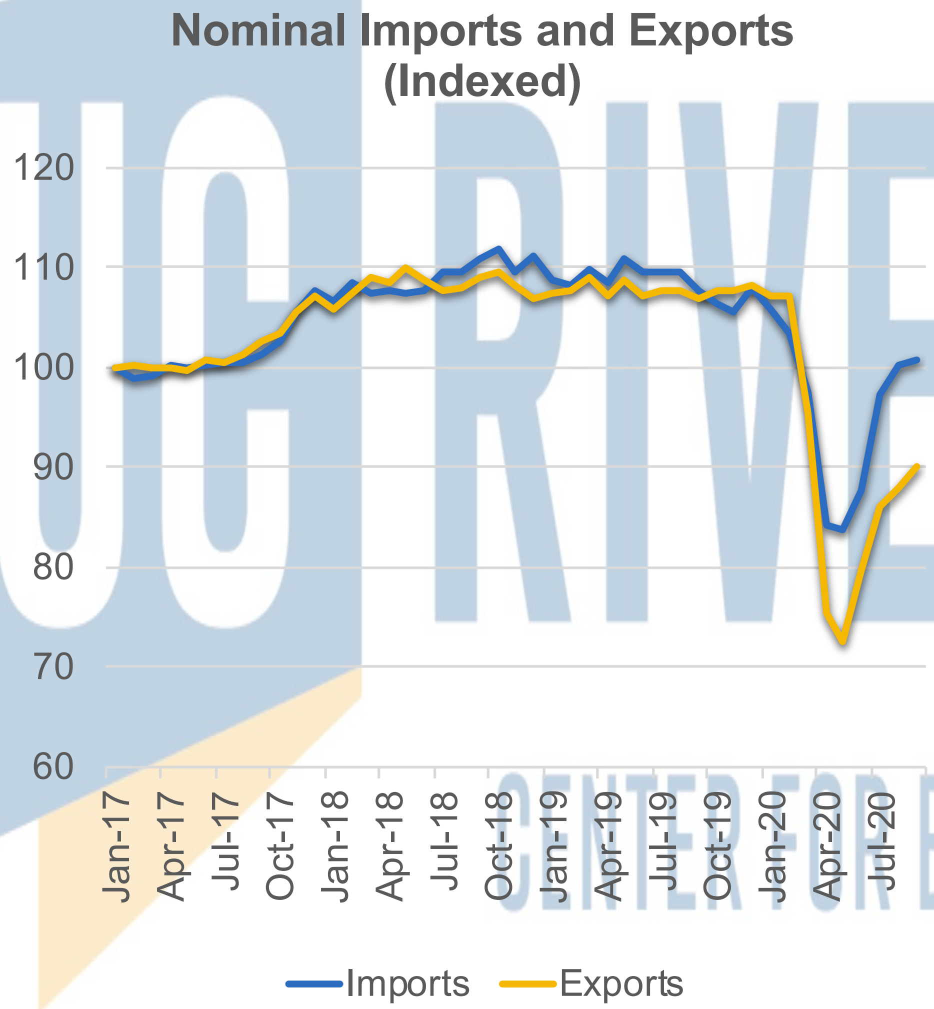
Sources: *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*
Note: The top (bottom) 10 average forecast is an average of the highest (lowest) 10 forecasts in the *Blue Chip* survey.

Production Trends



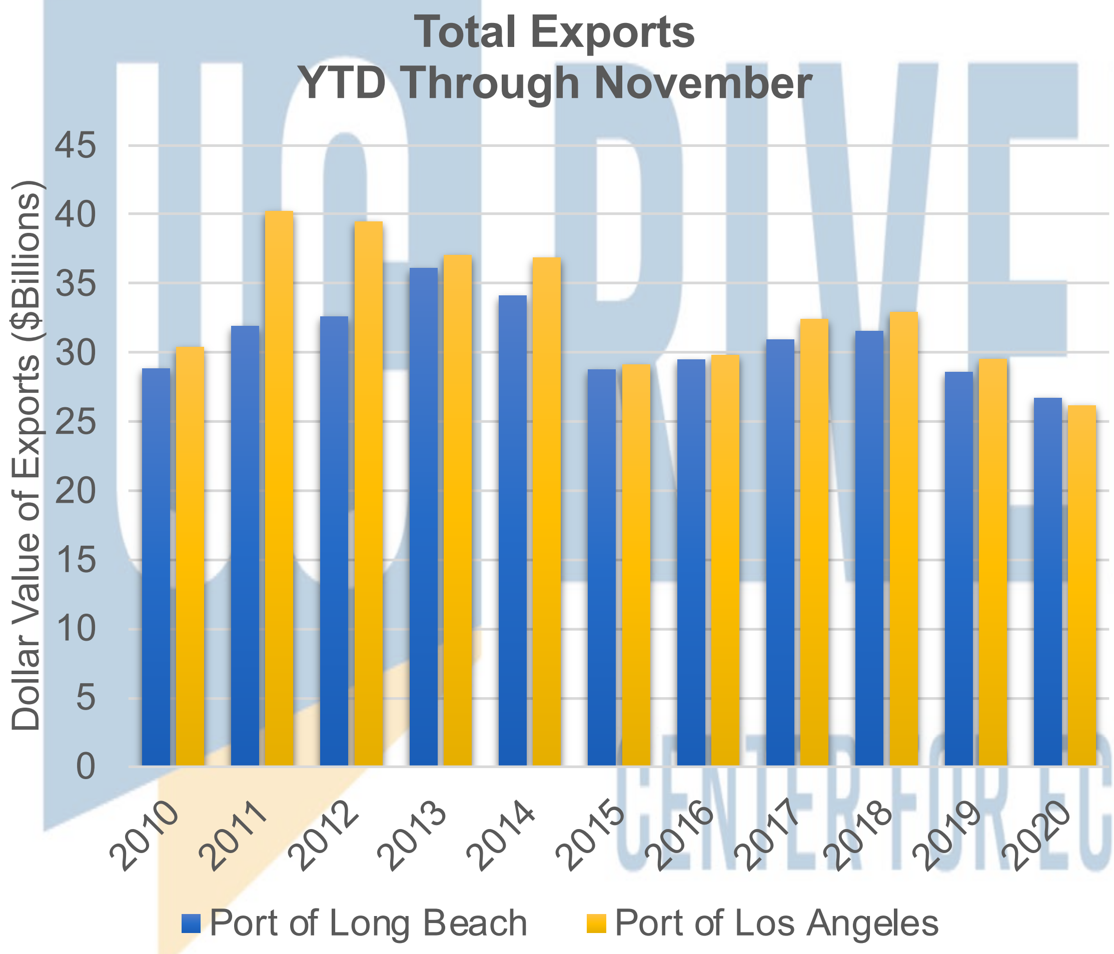


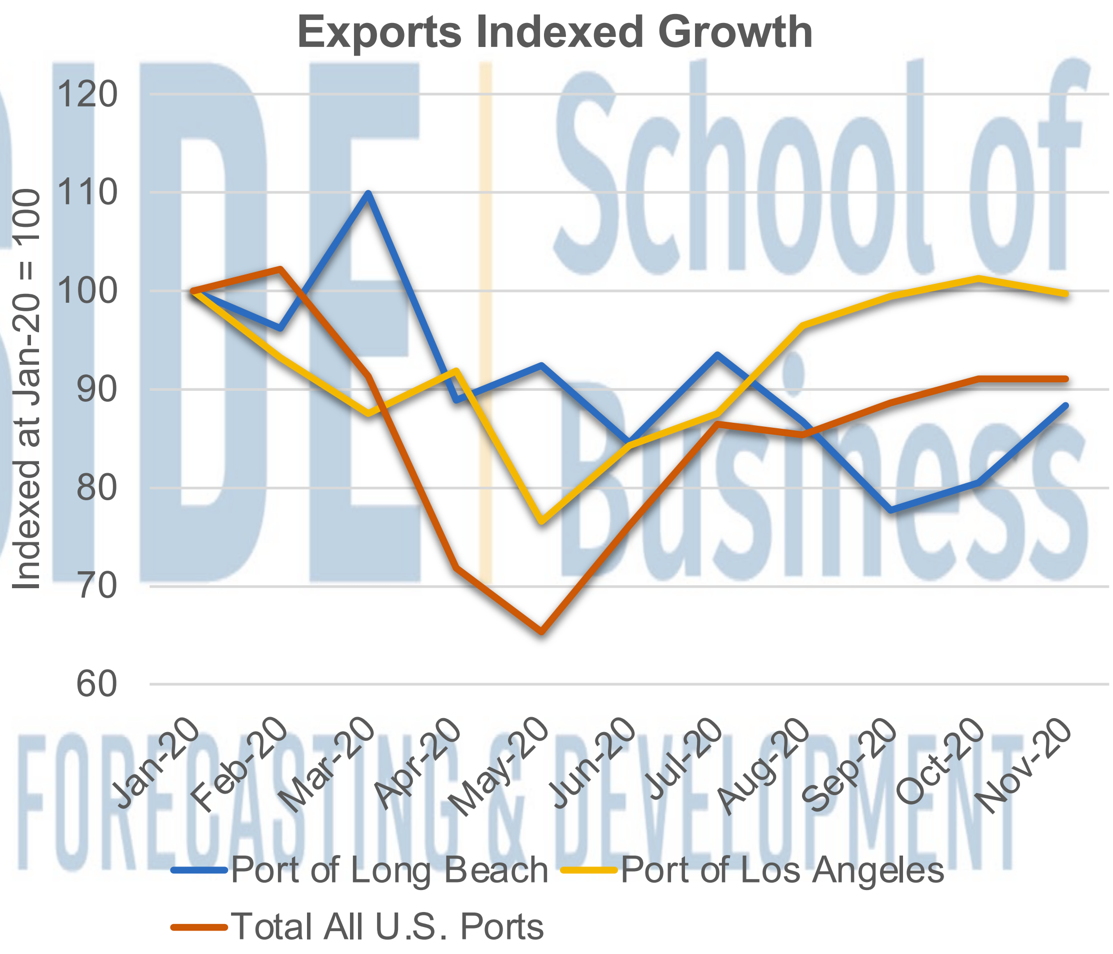
Trade Flows



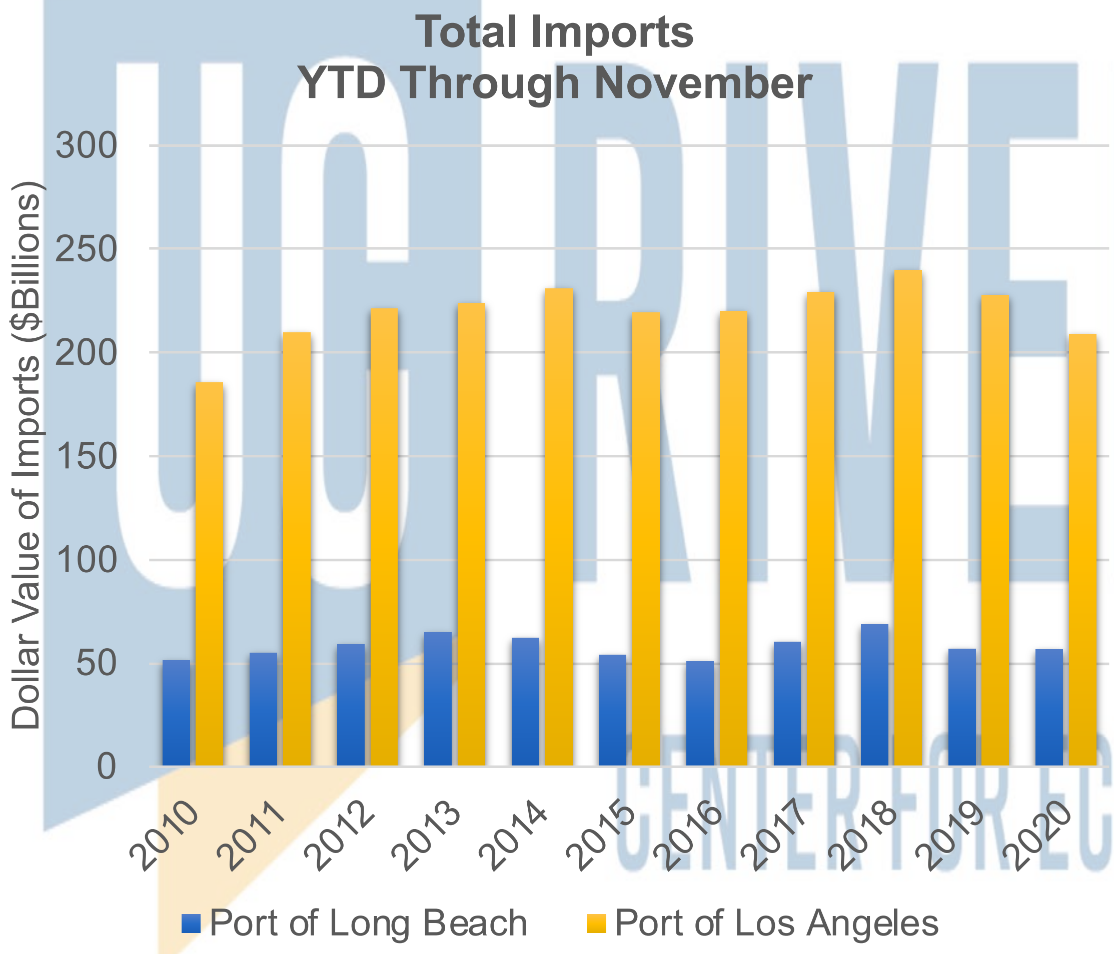
Country	Exports		Country	Imports	
Total	1,299	-13.9%	Total	2,121	-7.6%
Canada	232.6	-14.0%	China	393.6	-5.9%
Mexico	193	-18.6%	Mexico	295.8	-10.5%
China	110	12.4%	Canada	245.7	-15.9%
Japan	58.5	-13.8%	Japan	108.1	-18.1%
UK	54.3	-14.6%	Germany	104.2	-10.7%
Germany	53	-4.5%	Vietnam	72.7	19.3%
Korea, South	46.4	-9.9%	Switzerland	70.1	73.5%
Netherlands	41.4	-11.3%	Korea, South	68.7	-2.9%
Brazil	31.7	-19.7%	Ireland	59.3	4.5%
Taiwan	27.8	-2.4%	Taiwan	54.7	10.7%

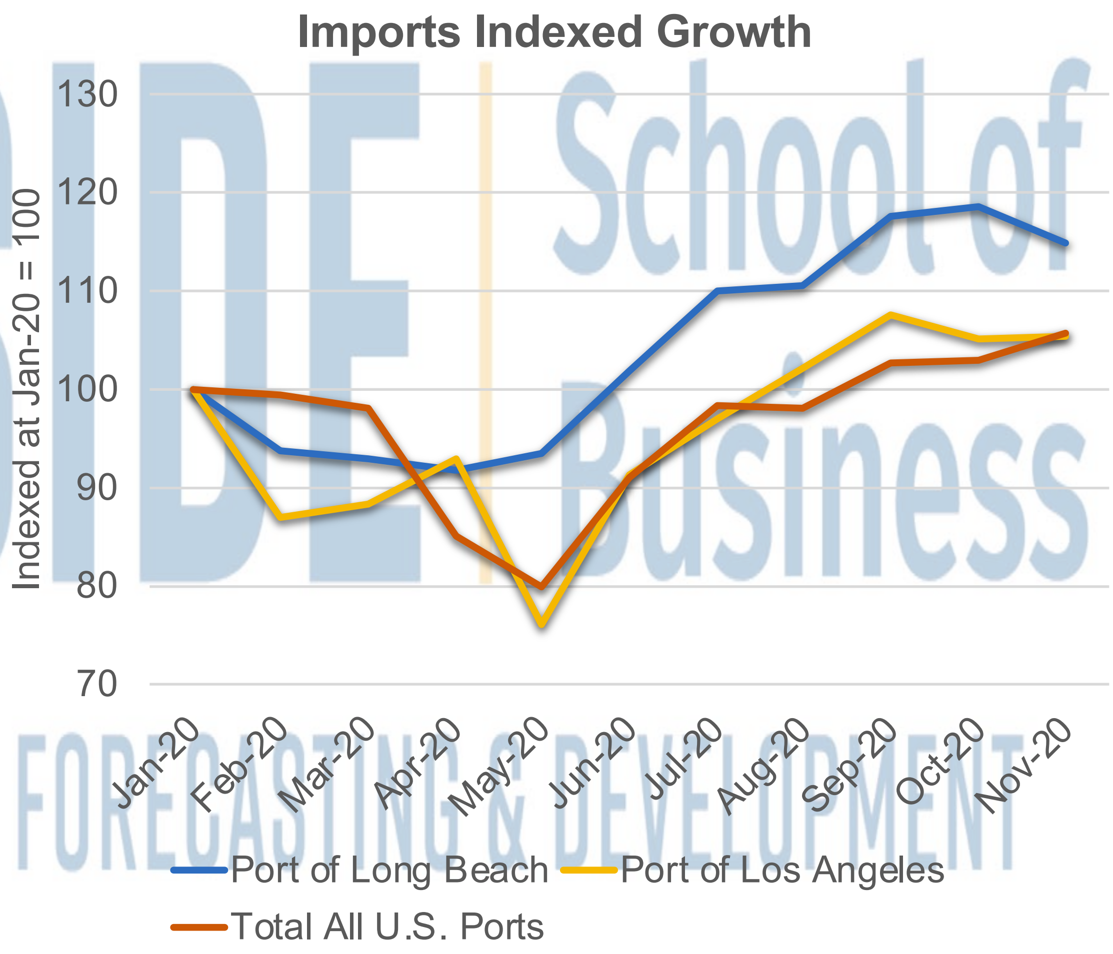
Trade Activity – Exports





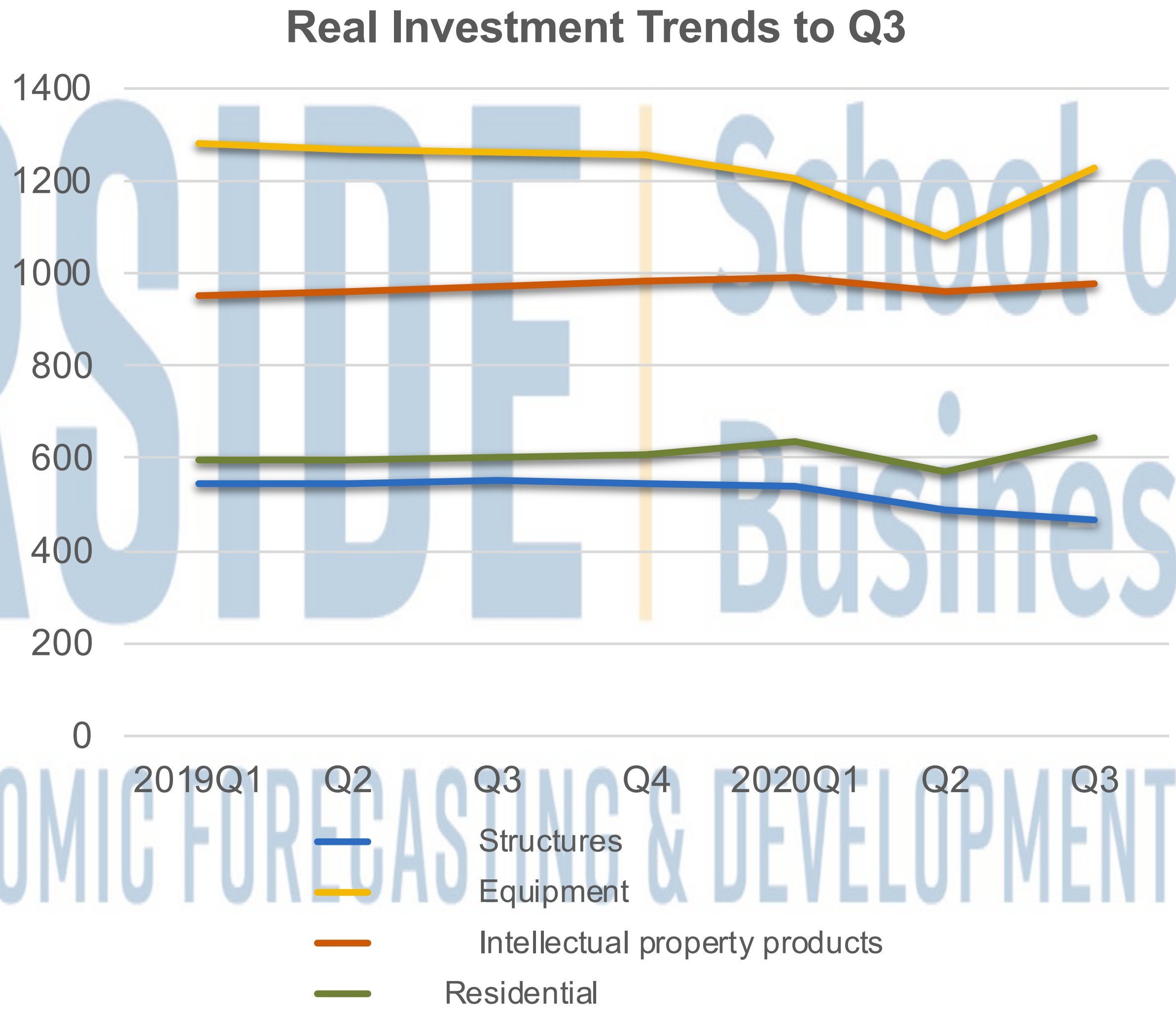
Trade Activity – Imports



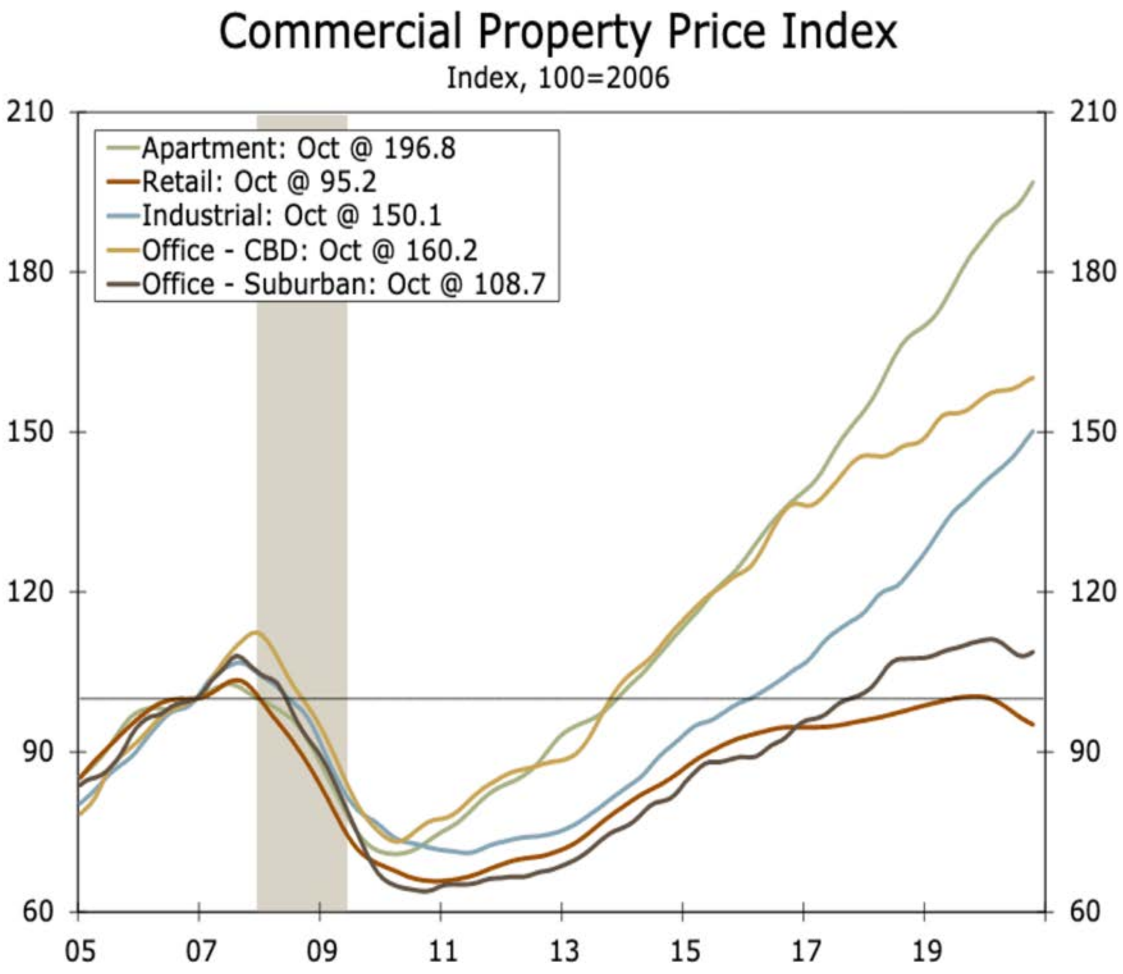


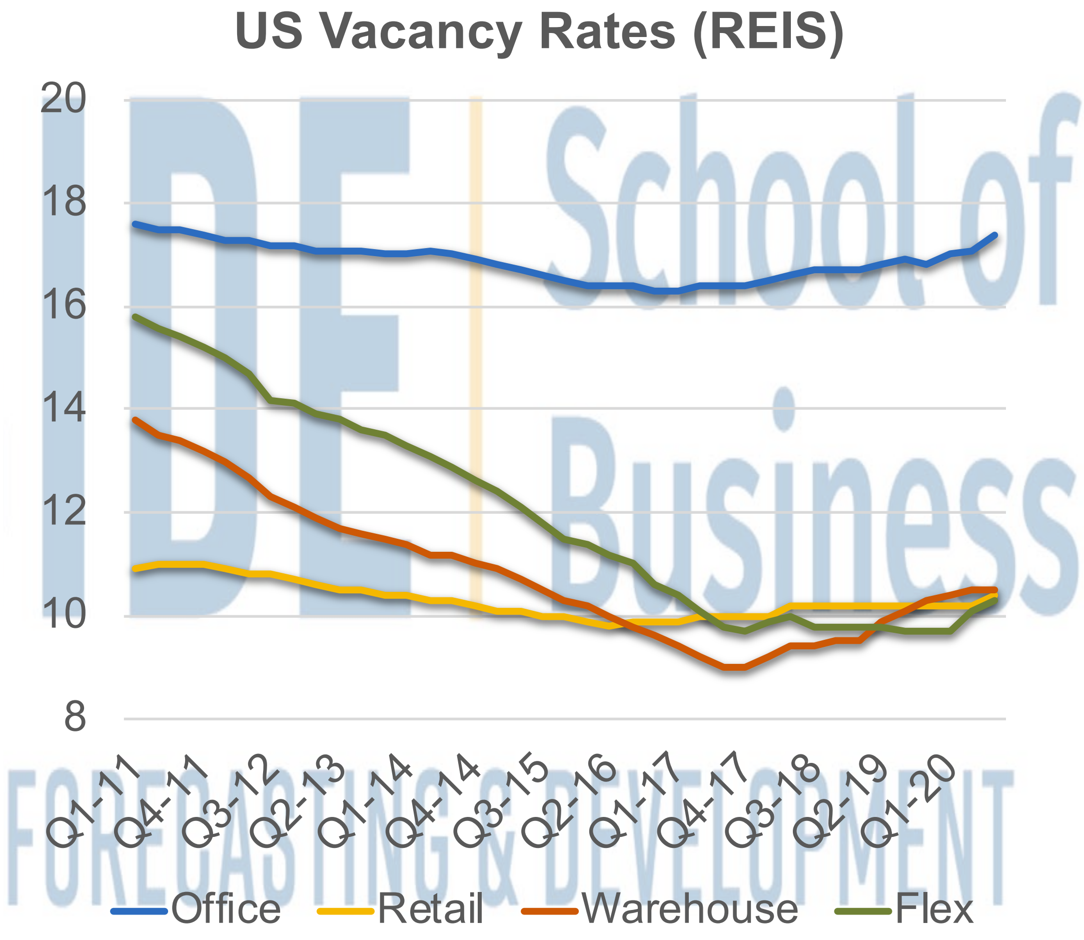
Investment Trends

	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%**

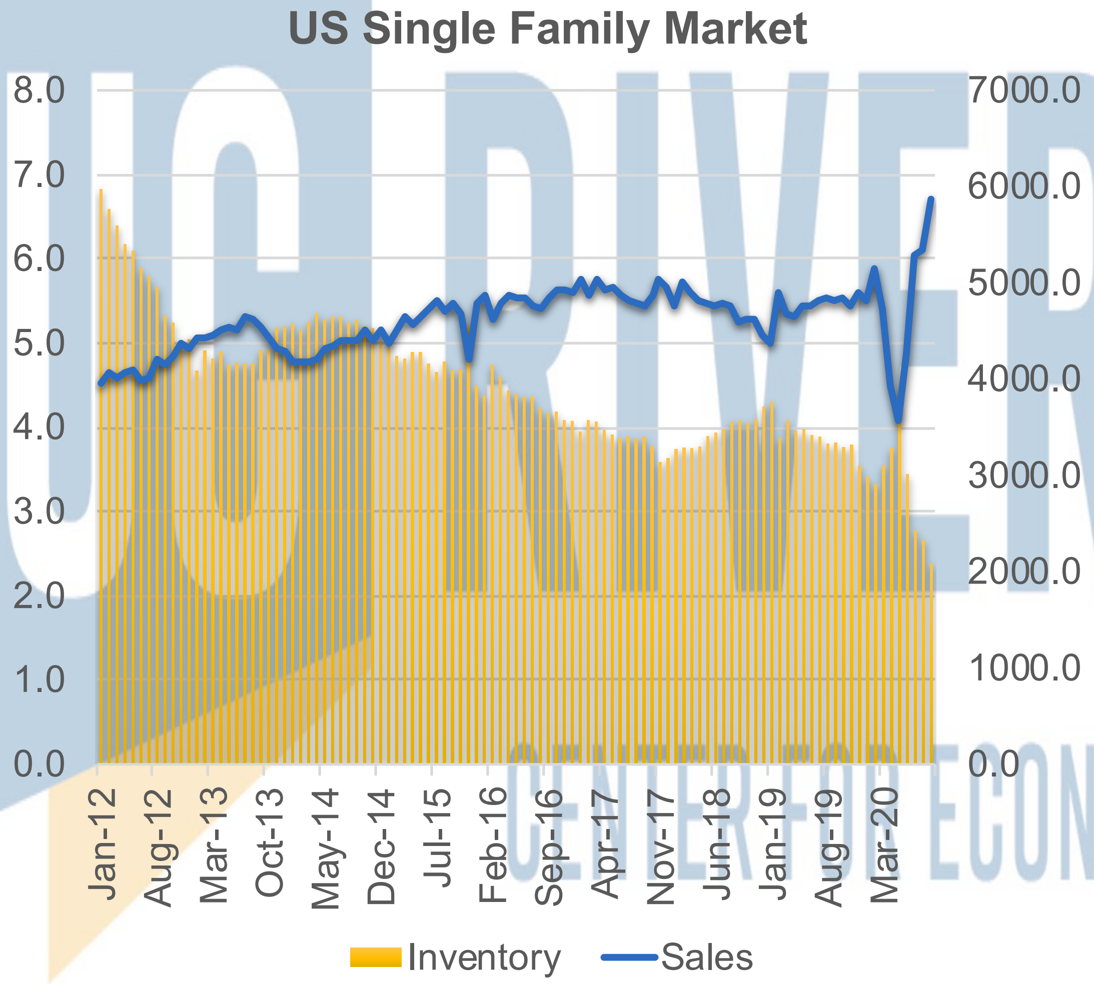


Commercial RE Markets

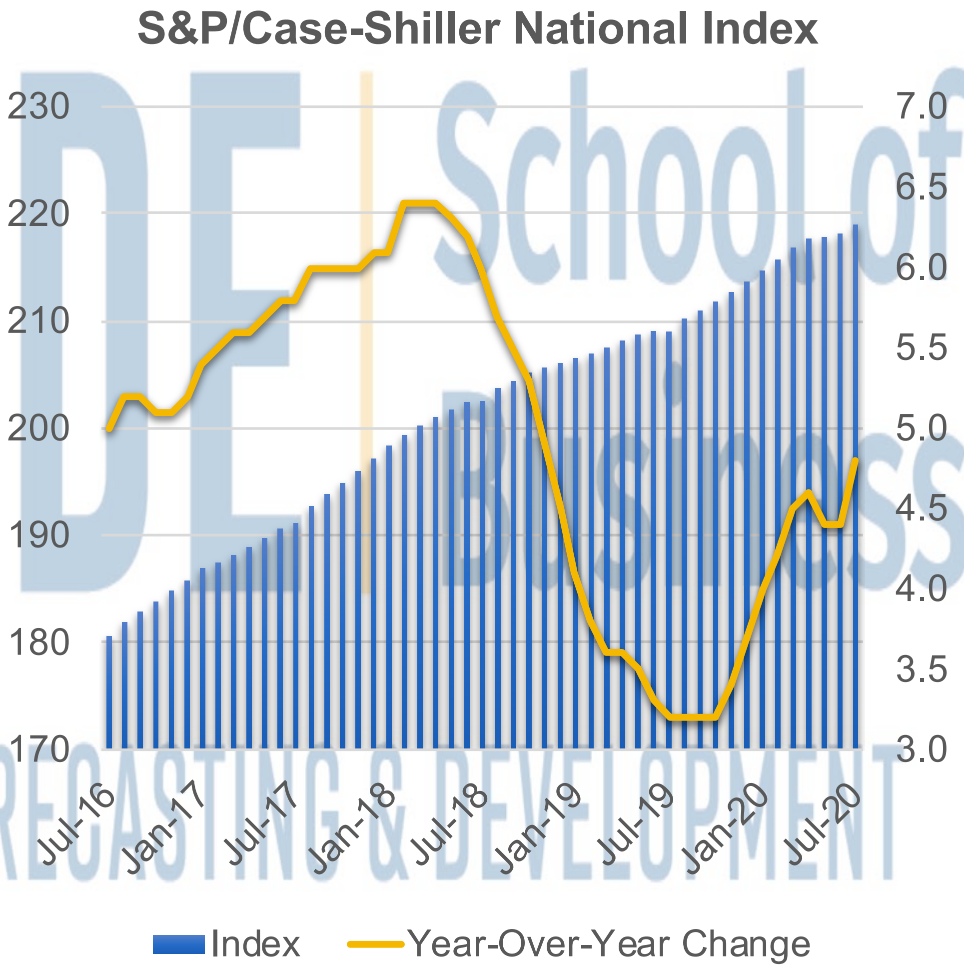




Housing – U.S.

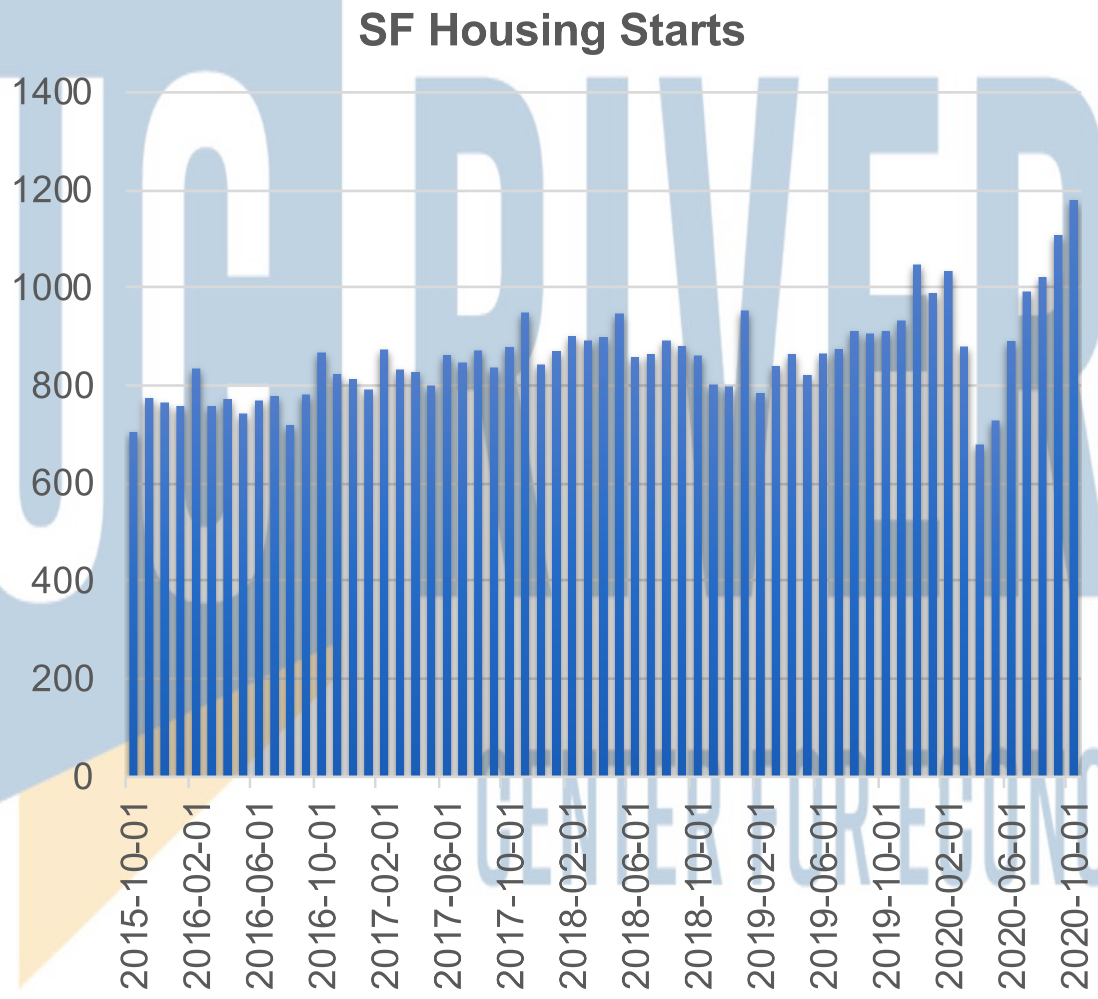


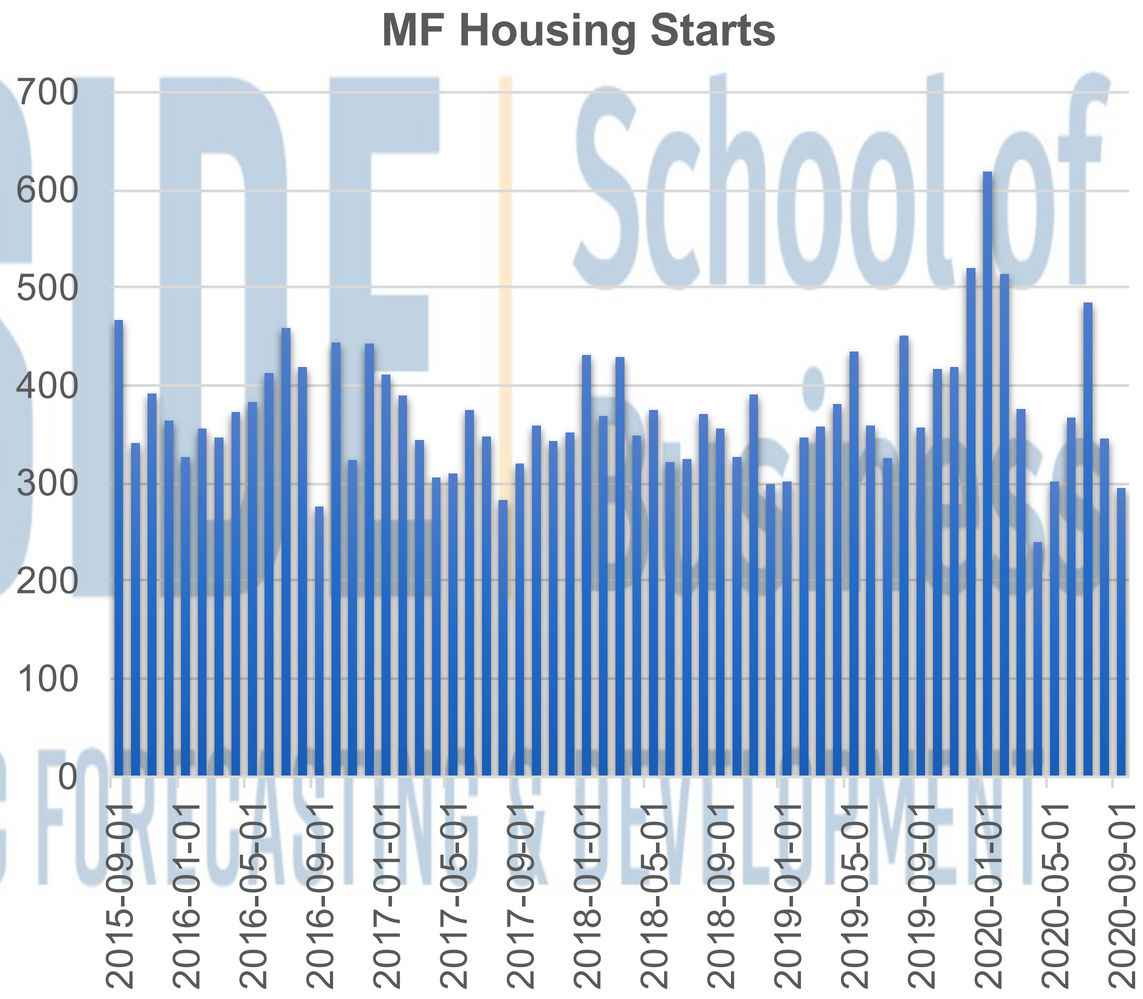
US Single Family Market
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
7000.0
6000.0
5000.0
4000.0
3000.0
2000.0
1000.0
0.0
Jan-12
Aug-12
Mar-13
Oct-13
May-14
Dec-14
Jul-15
Feb-16
Sep-16
Apr-17
Nov-17
Jun-18
Jan-19
Aug-19
Mar-20
Inventory
Sales



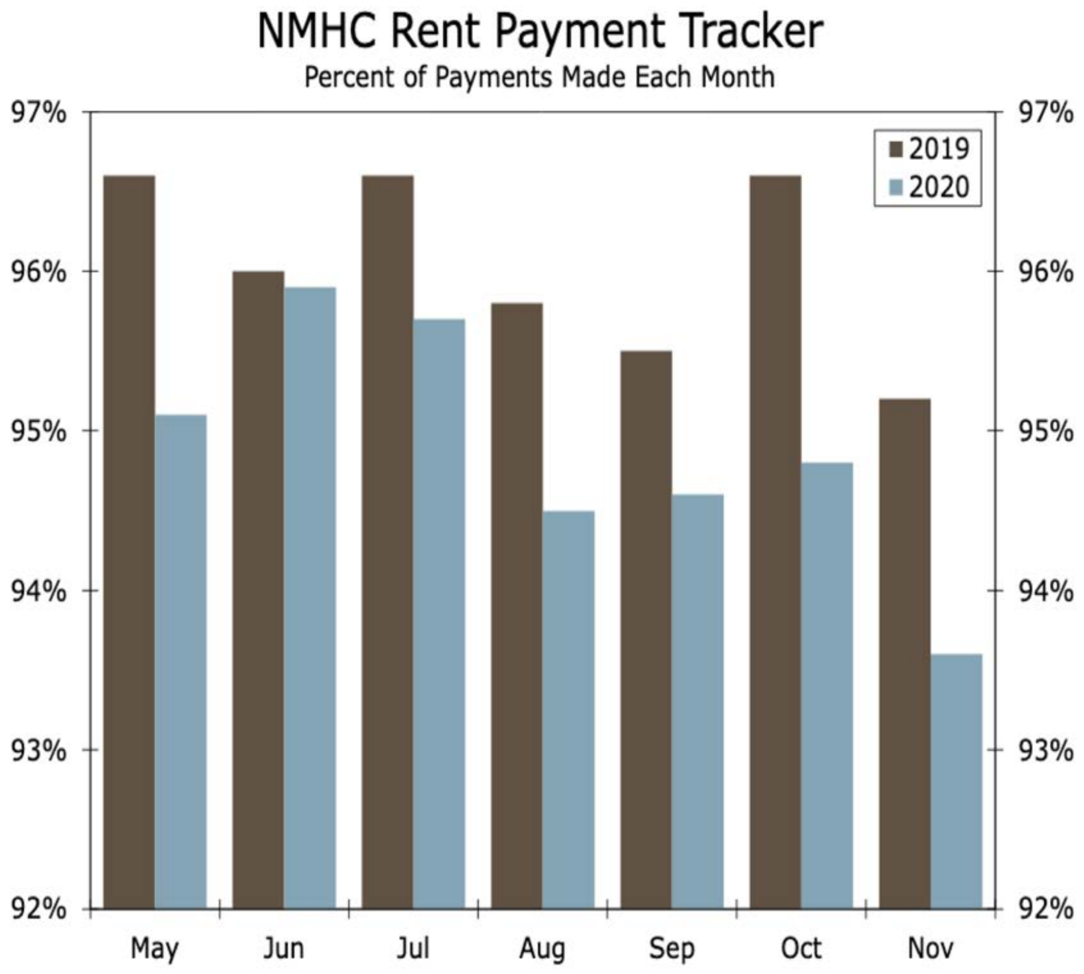
S&P/Case-Shiller National Index
230
220
210
200
190
180
170
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
Jul-16
Jan-17
Jul-17
Jan-18
Jul-18
Jan-19
Jul-19
Jan-20
Jul-20
Index
Year-Over-Year Change

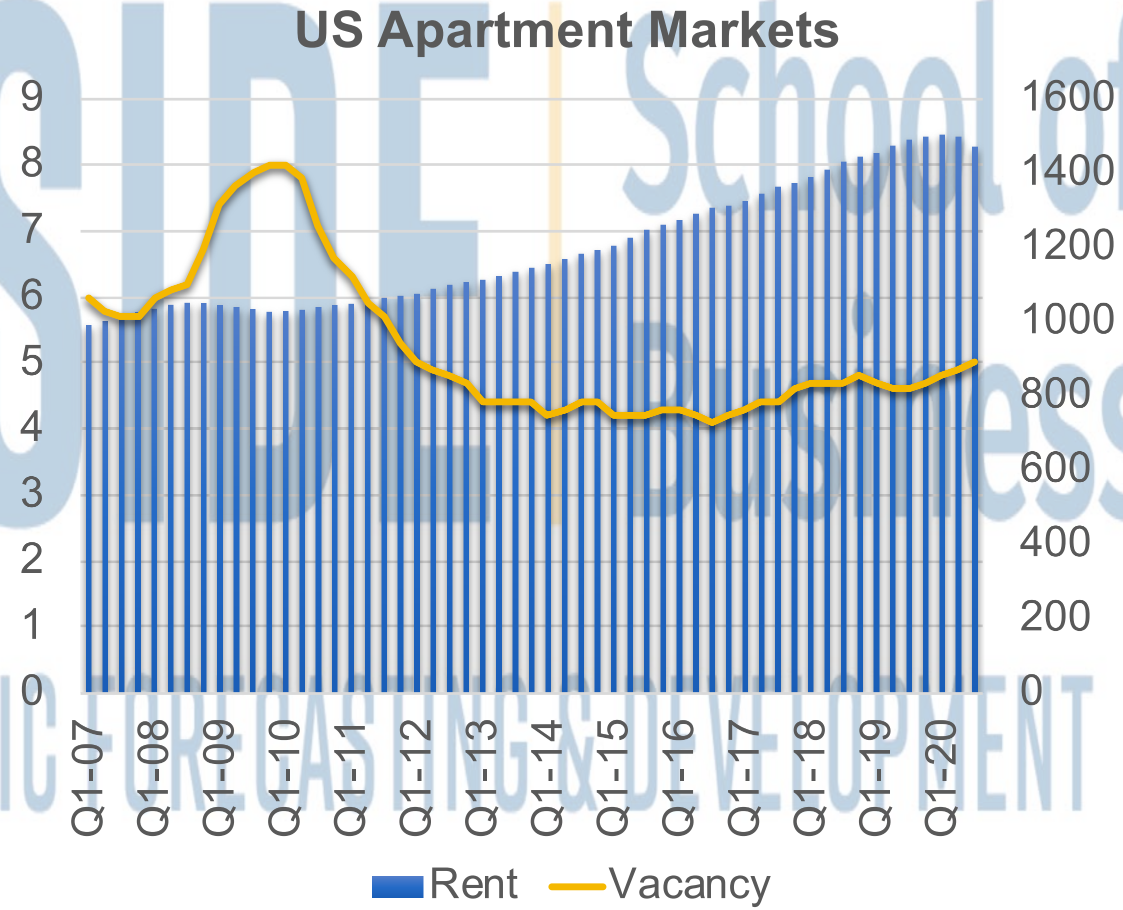
Housing Starts



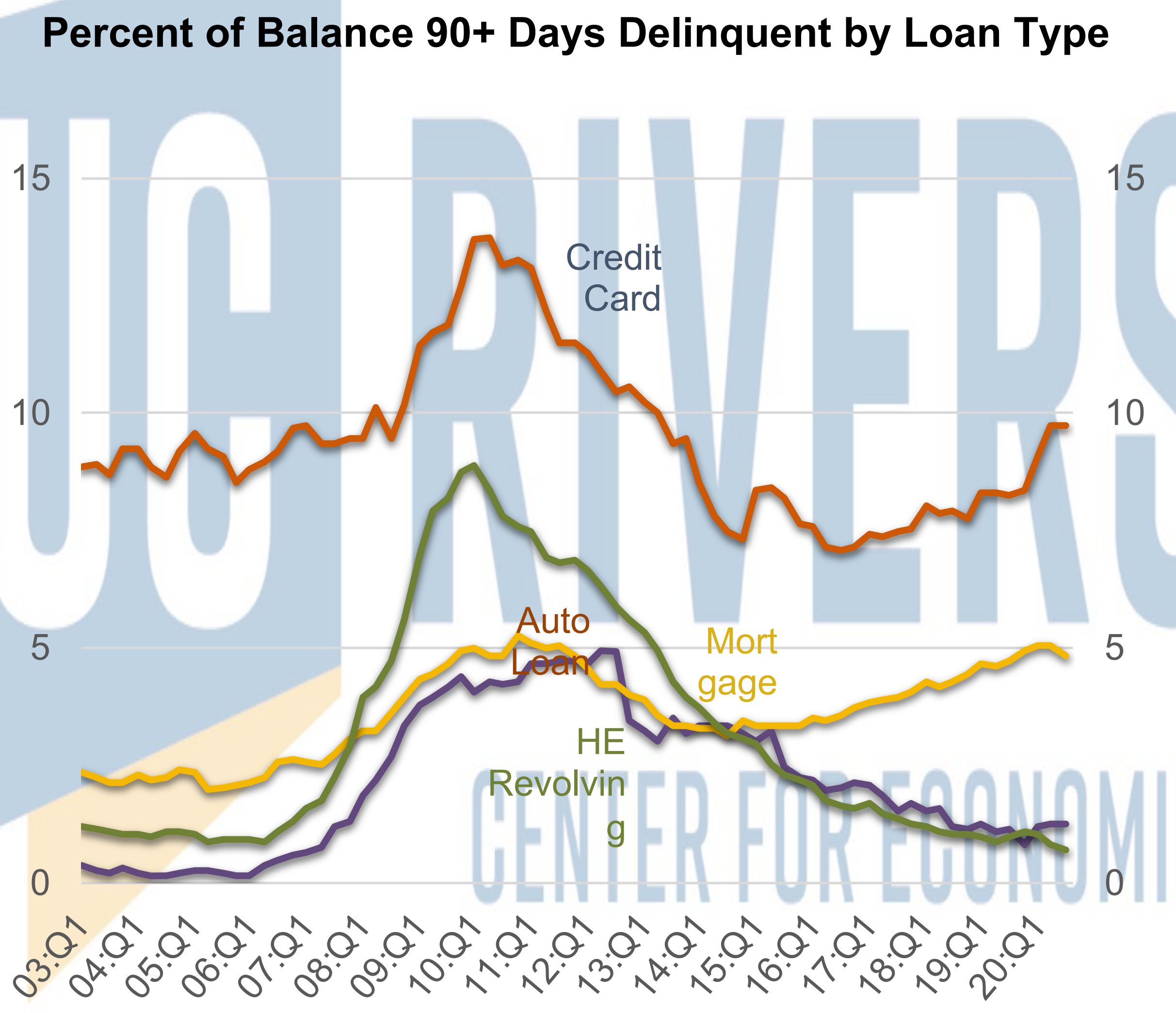


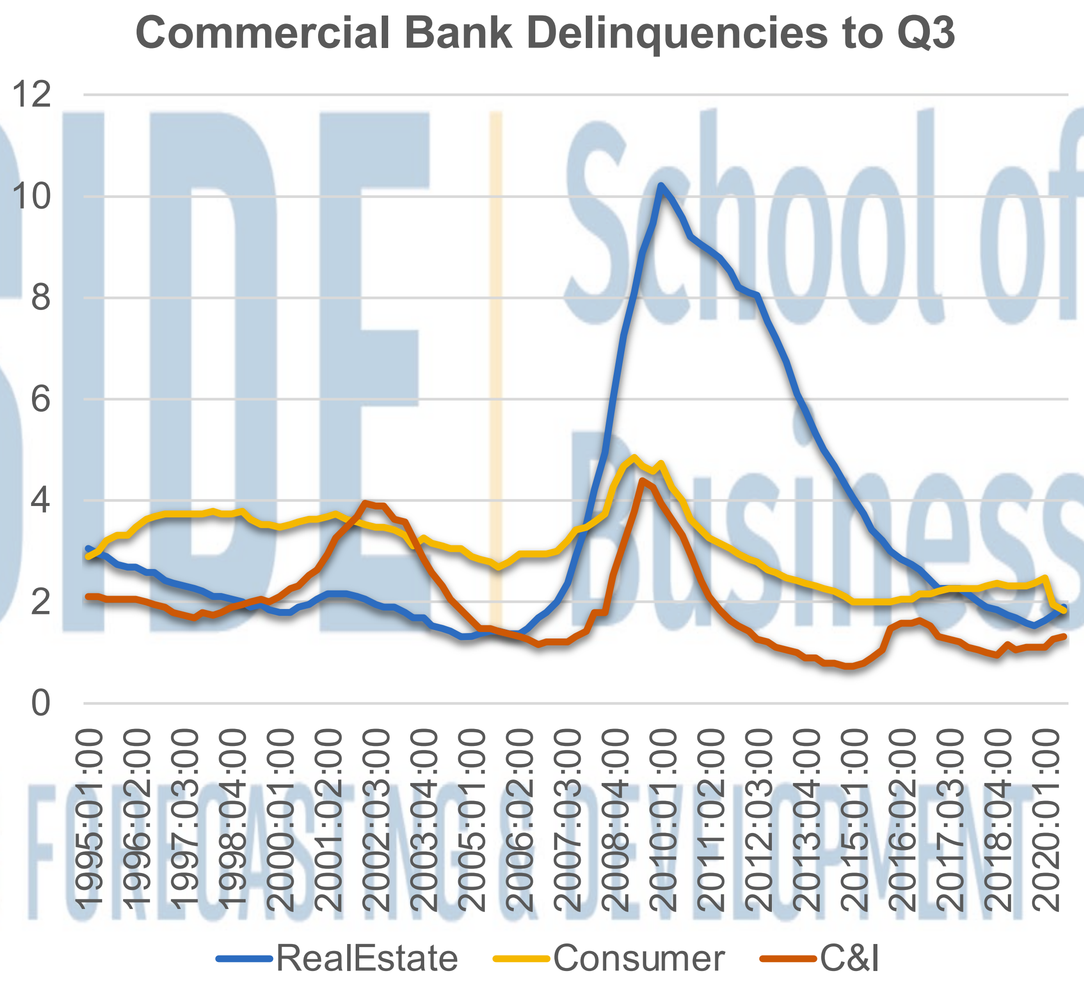
Apartment Market



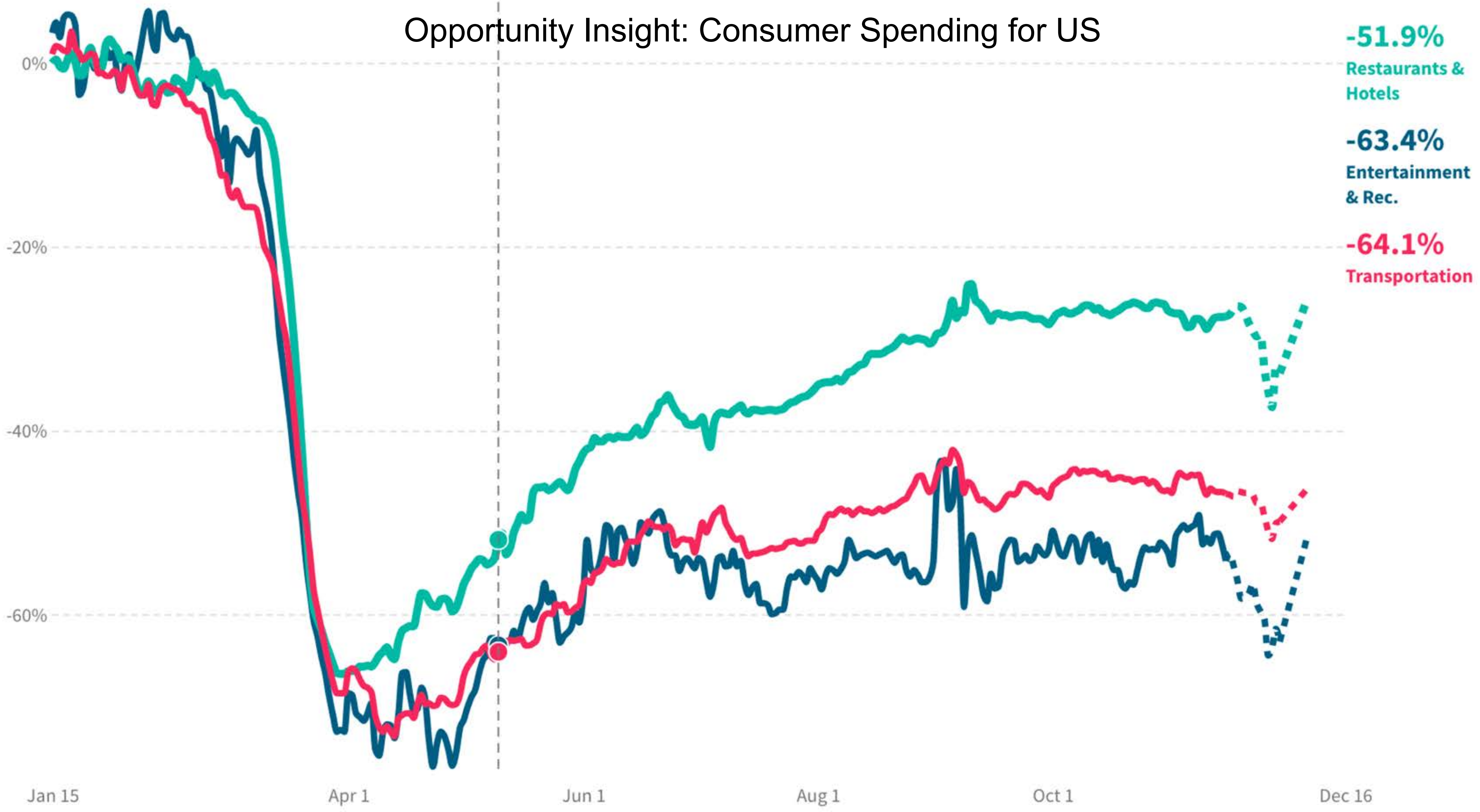


Credit issues?





Lagging sectors

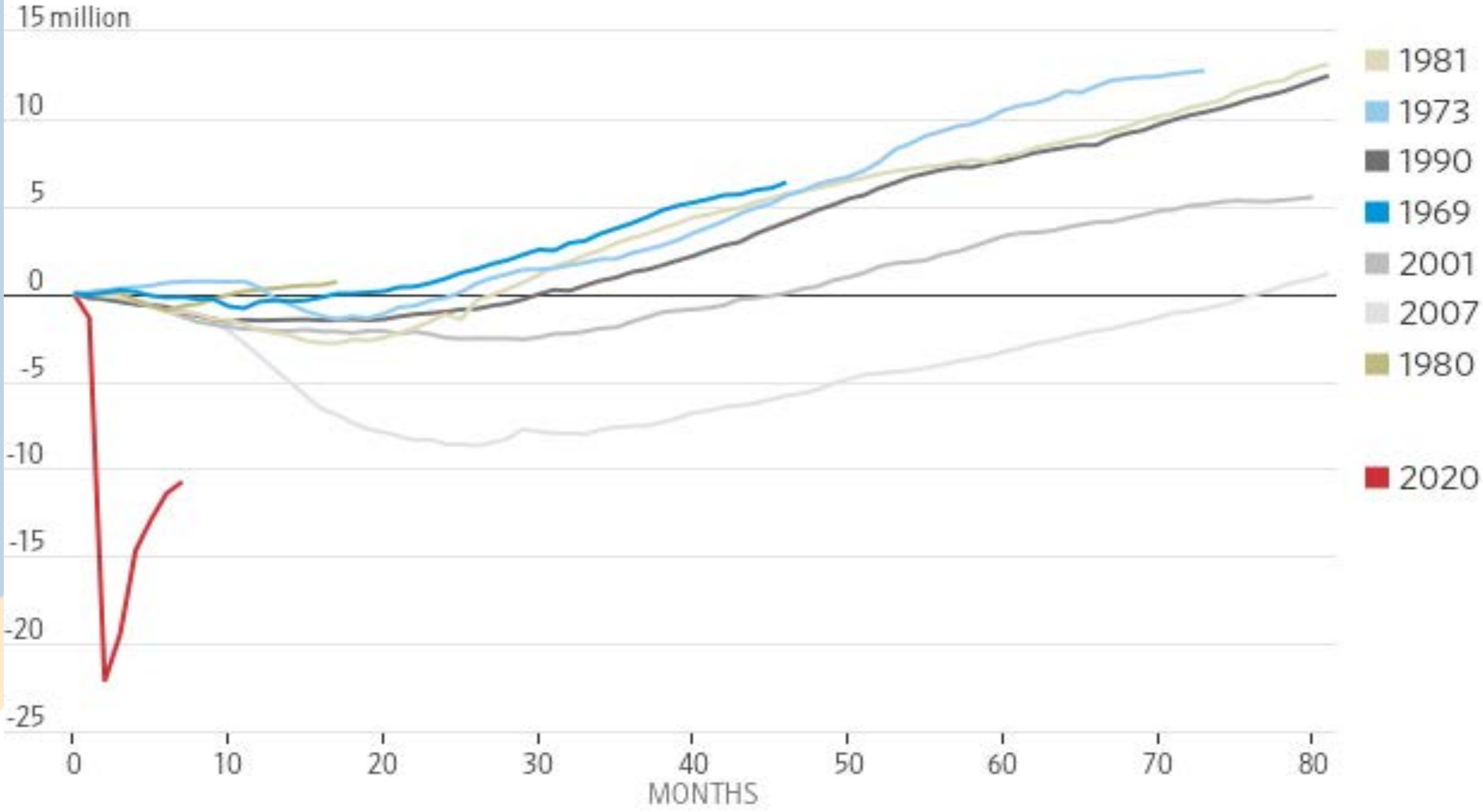


The Final Fix

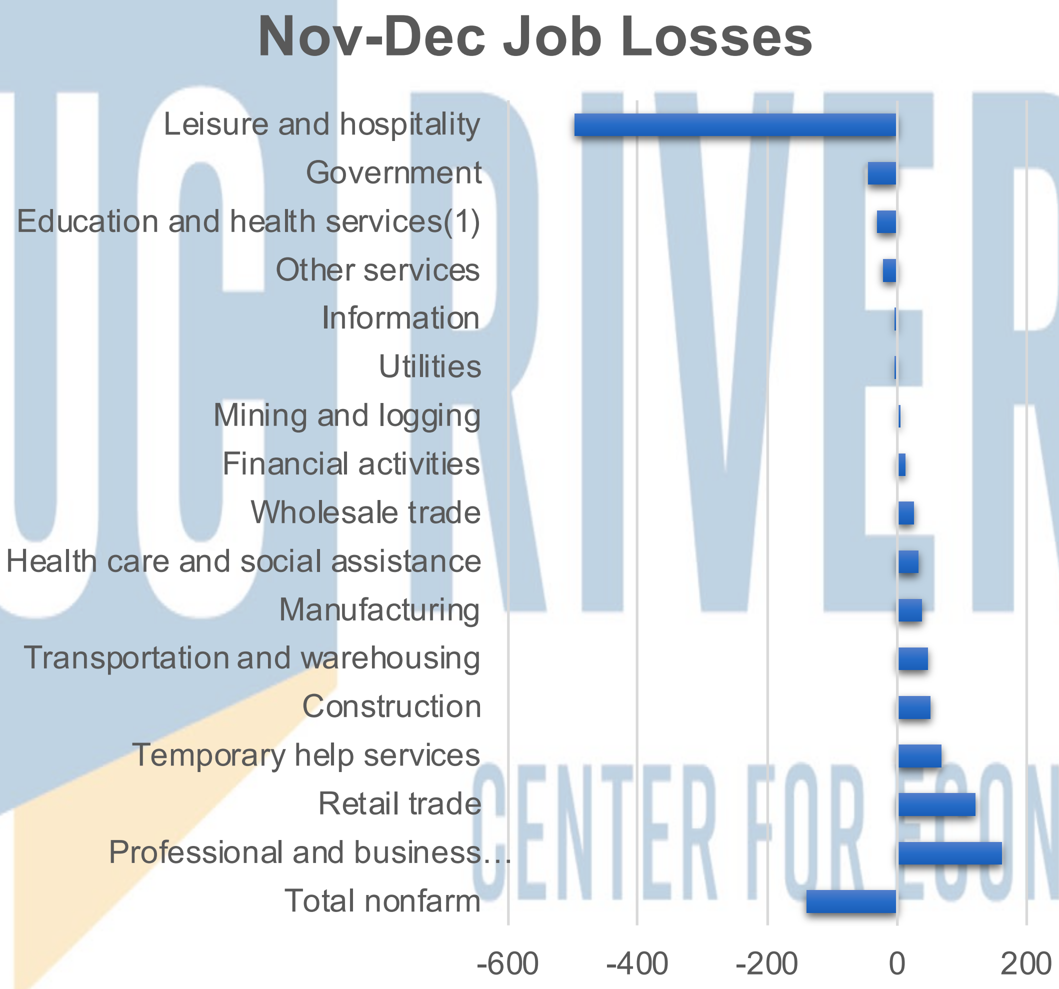
Leading vaccines

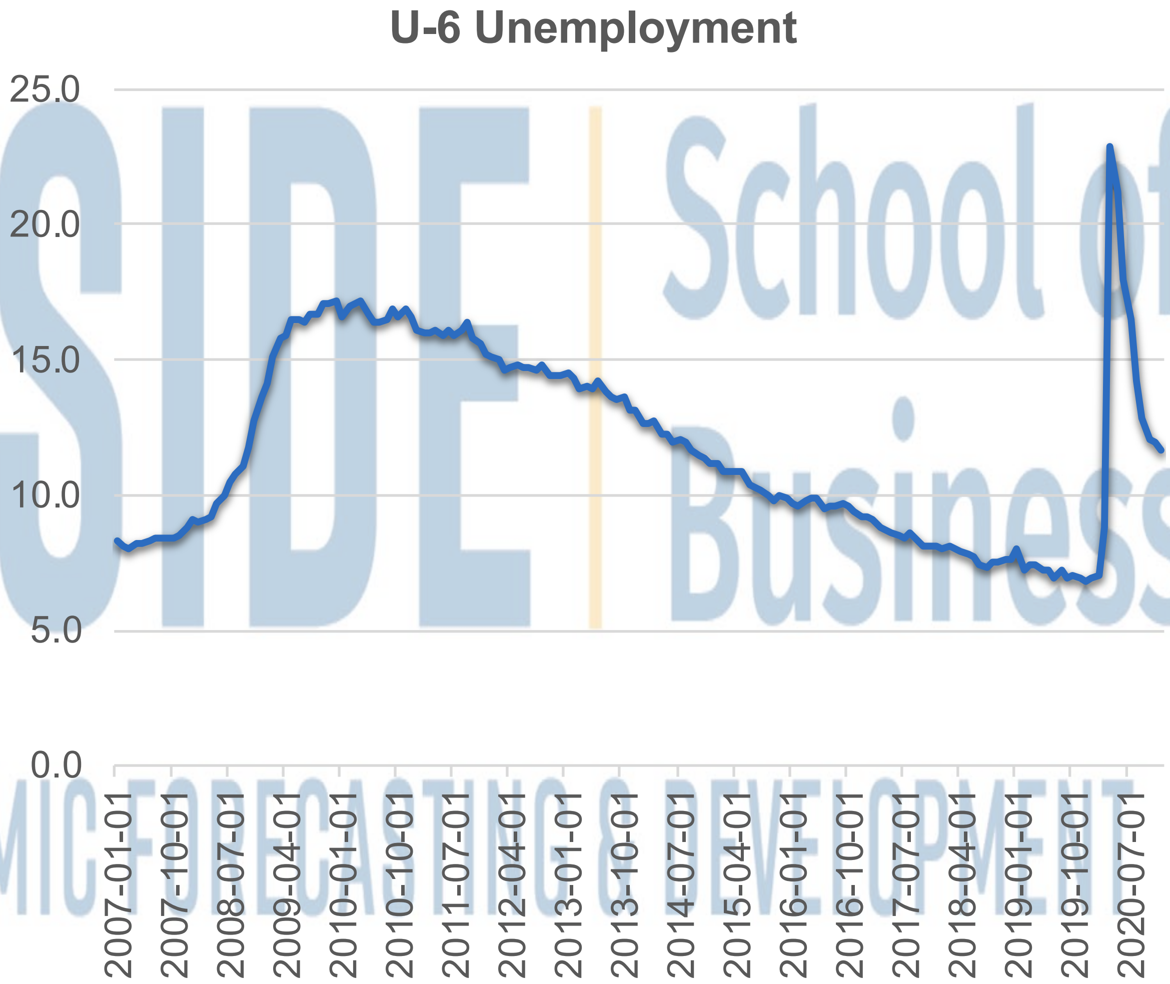
Developer	Type	Phase	Status
Pfizer-BioNTech	mRNA	2 3	Approved in Canada and other countries. Emergency use in U.S. and other countries.
Moderna	mRNA	3	Under F.D.A. review.
CanSino	Adenovirus	3	Limited use in China.
Gamaleya	Adenovirus	3	Early use in Russia.
Johnson & Johnson	Adenovirus	3	
Oxford-AstraZeneca	Adenovirus	2 3	
Novavax	Protein	3	
Vector Institute	Protein	1 2	Early use in Russia.

The biggest lagging indicator: Jobs

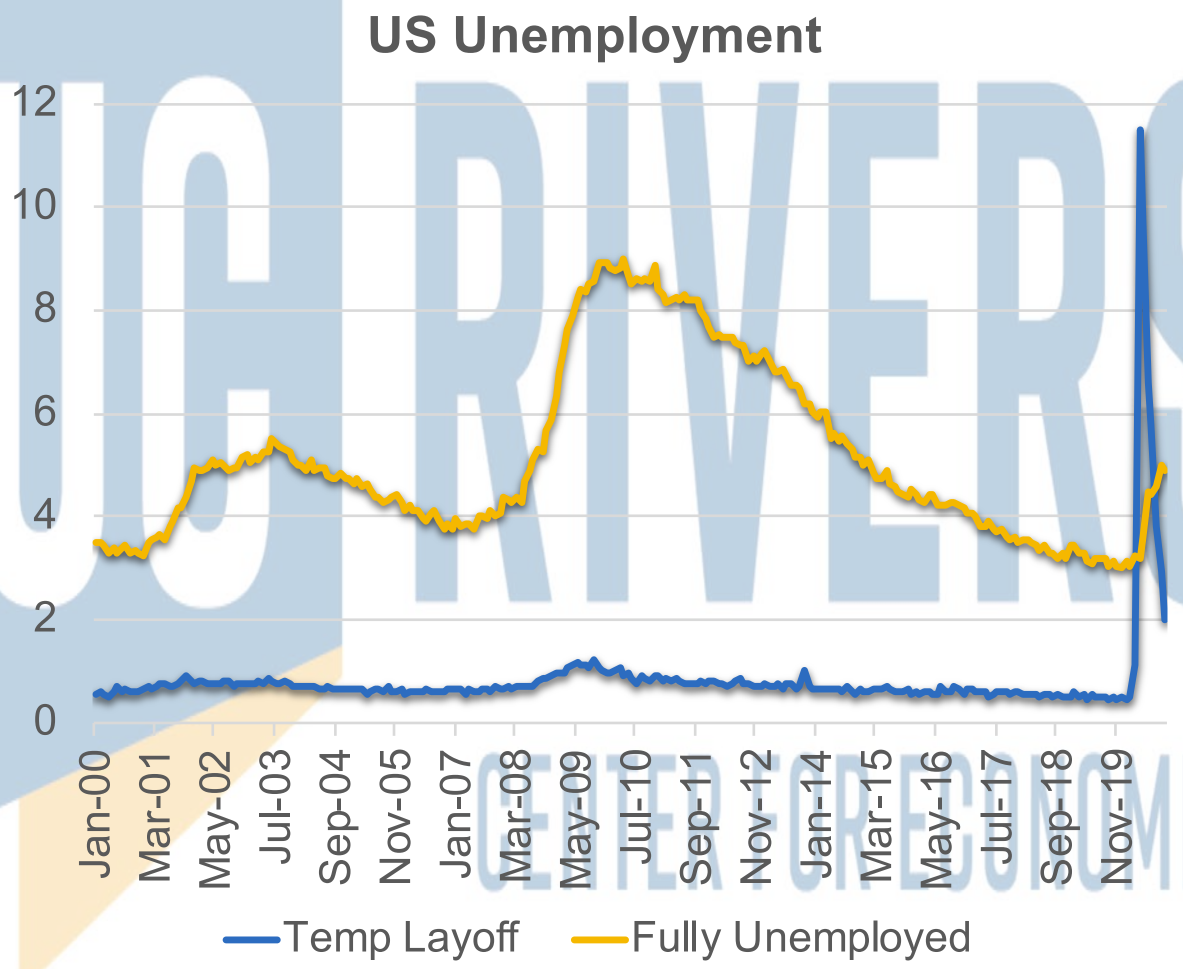


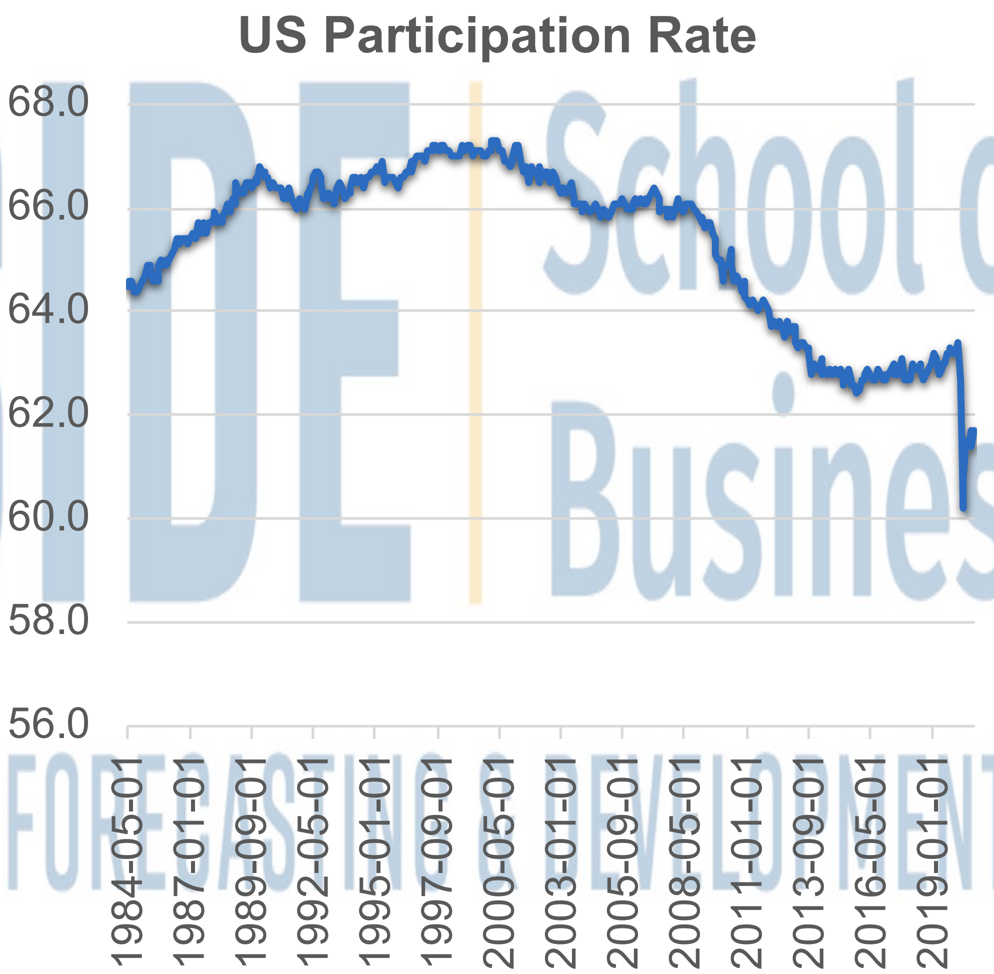
Silver Linings to a Cloudy December



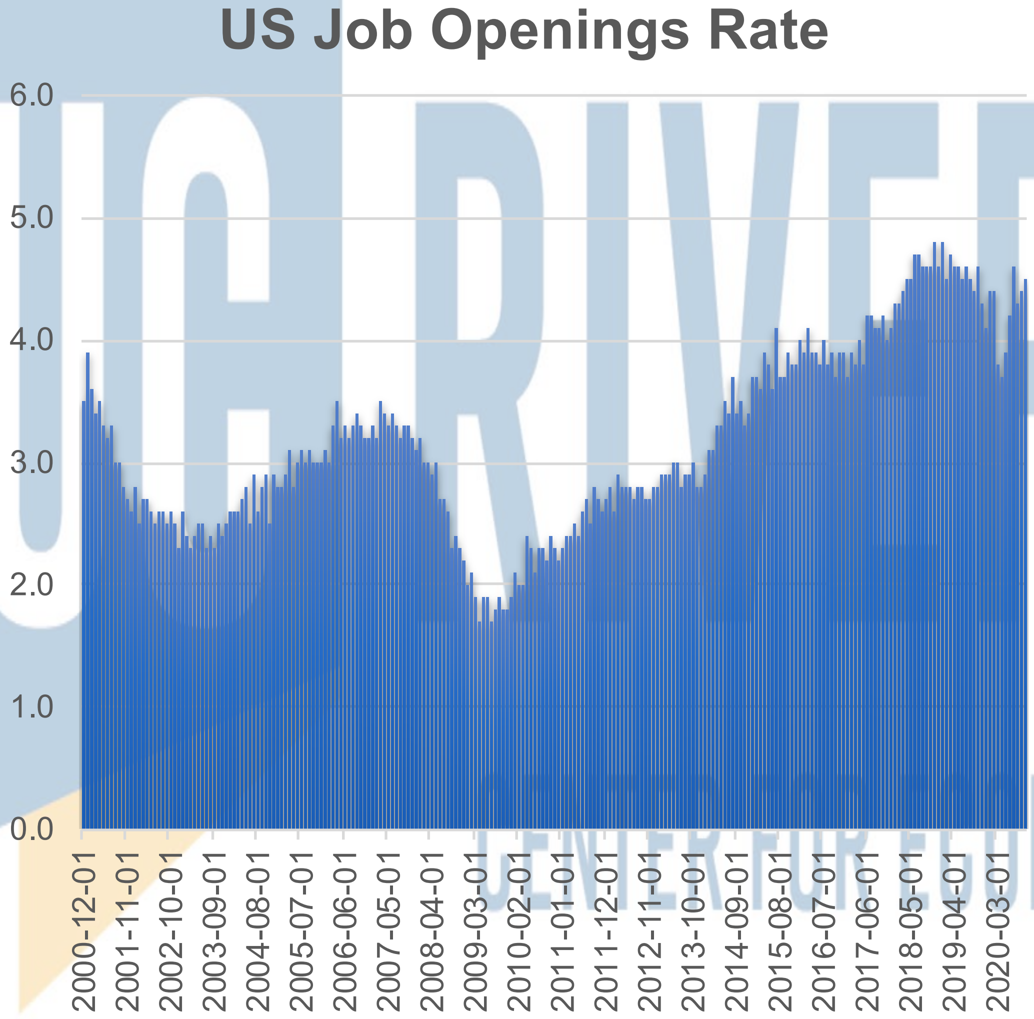


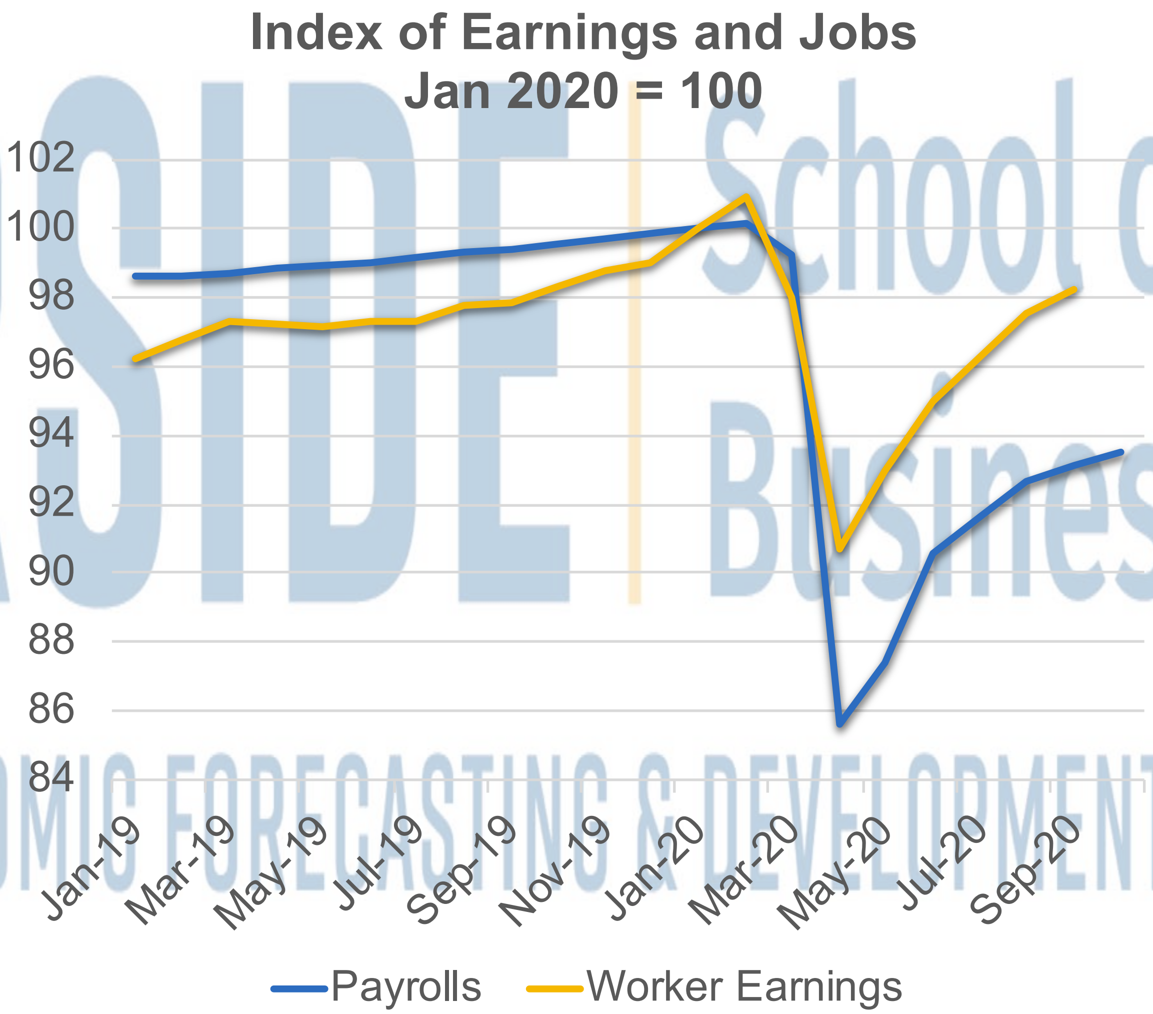
Labor Market Holes



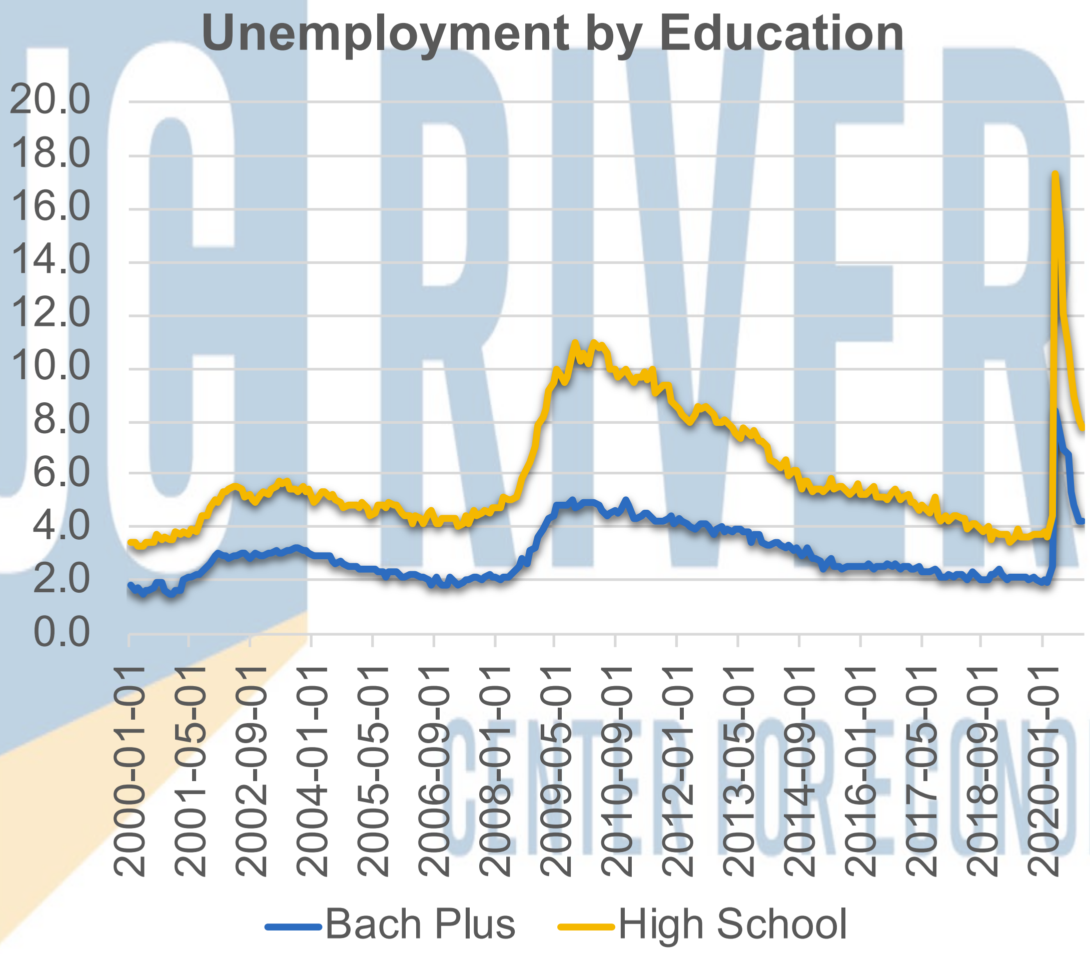


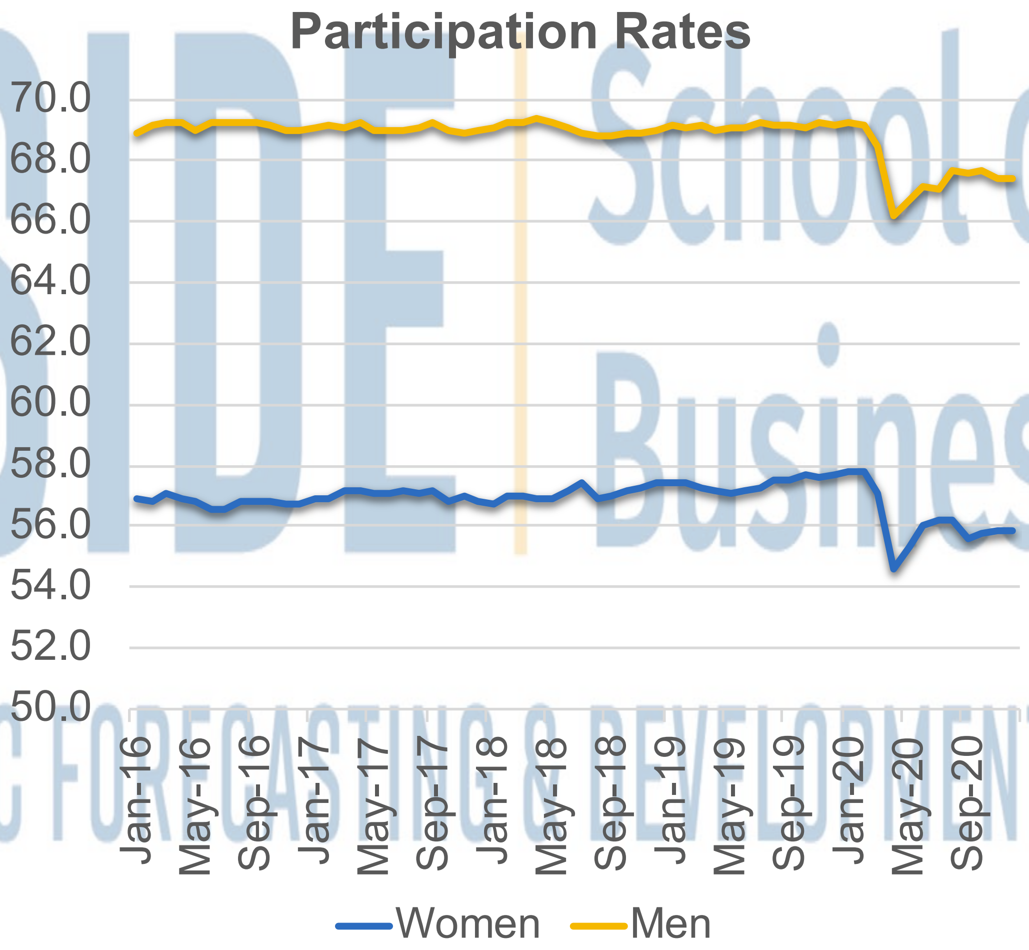
More Context



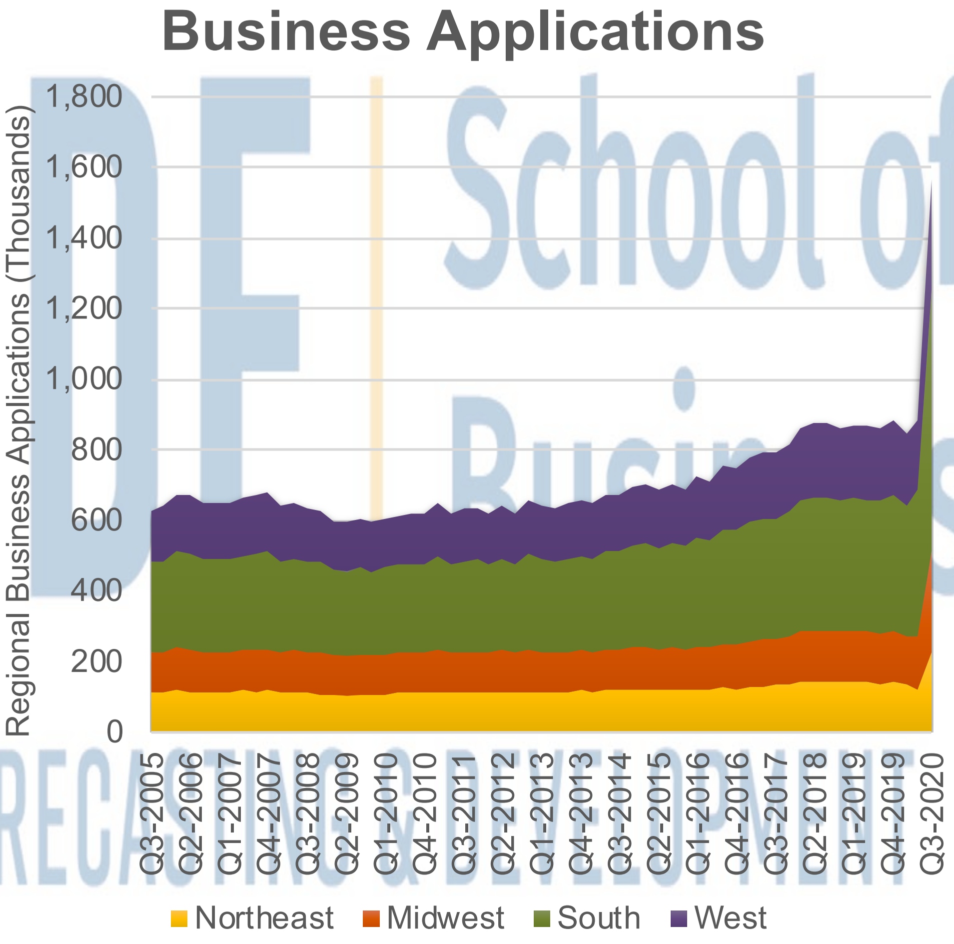


K Shaped Recovery?



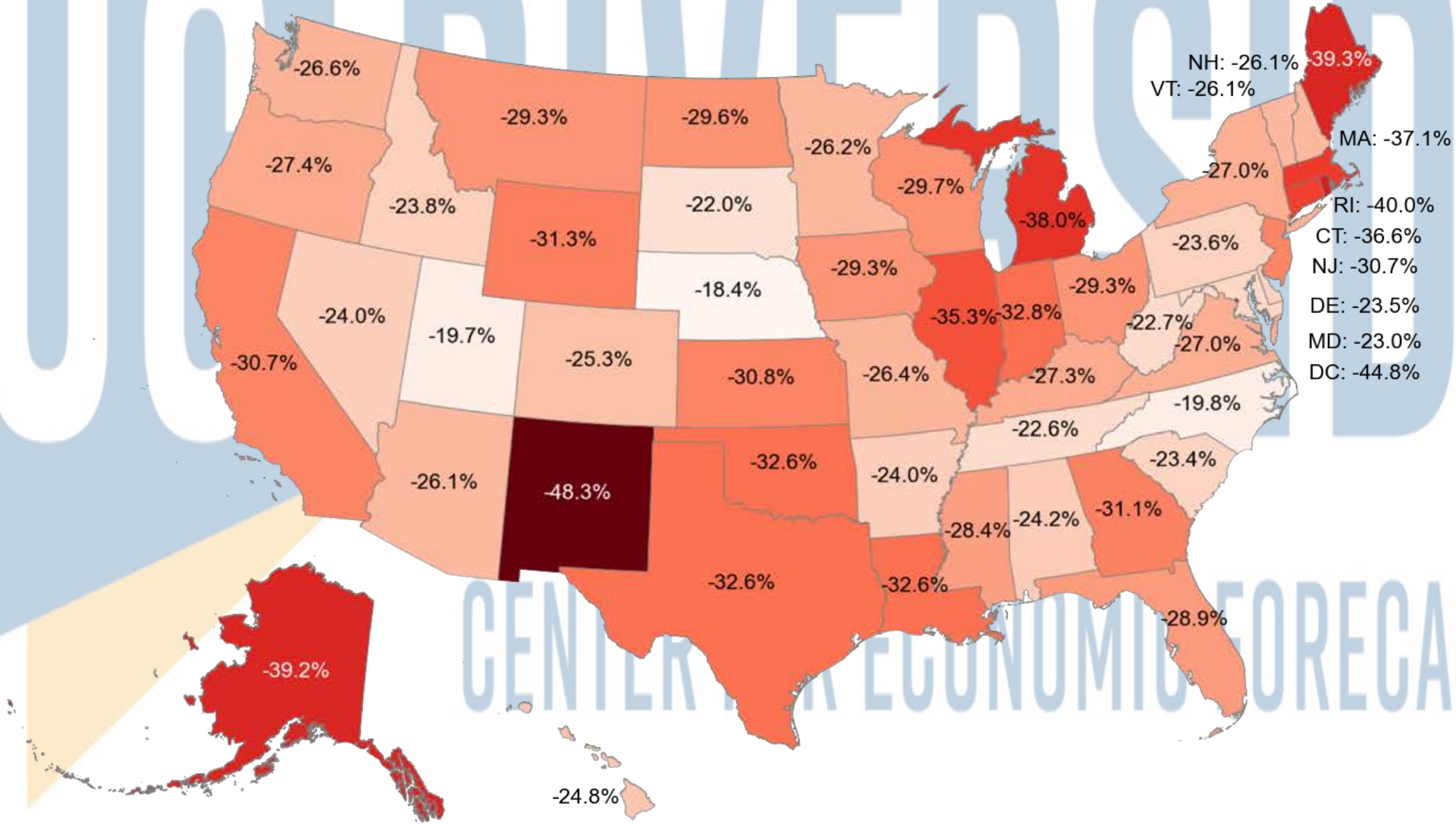


Small Business?



Open Businesses

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

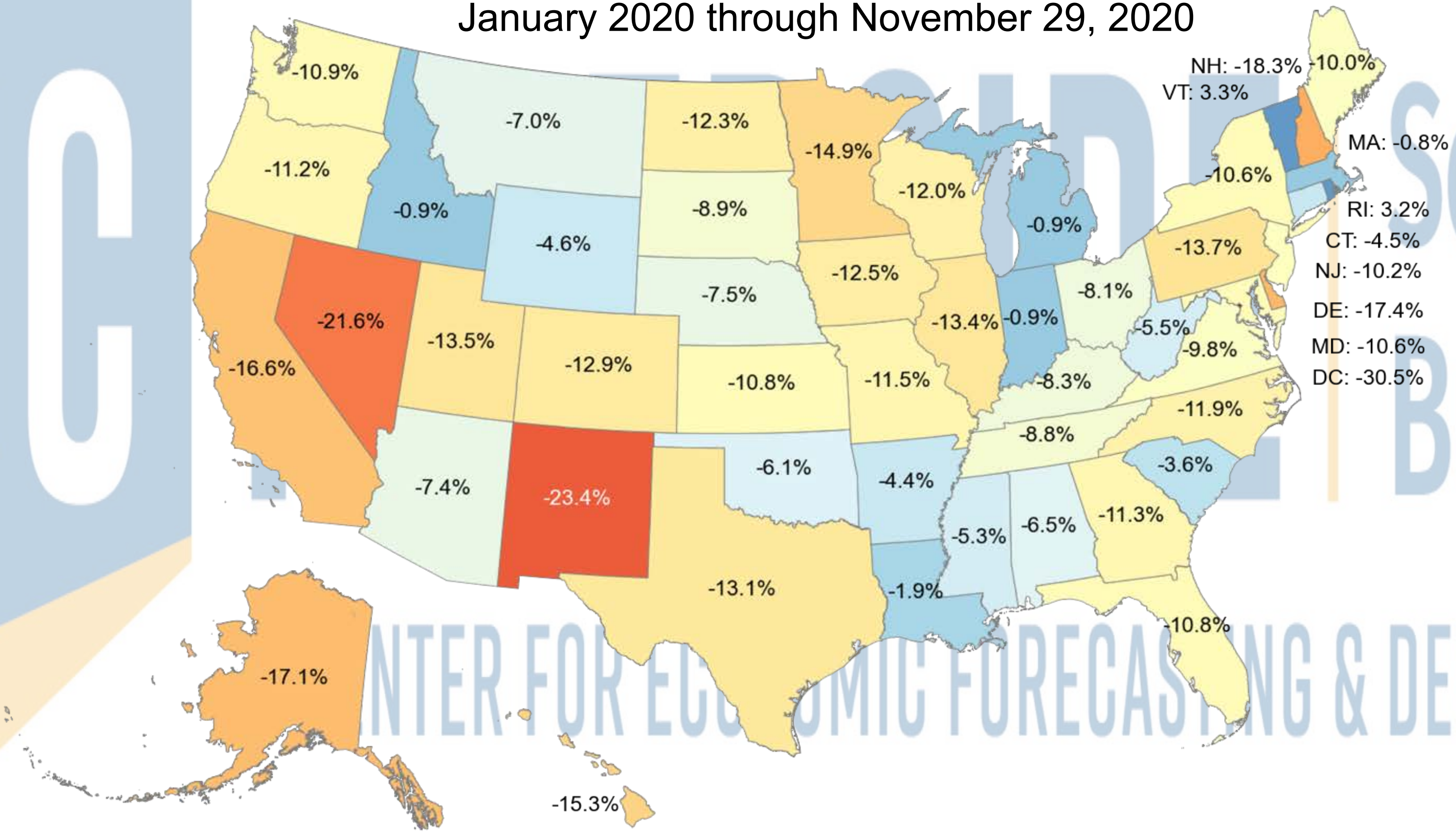


Nominal GDP Decline H1 2020

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%

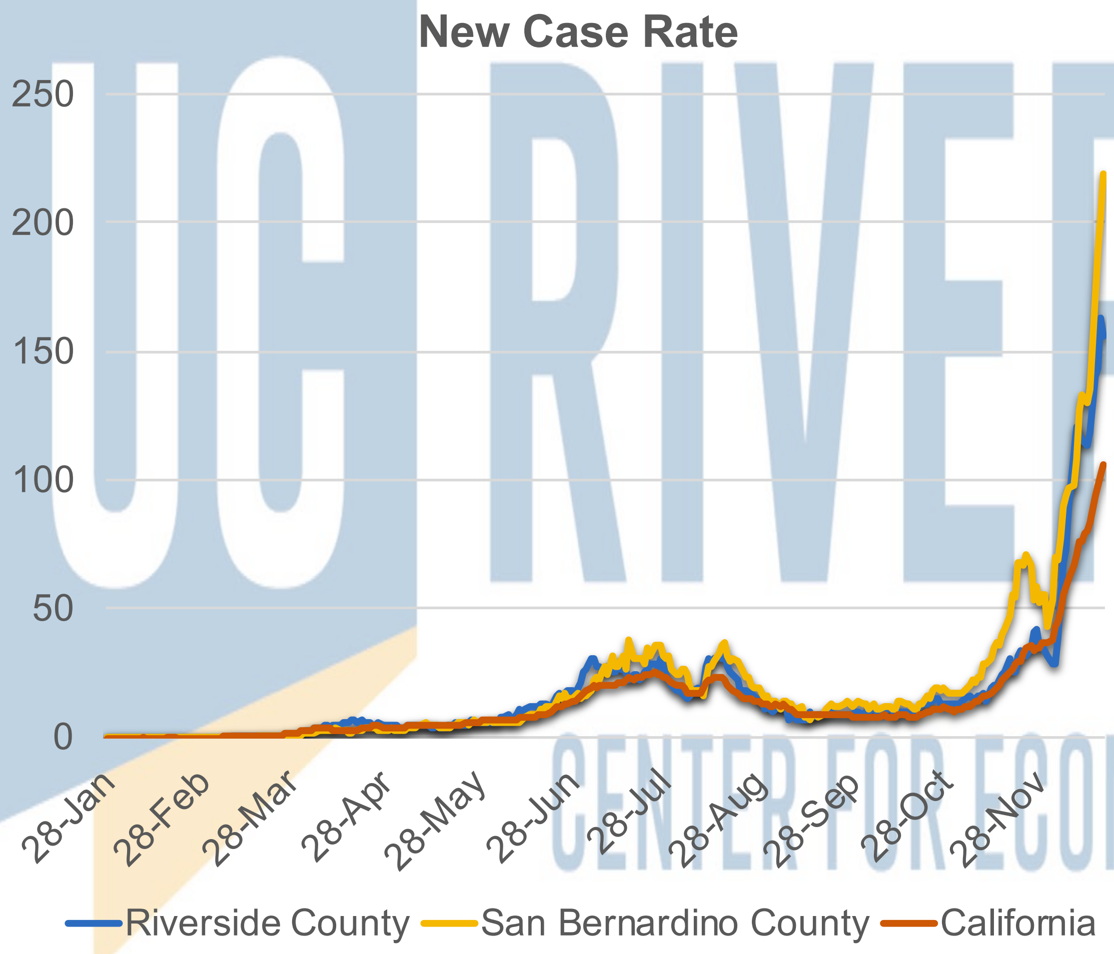
Consumer Spending

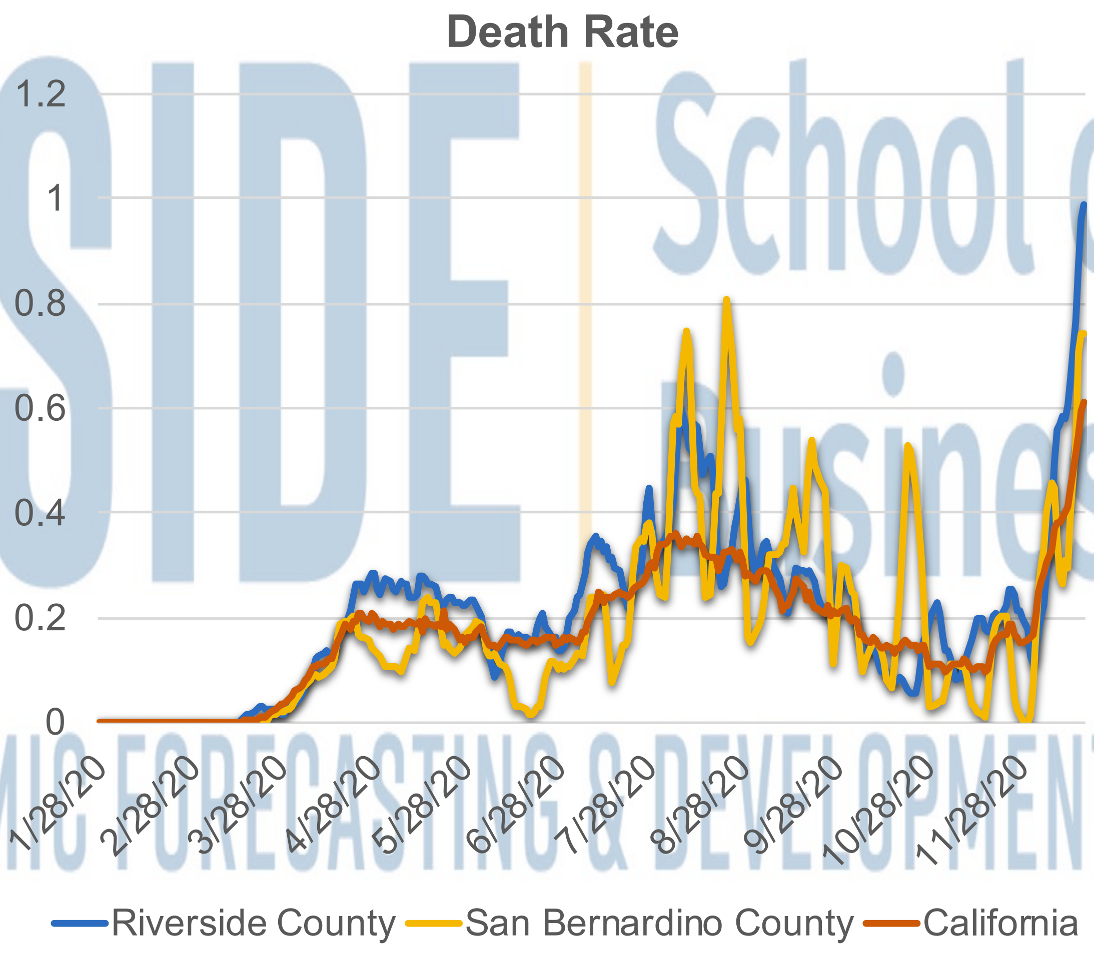
% Change in Consumer Spending:
January 2020 through November 29, 2020



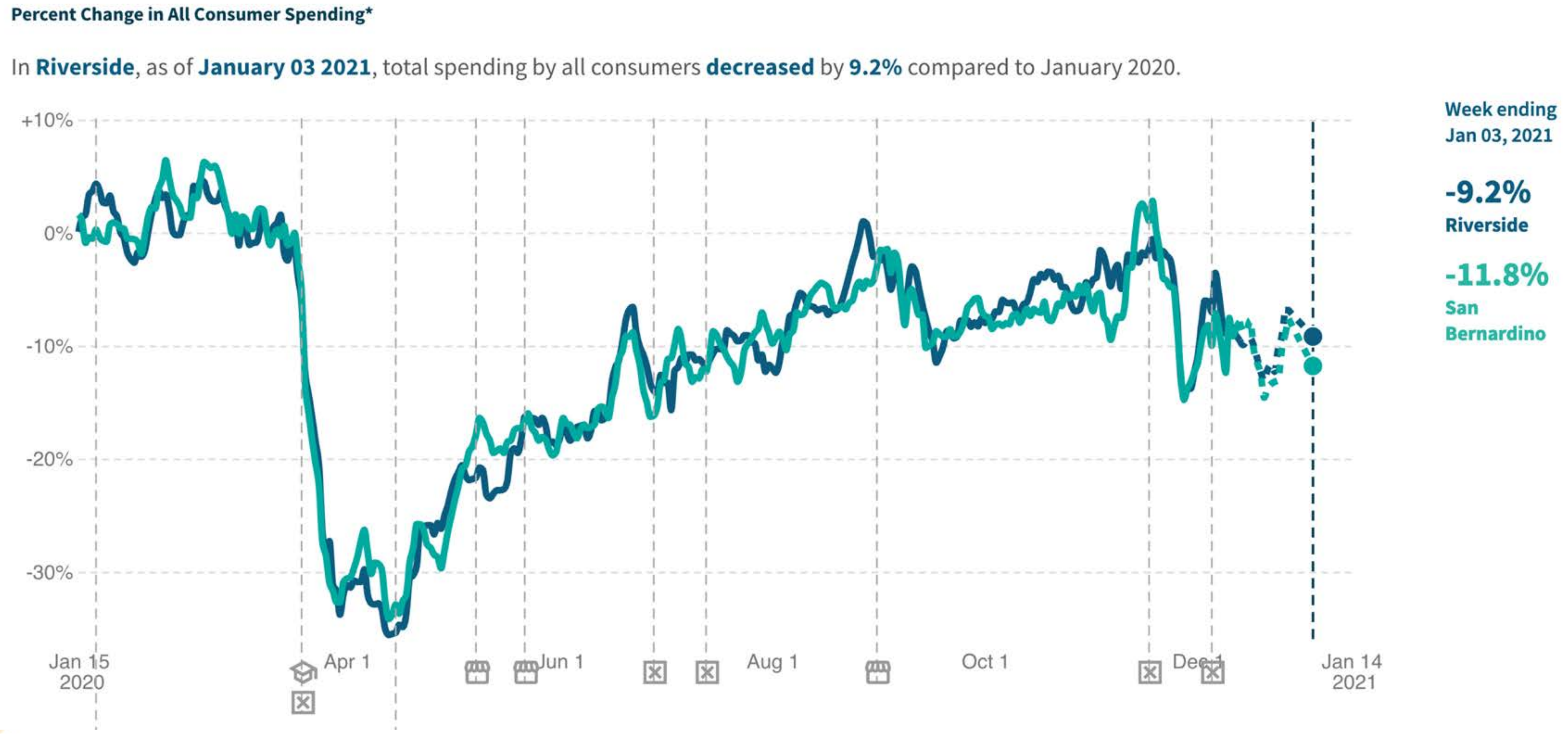
Source: Affinity Solutions / Opportunity Insights

Covid in the IE

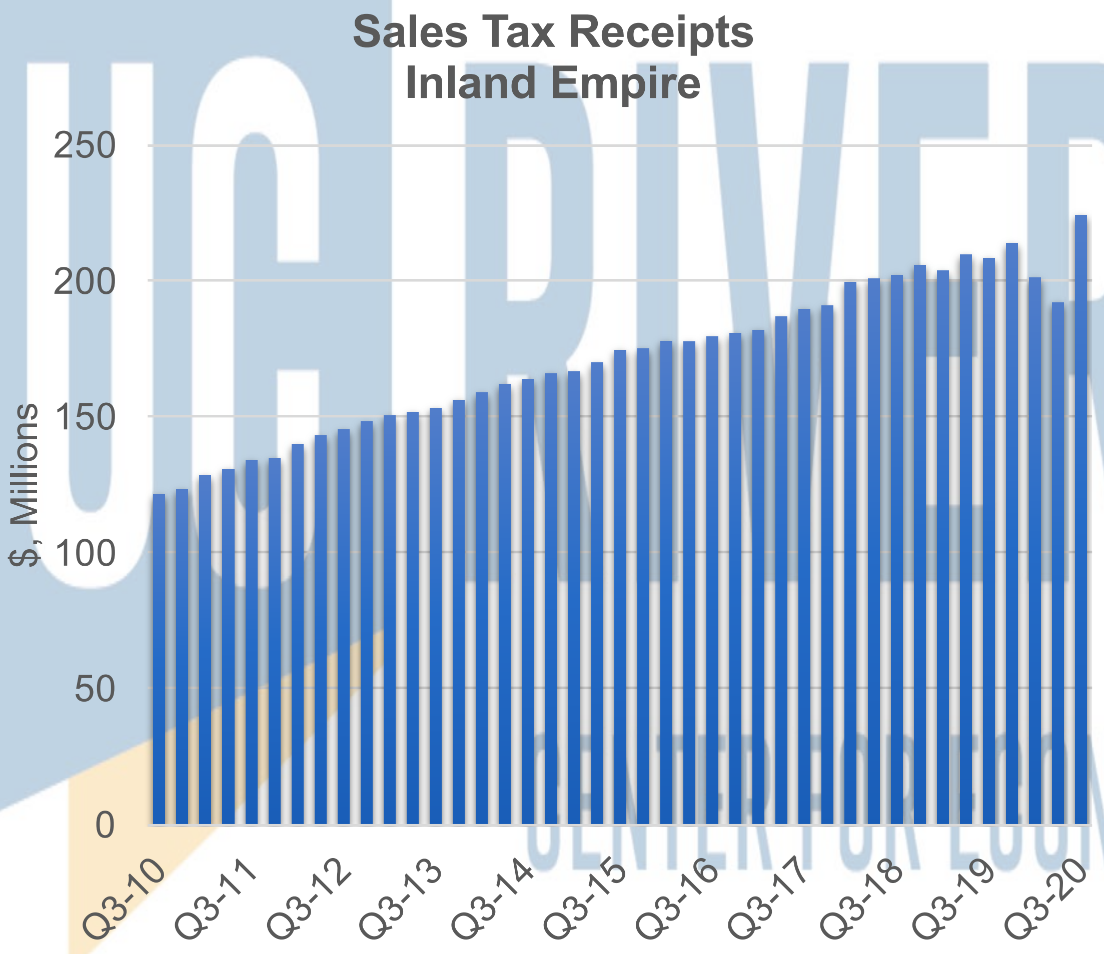




Consumer Spending and Behavior



Business Activity



Category	Q3-2020 Sales Tax ($, Mil.)	Year over Year % Growth	
		IE	CA
Total	221.4	7.6	-1.2
Food and Drugs	11.0	20.7	11.2
Building and Construction	25.4	13.3	6.4
Autos and Transportation	37.6	9.7	1.9
Business and Industry	37.0	3.7	3.9
General Consumer Goods	35.7	-3.1	-12.1
Restaurants and Hotels	18.4	-12.4	-33.0
Fuel and Service Stations	15.8	-23.5	-31.5

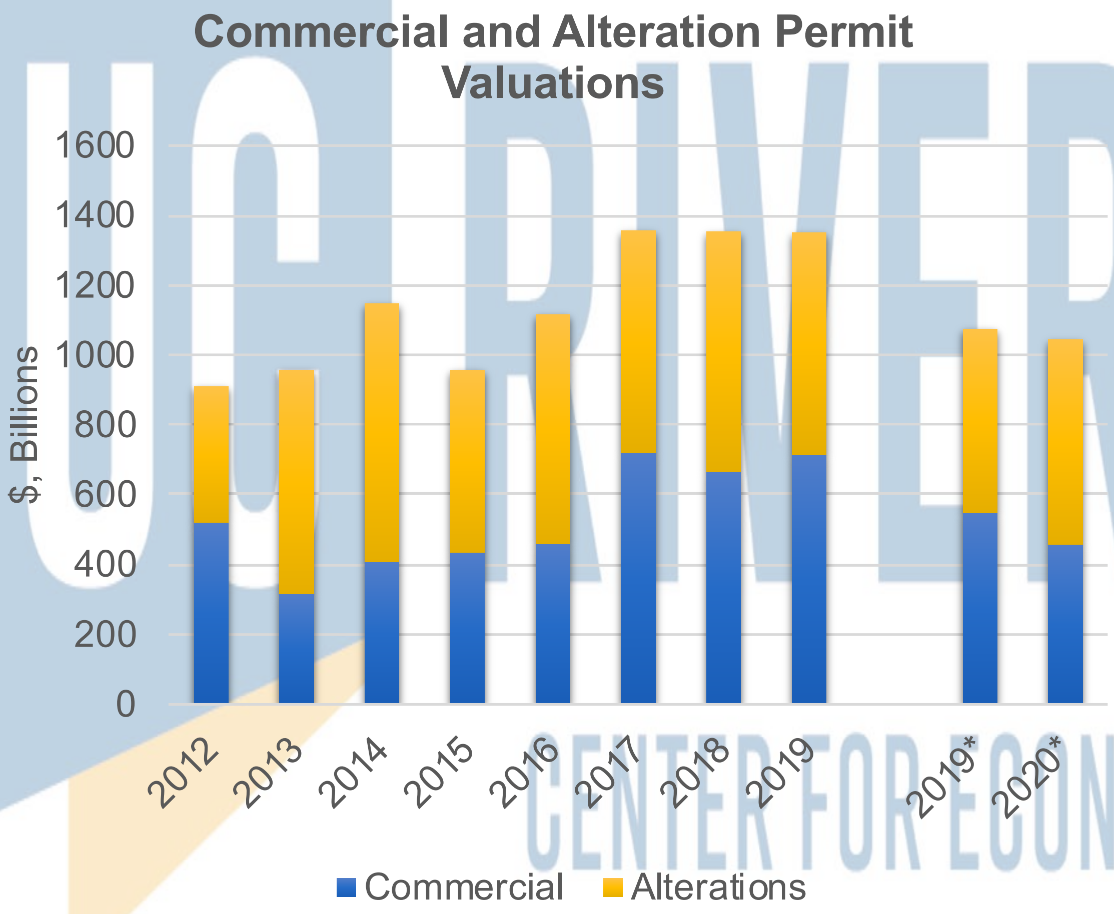
Source: HdL

Nonresidential Rents and Vacancies

Warehouse/Distribution	Cost of Rent		Vacancy Rate	
	Q3-2020 ($)	1-Yr % Growth	Q3-2020 (%)	1-Yr Change
Inland Empire	**5.8**	**1.4**	**10.6**	**1.8**
Los Angeles	8.0	1.1	6.1	1.0
Orange County	7.6	0.8	7.5	0.0
San Diego	9.1	0.7	9.4	0.5
Office				
San Diego	34.3	2.6	16.3	0.7
Los Angeles	40.6	1.4	14.6	0.4
Inland Empire	**23.3**	**0.9**	**16.8**	**-0.1**
Orange County	34.6	-0.5	17.2	0.8
Retail				
San Diego	32.4	-0.1	6.6	0.7
Orange County	34.3	-0.8	5.7	-0.1
Los Angeles	33.6	-0.9	7.4	0.0
Inland Empire	**23.2**	**-1.0**	**9.9**	**0.1**

Source: REIS

Nonresidential Permits

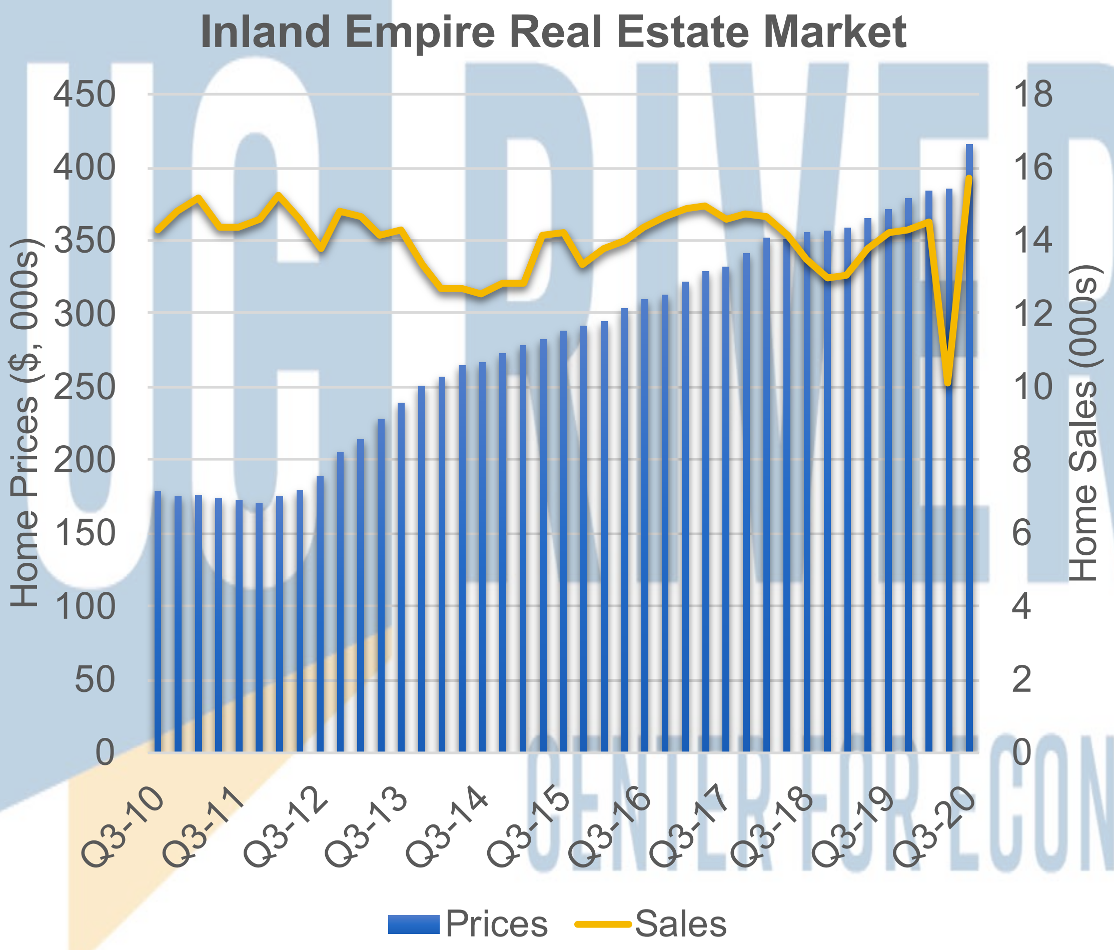


*year-to-date Q3

Permit Type	Q3 YTD Permit Valuation ($, Mil.)		1-Yr Abs. Change
	2019	2020	
Alterations	527.2	585.6	58.4
Commercial	548.2	458.3	-89.8
Industrial	662.3	320.0	-342.3
Hotel	24.5	33.5	9.0
Office	74.7	18.2	-56.5

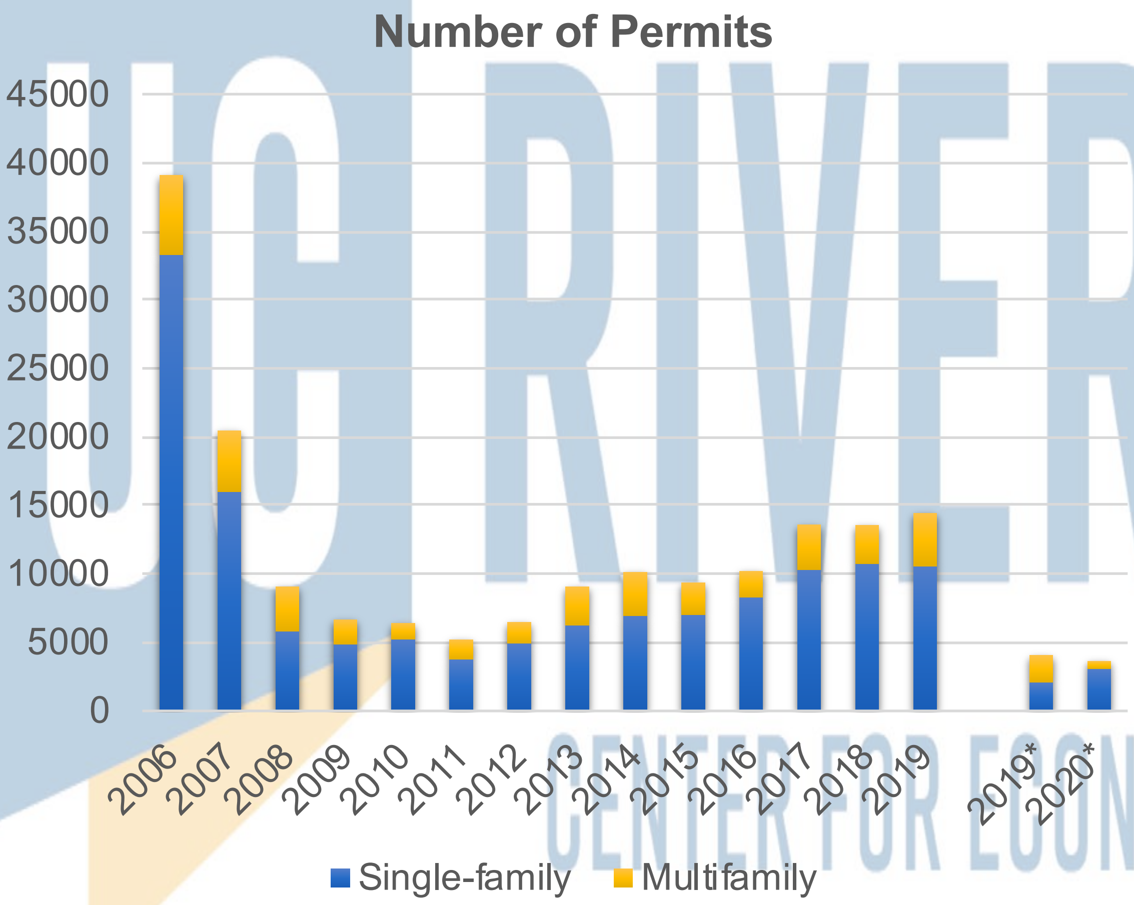
Source: CIRB

Home Prices and Sales



County	Median Prices		Home Sales	
	Q3-2020	1-Yr % Chg	Q3-2020	1-Yr % Chg
Los Angeles	750.0	14.5	14.4	2.7
San Diego	710.0	13.6	7.9	11.8
Riverside	452.5	13.4	9.3	9.4
Orange	875.0	11.1	7.0	16.4
San Bernardino	369.3	10.6	7.8	12.6

Residential Permits

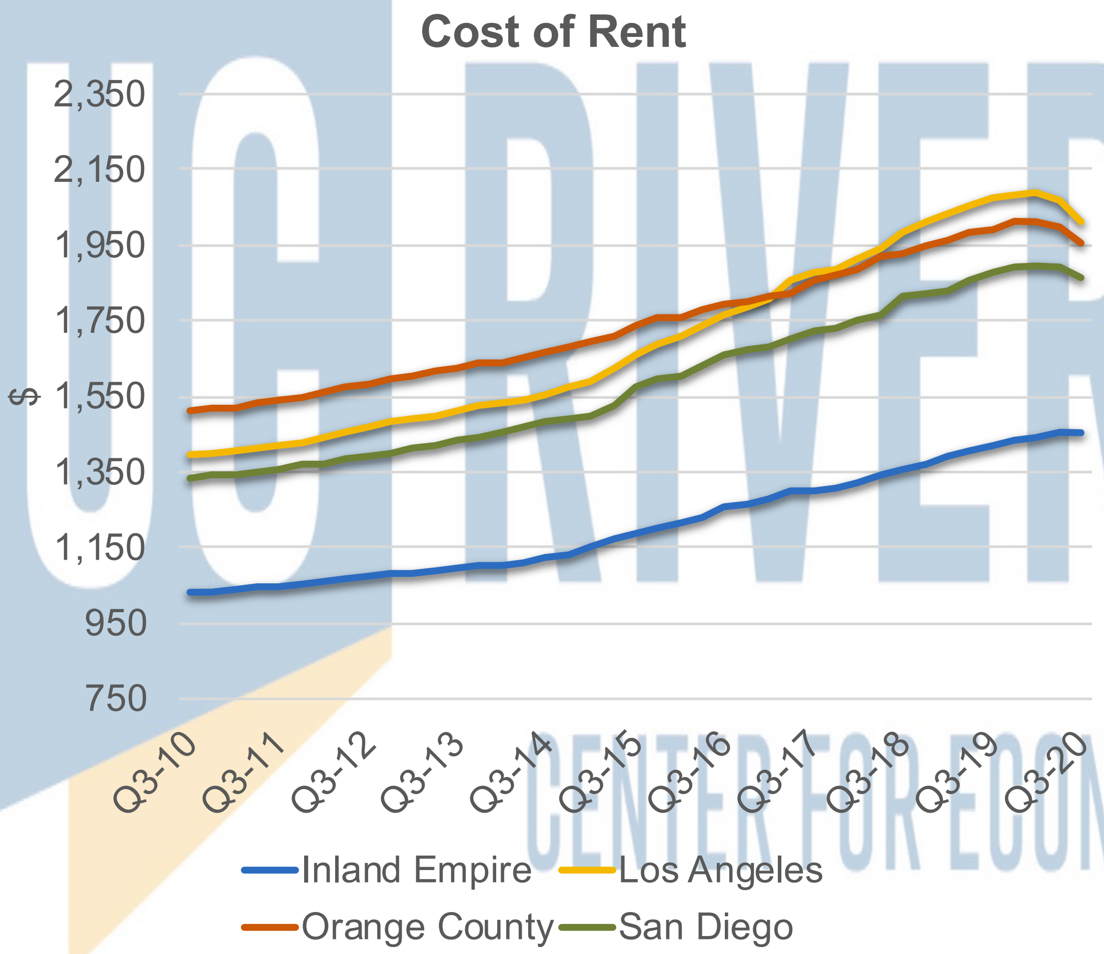


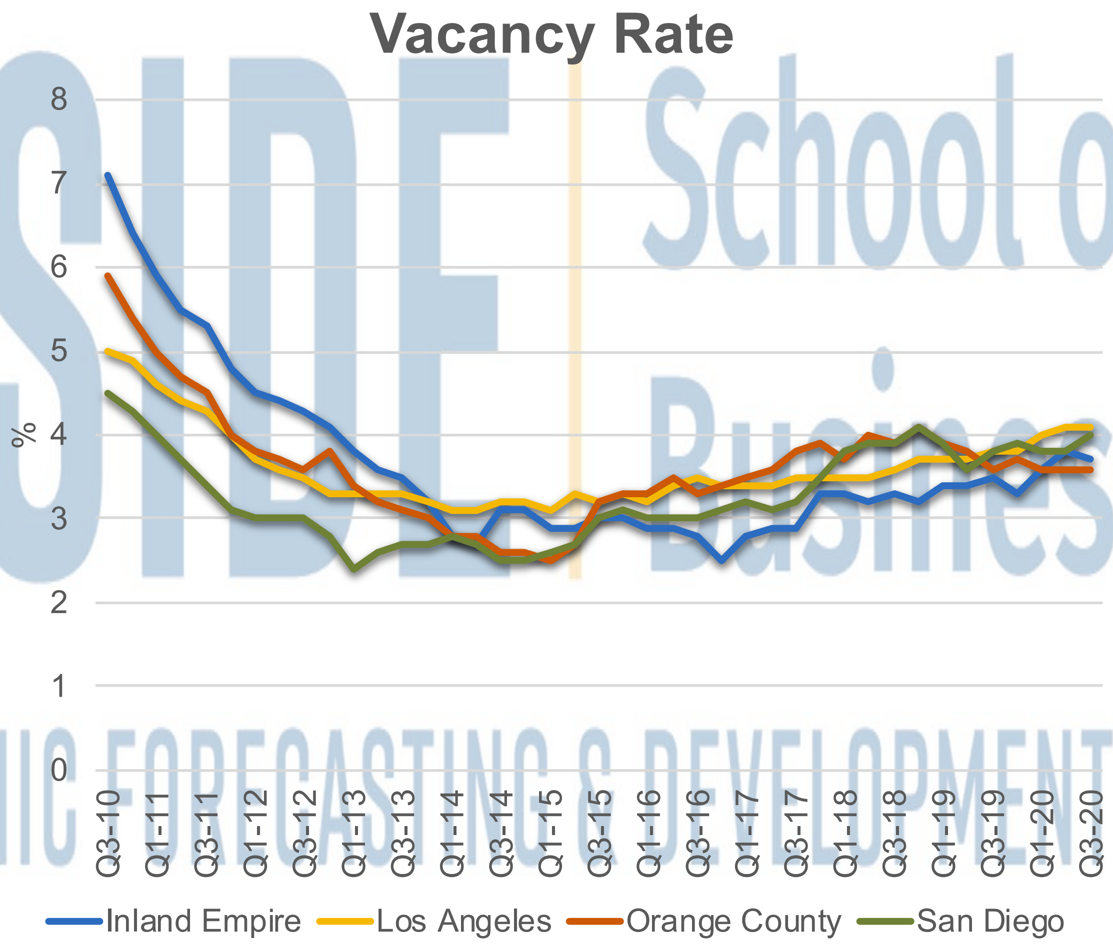
County	Single-family		Multifamily	
	2020*	1-Yr Chg	2020*	1-Yr Chg
Riverside	6,211	1,538	474	-1,084
Los Angeles	4,352	298	10,128	-1,338
San Diego	2,516	255	4,175	-55
San Bernardino	2,651	-96	600	-1,008
Orange	2,056	-248	2,230	-2,467

*year-to-date Q3

Source: CIRB

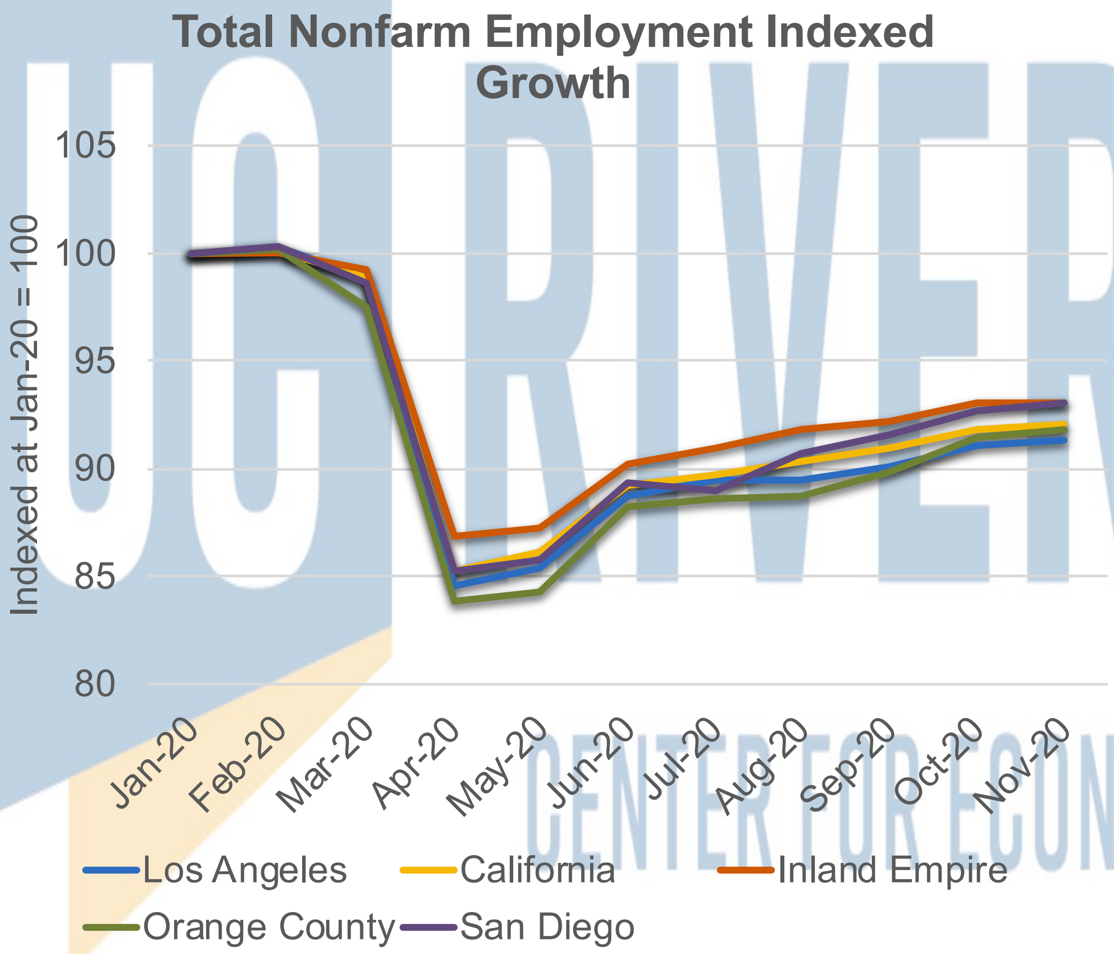
Apartments

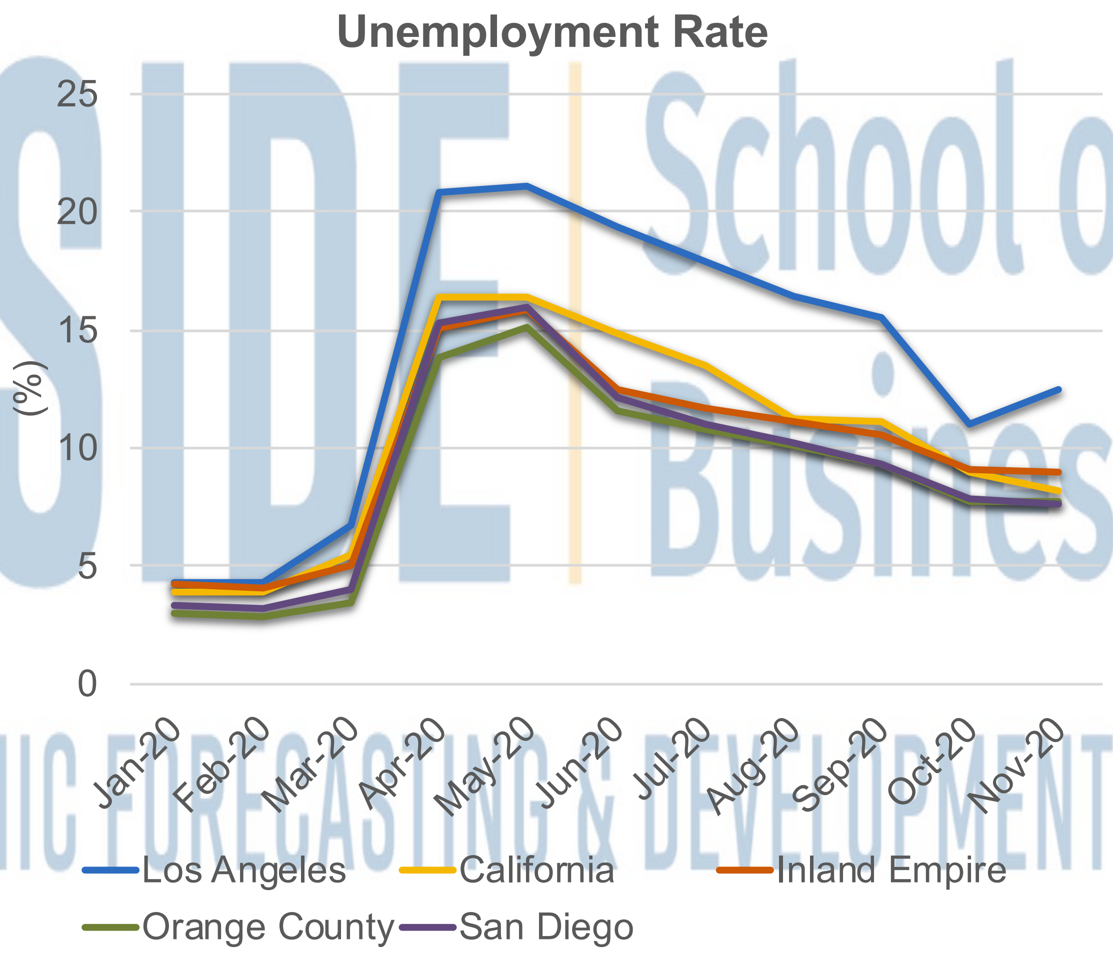




Source: REIS

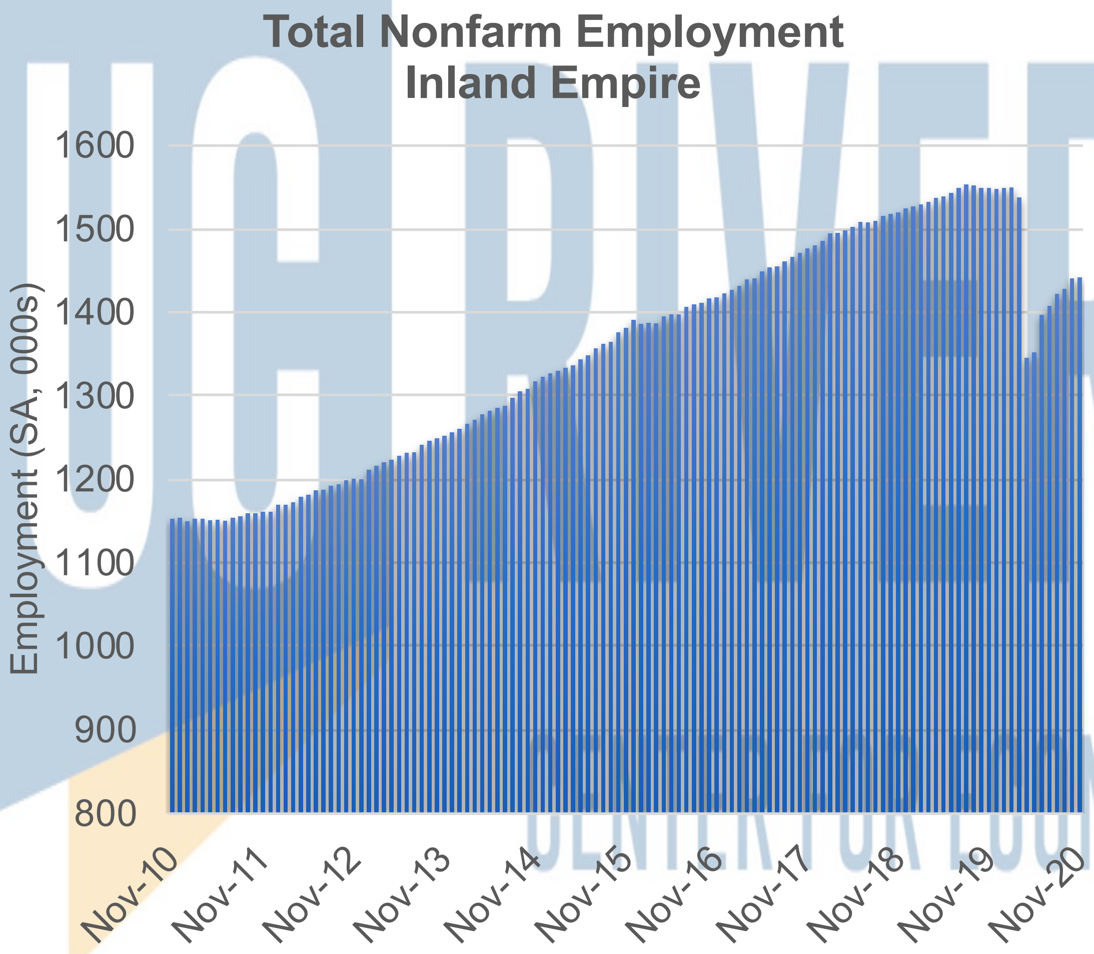
COVID-19 Employment Impact Southern California





Source: EDD

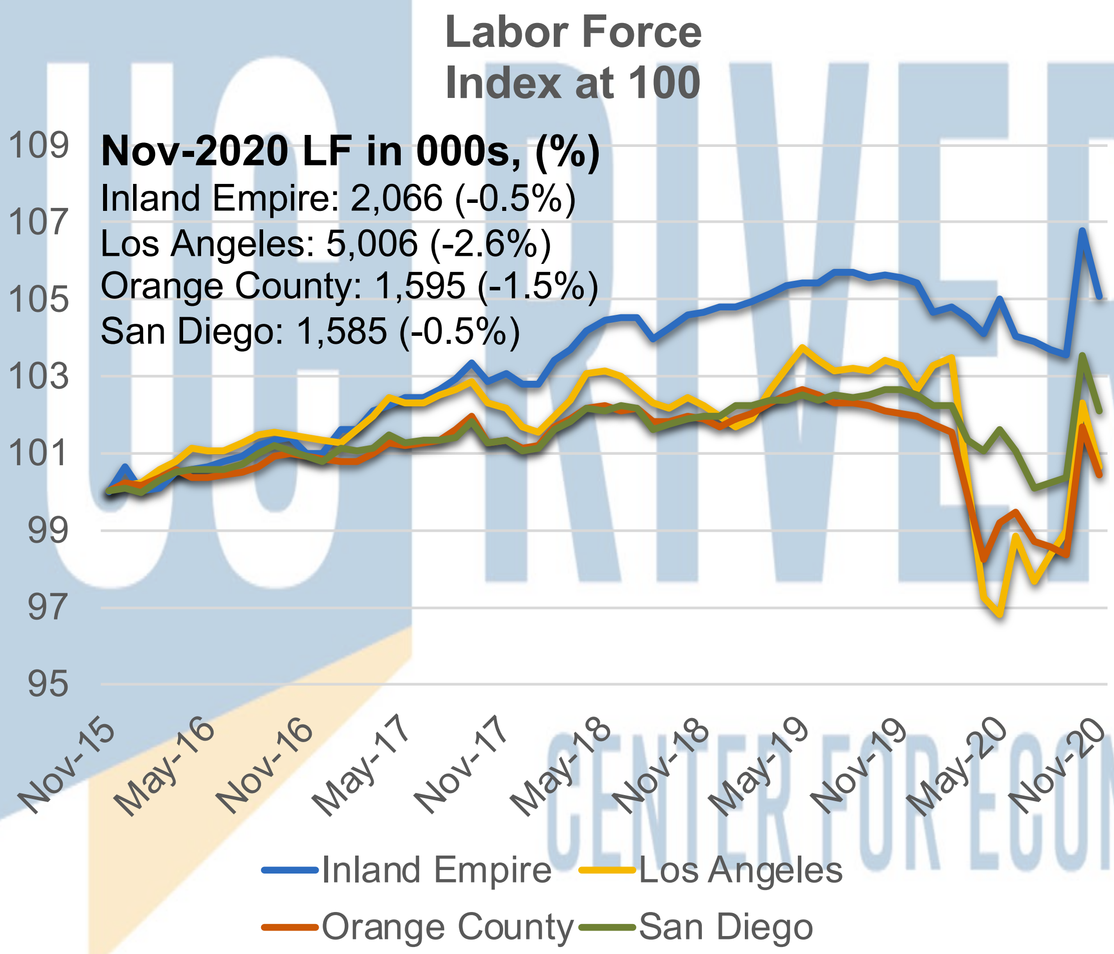
Inland Empire Employment

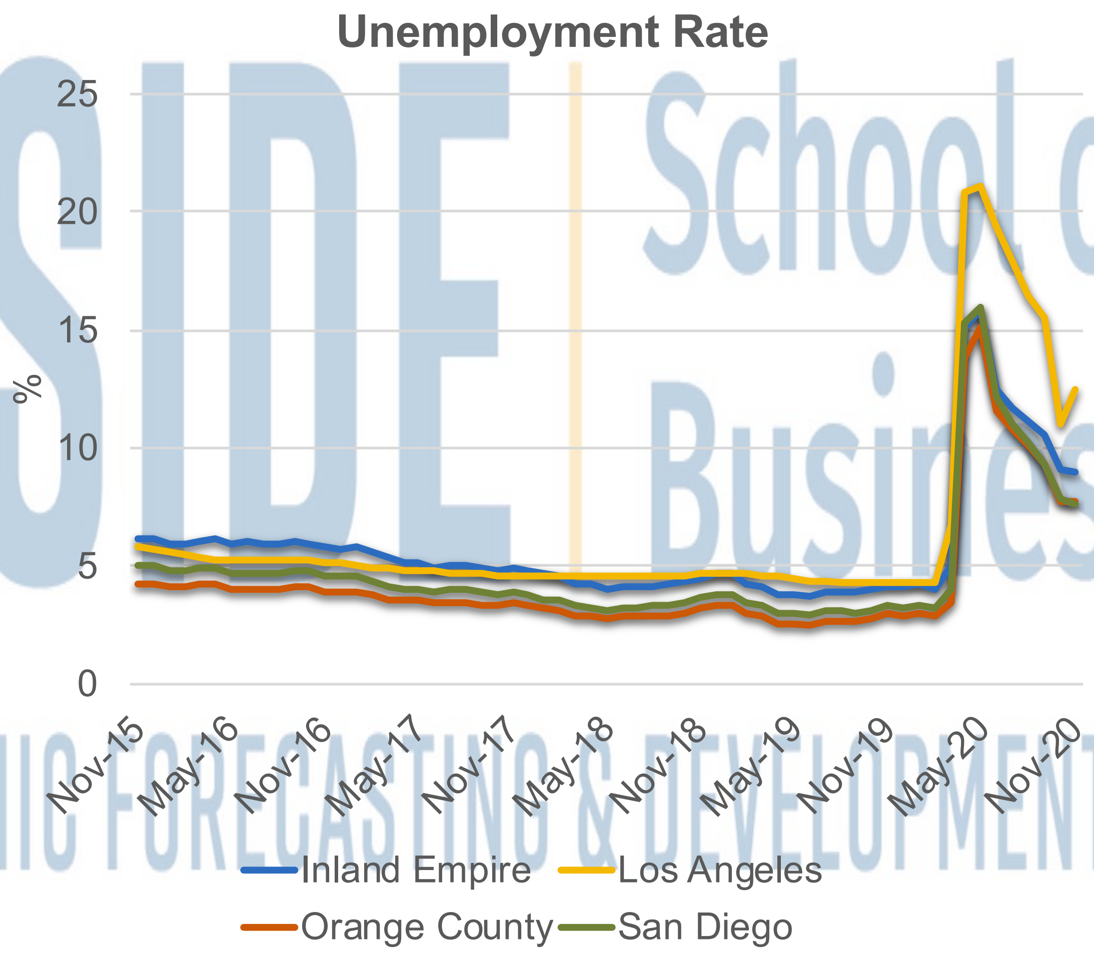


Industry	Inland Empire Employment			% Growth CA
	Nov-2020	Abs. Change	% Growth	
Total Nonfarm	1,442.1	-107.4	-6.9	-8.0
Finance	43.7	0.0	0.0	0.0
Wholesale Trade	67.0	0.0	0.0	-5.1
Construction	107.2	-2.1	-1.9	-4.0
Logistics	387.1	-10.0	-2.5	-4.9
Education/Health	245.1	-10.5	-4.1	-5.3
Prof./Business	150.0	-6.7	-4.3	-3.8
Admin Support	99.9	-6.9	-6.5	-6.2
Retail Trade	169.1	-12.6	-6.9	-6.5
Manufacturing	89.4	-9.3	-9.4	-6.9
Information	9.6	-1.7	-15.0	-11.3
Other Services	36.8	-8.0	-17.8	-18.1
Hospitality	124.4	-48.2	-27.9	-24.5

Source: California EDD

Labor Market

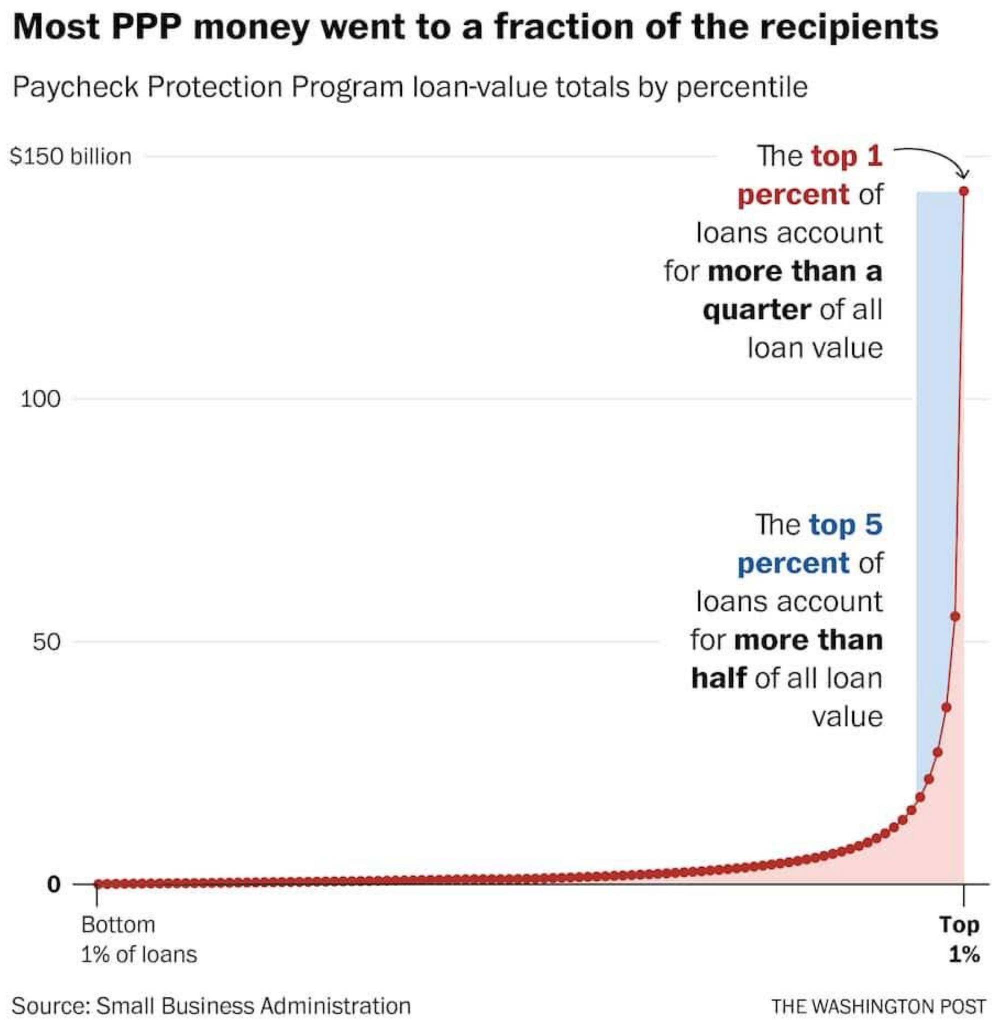




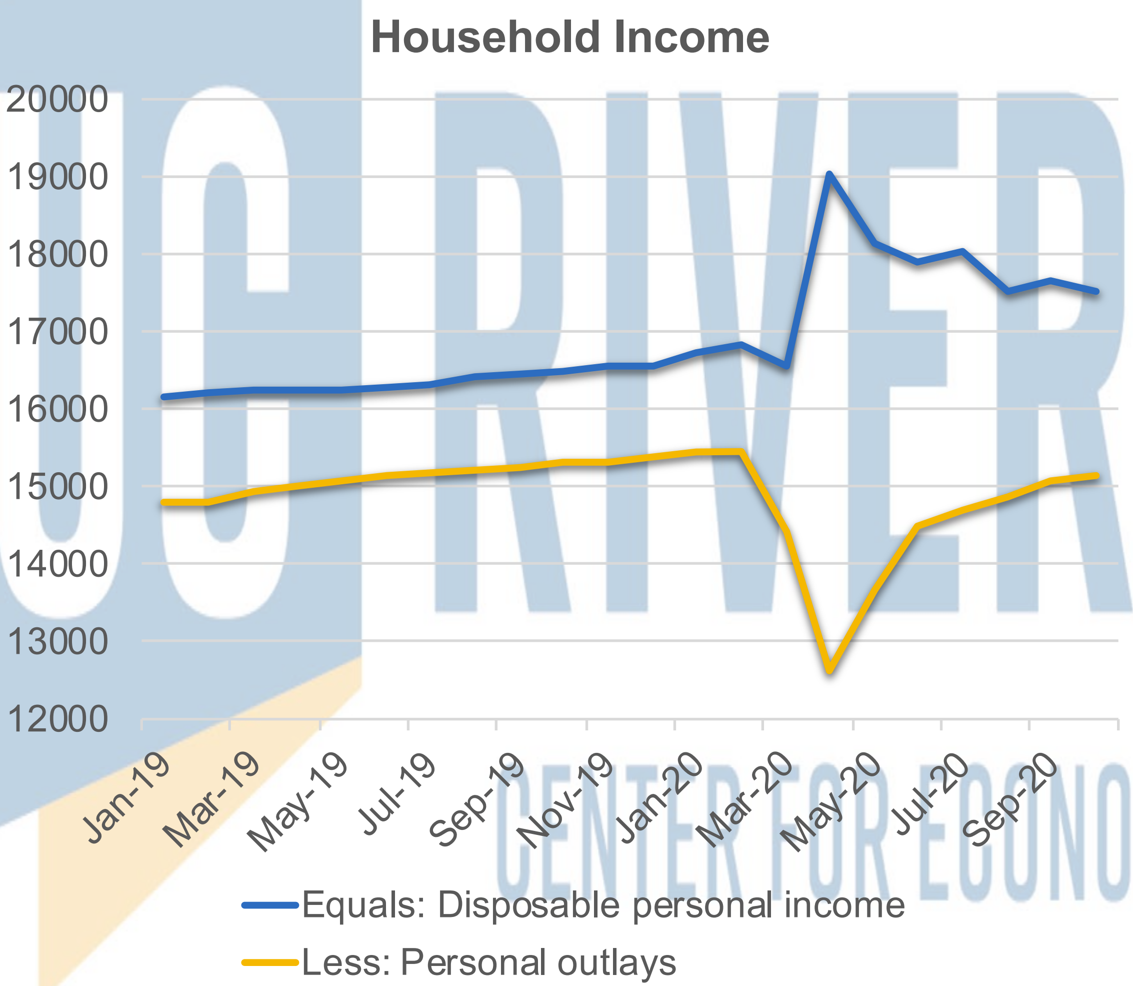
Policy (Over)reaction

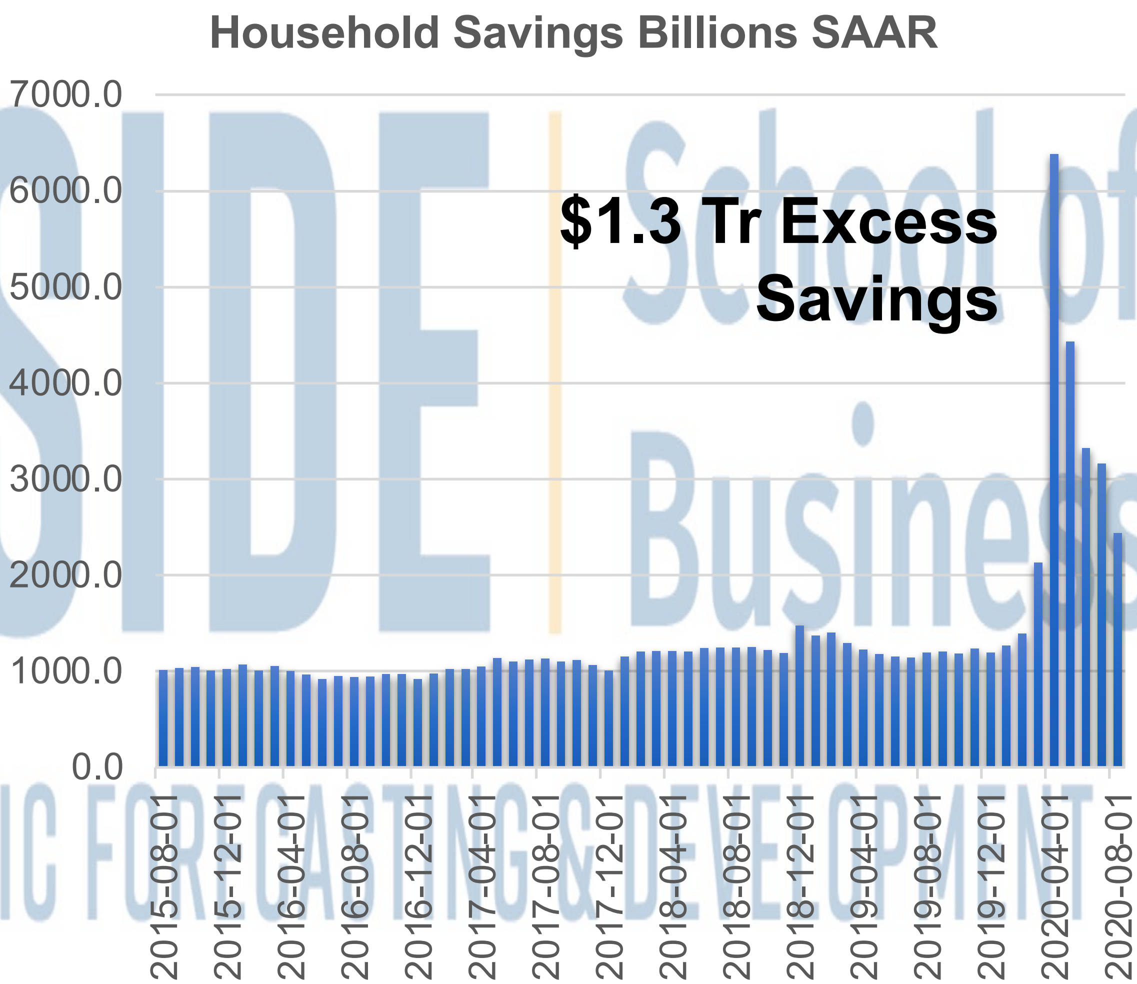
Fiscal Stimulus Plans
- Unemployment Insurance
- Local Government Support
- PPP Loans
- Direct Transfers to People

Monetary Stimulus
- Rate Cuts
- Quantitative Easing

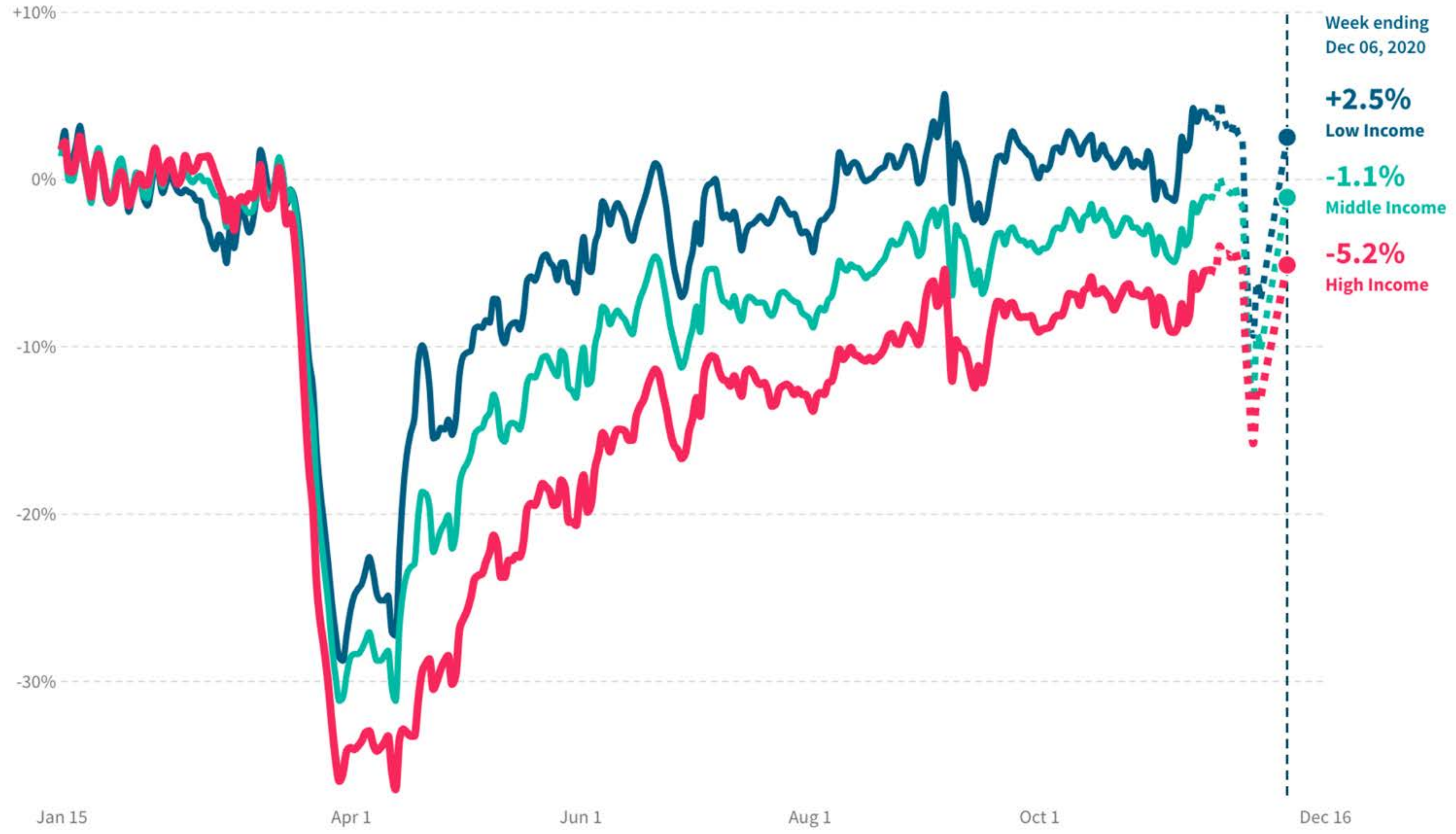


Policy (Over)reaction

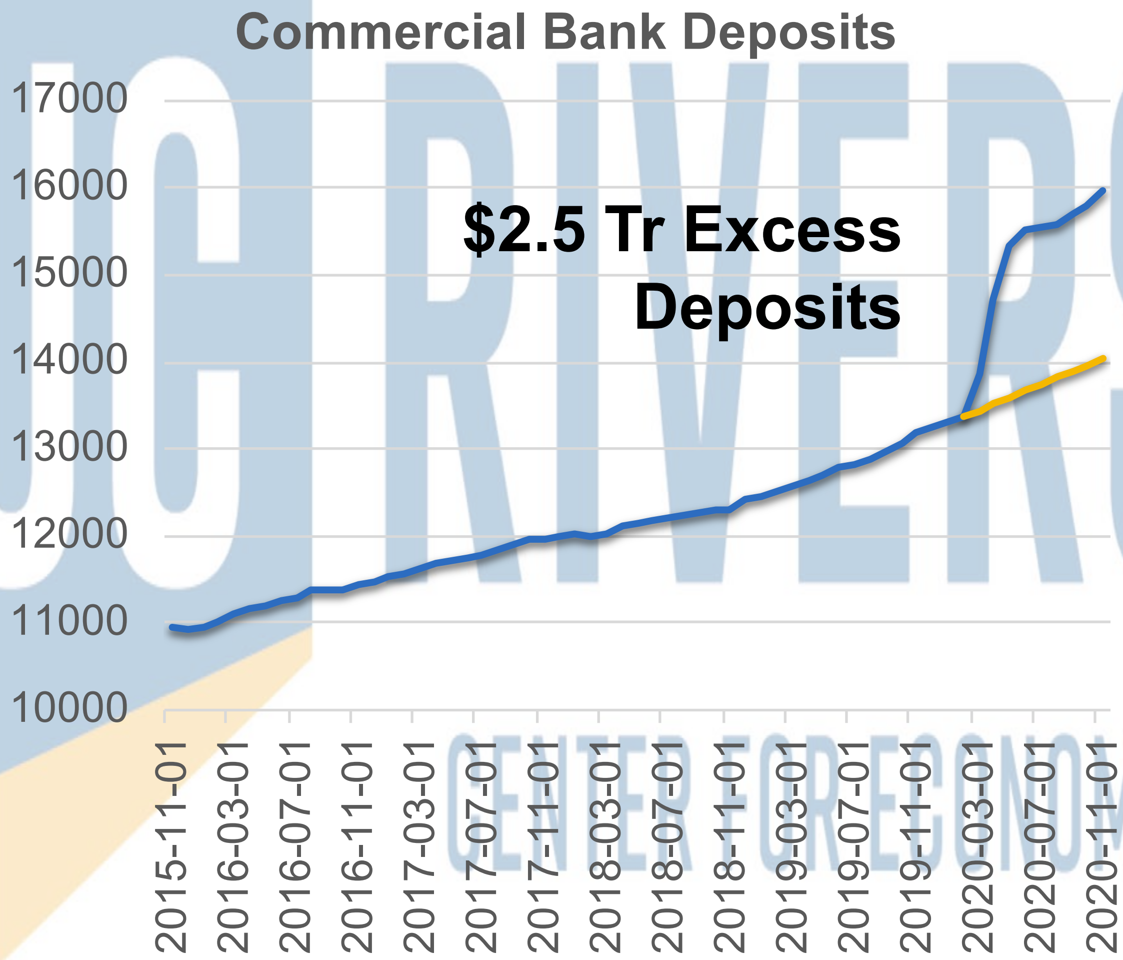




Who is Ahead / Behind?



Dry Powder



Commercial Bank Deposits
$2.5 Tr Excess Deposits
17000
16000
15000
14000
13000
12000
11000
10000
2015-11-01
2016-03-01
2016-07-01
2016-11-01
2017-03-01
2017-07-01
2017-11-01
2018-03-01
2018-07-01
2018-11-01
2019-03-01
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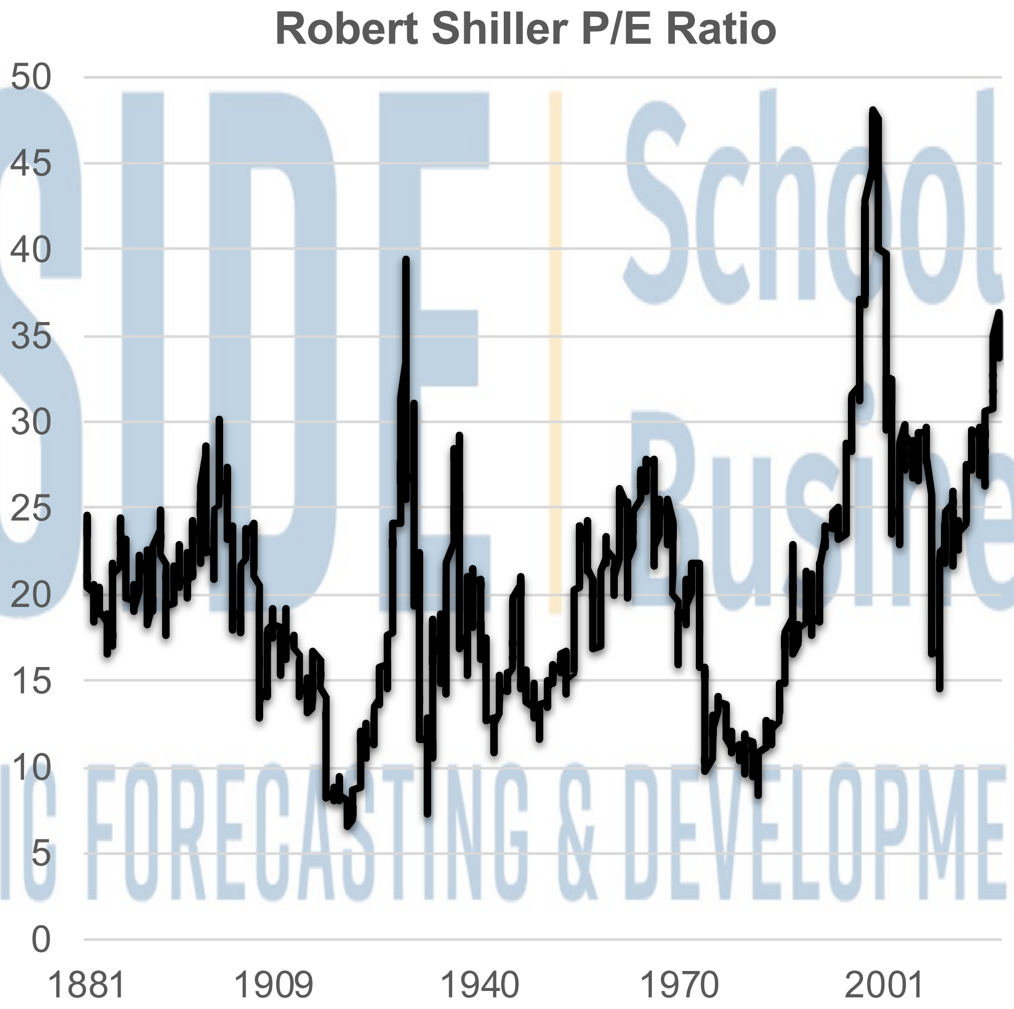
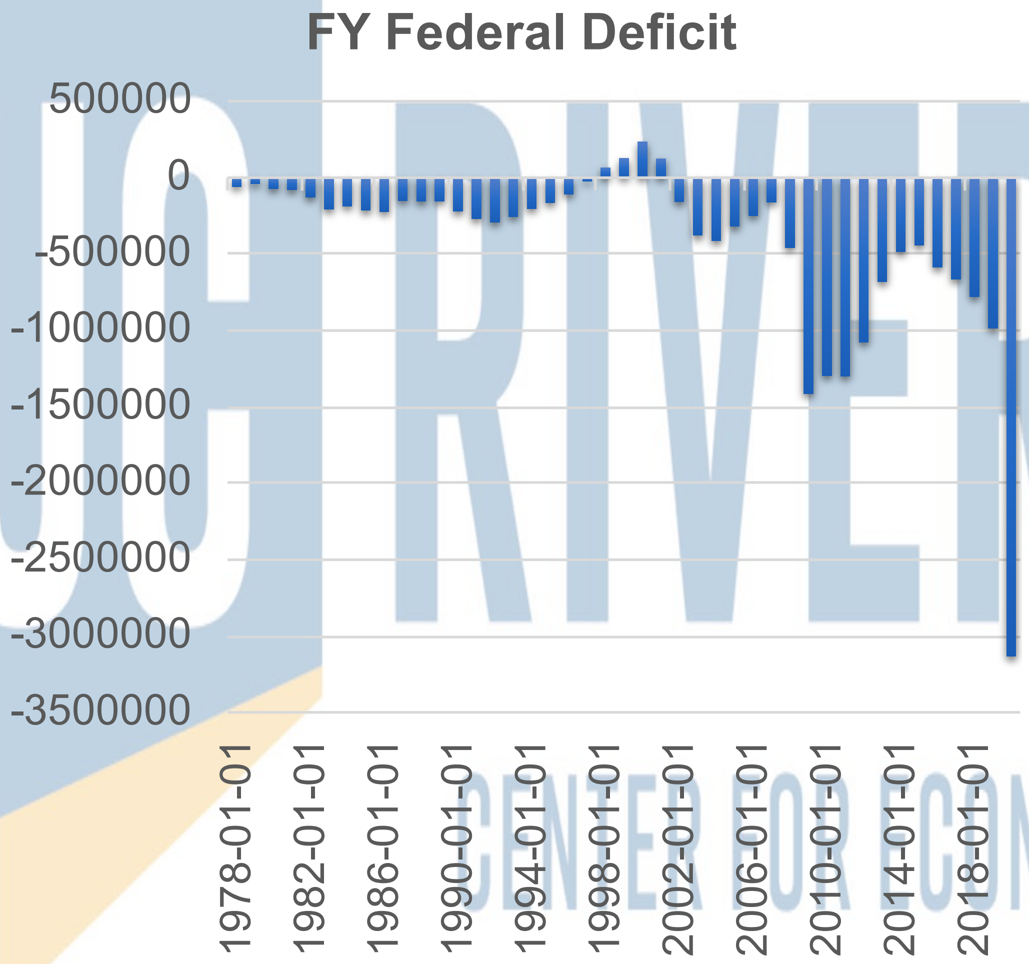
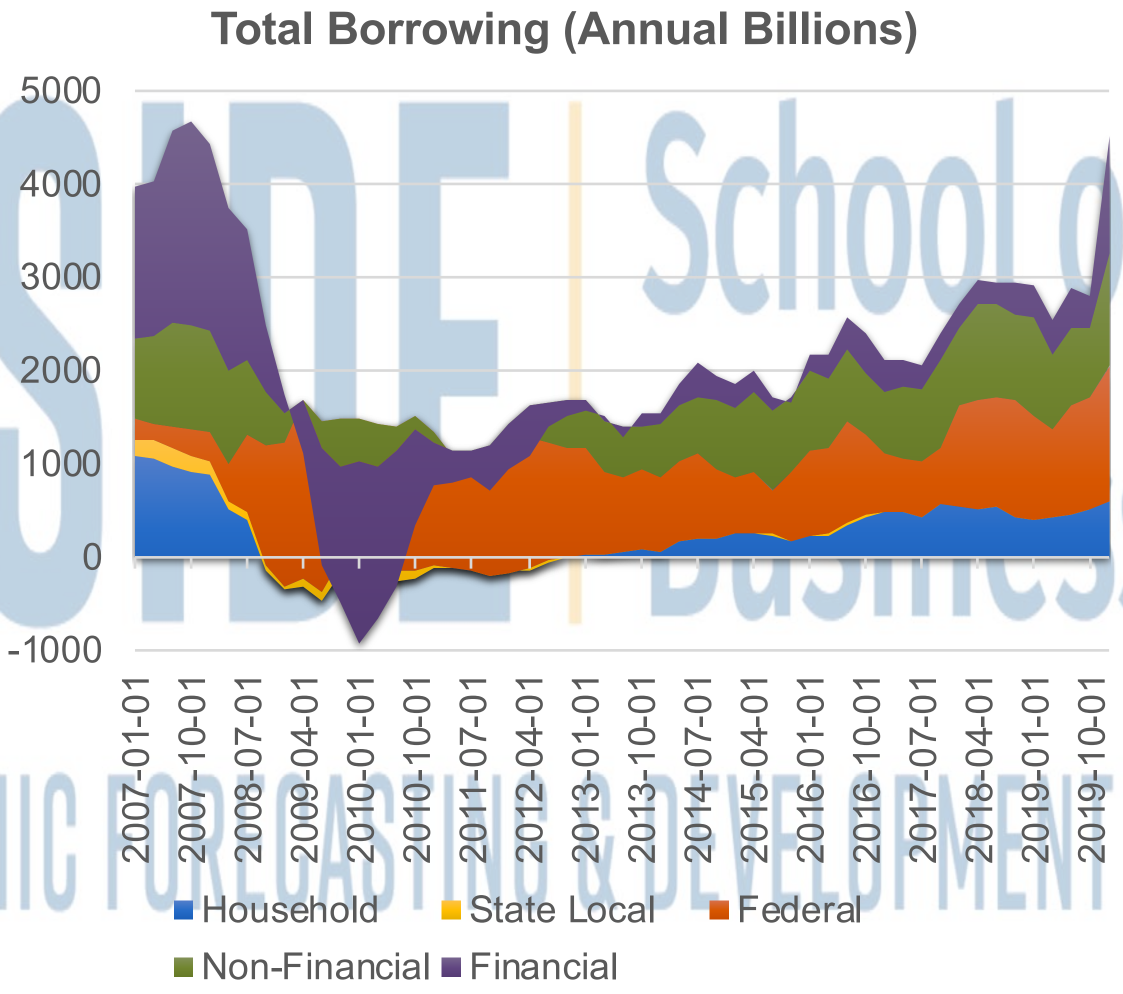
2020-07-01
2020-11-01



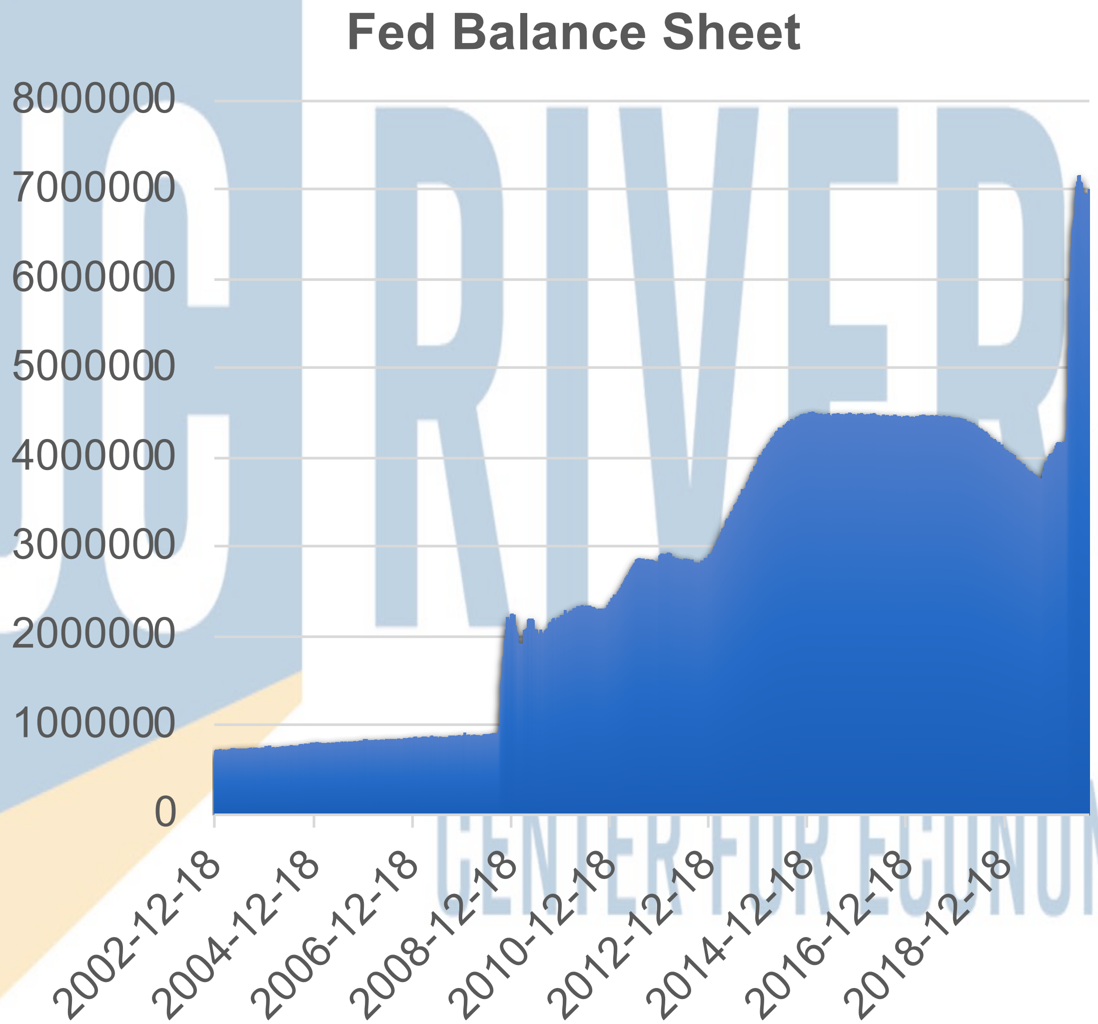
Robert Shiller P/E Ratio
50
45
40
35
30
25
20
15
10
5
0
1881
1909
1940
1970
2001

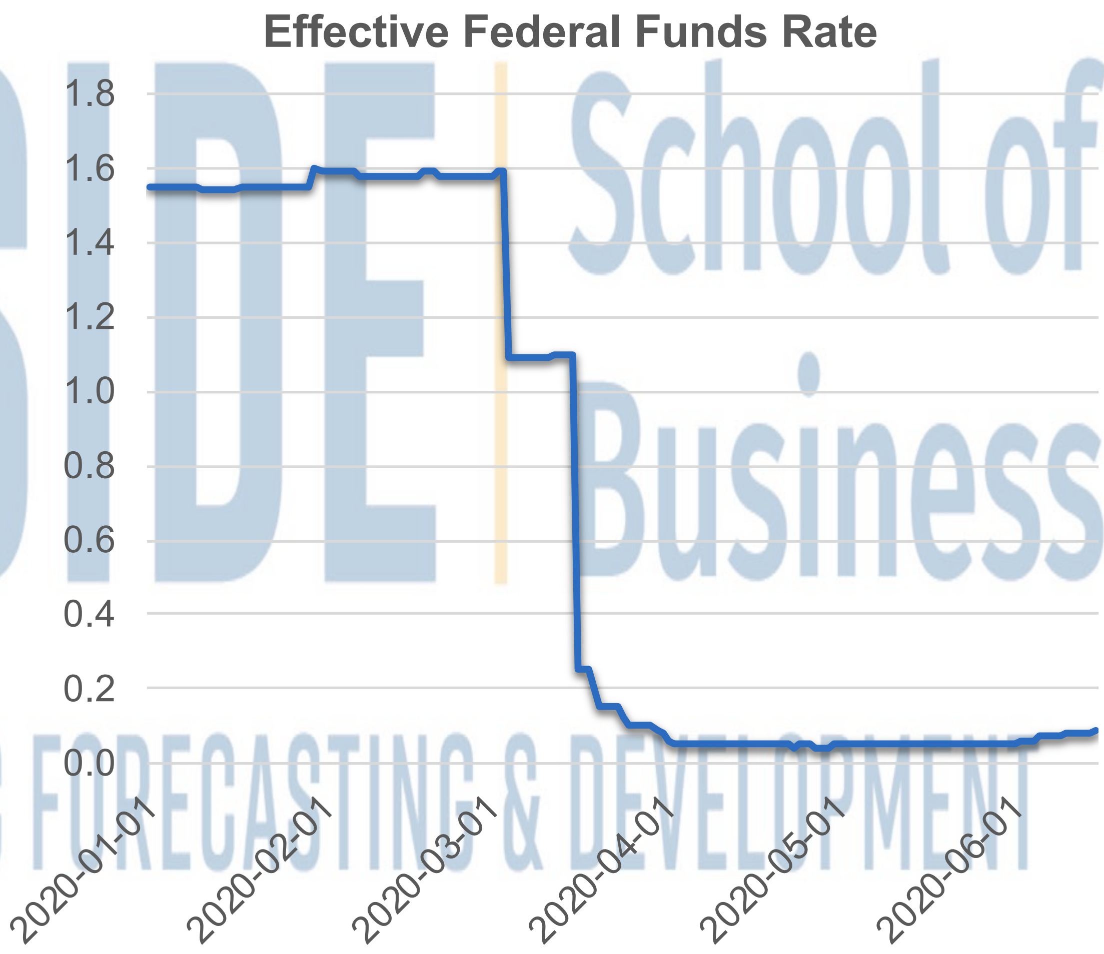
Government Debt





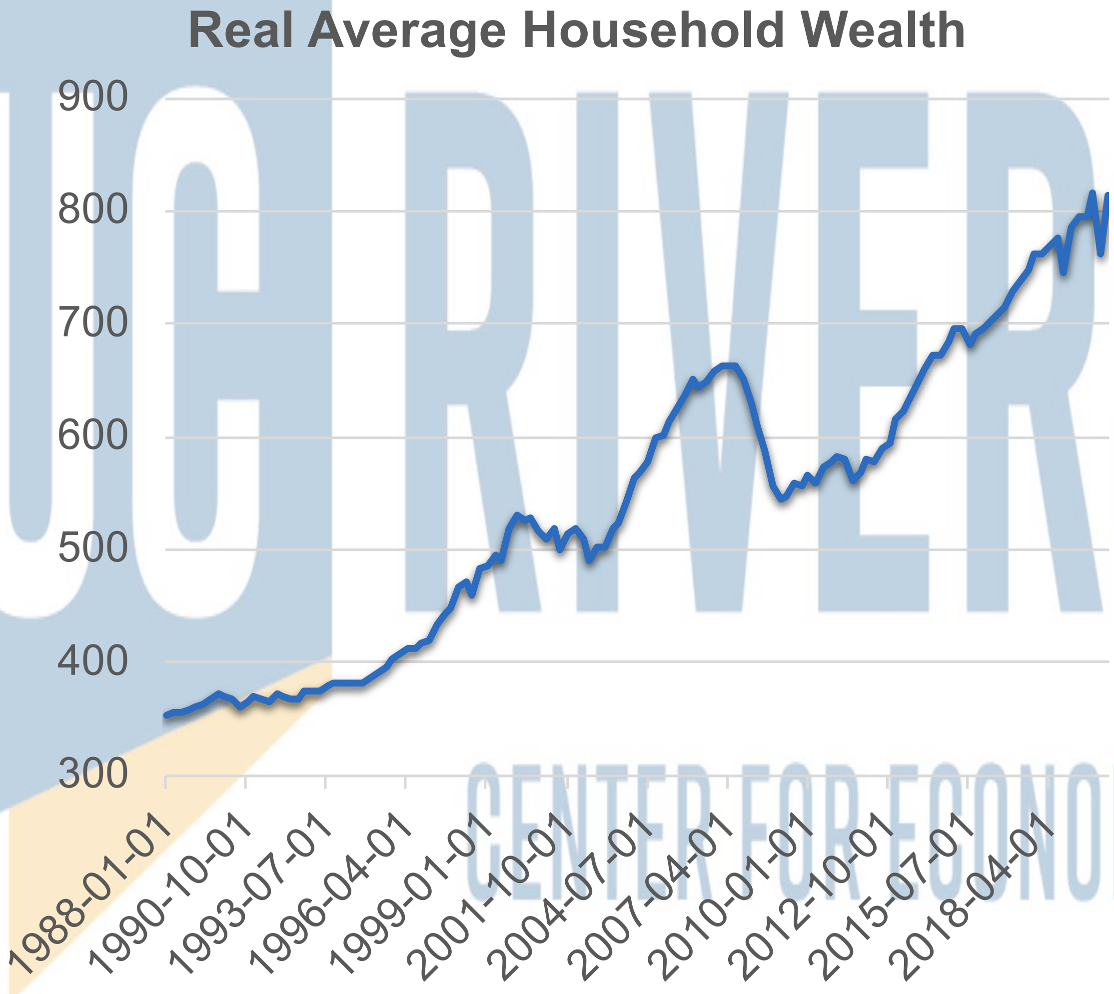
Federal Reserve Policy

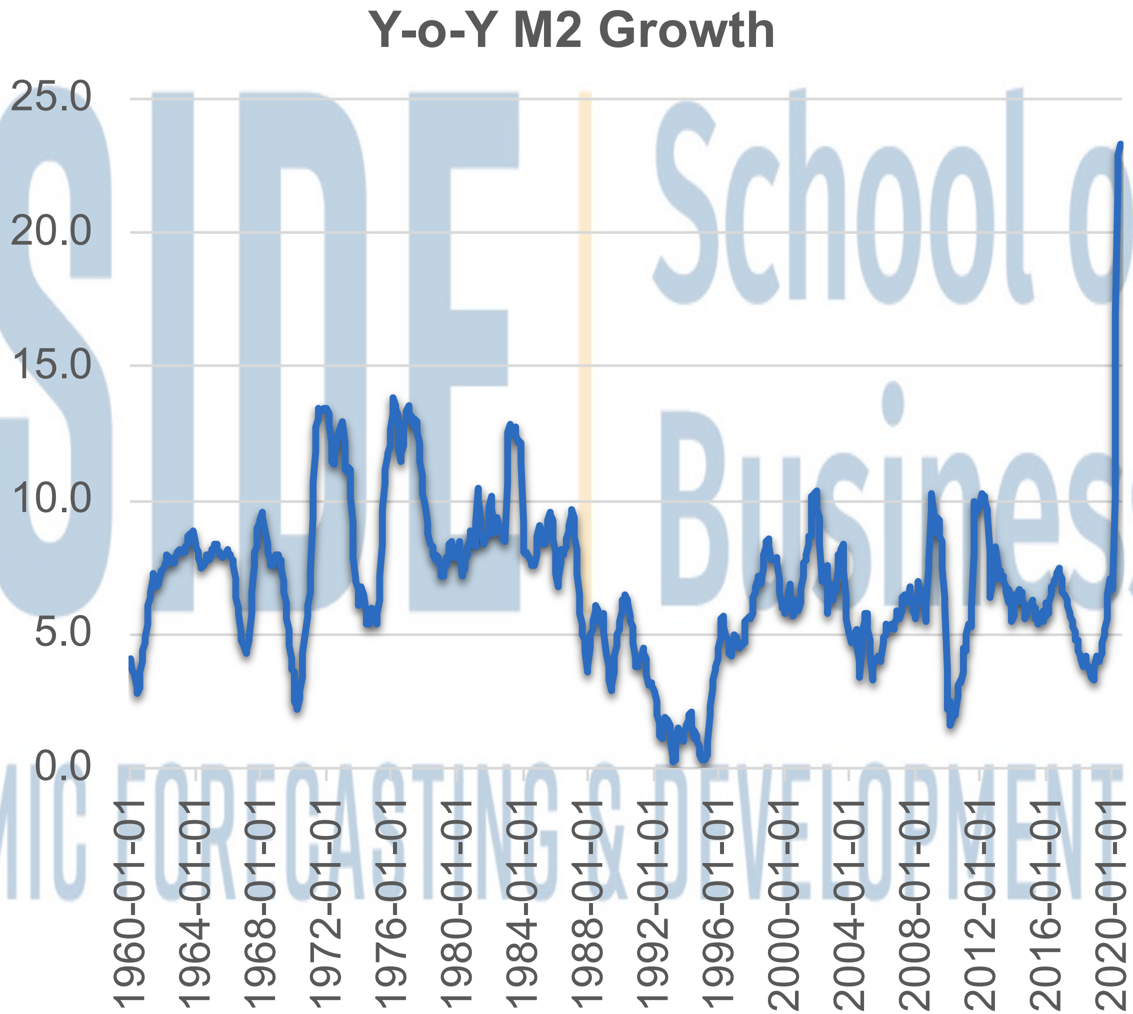




Source: FRED

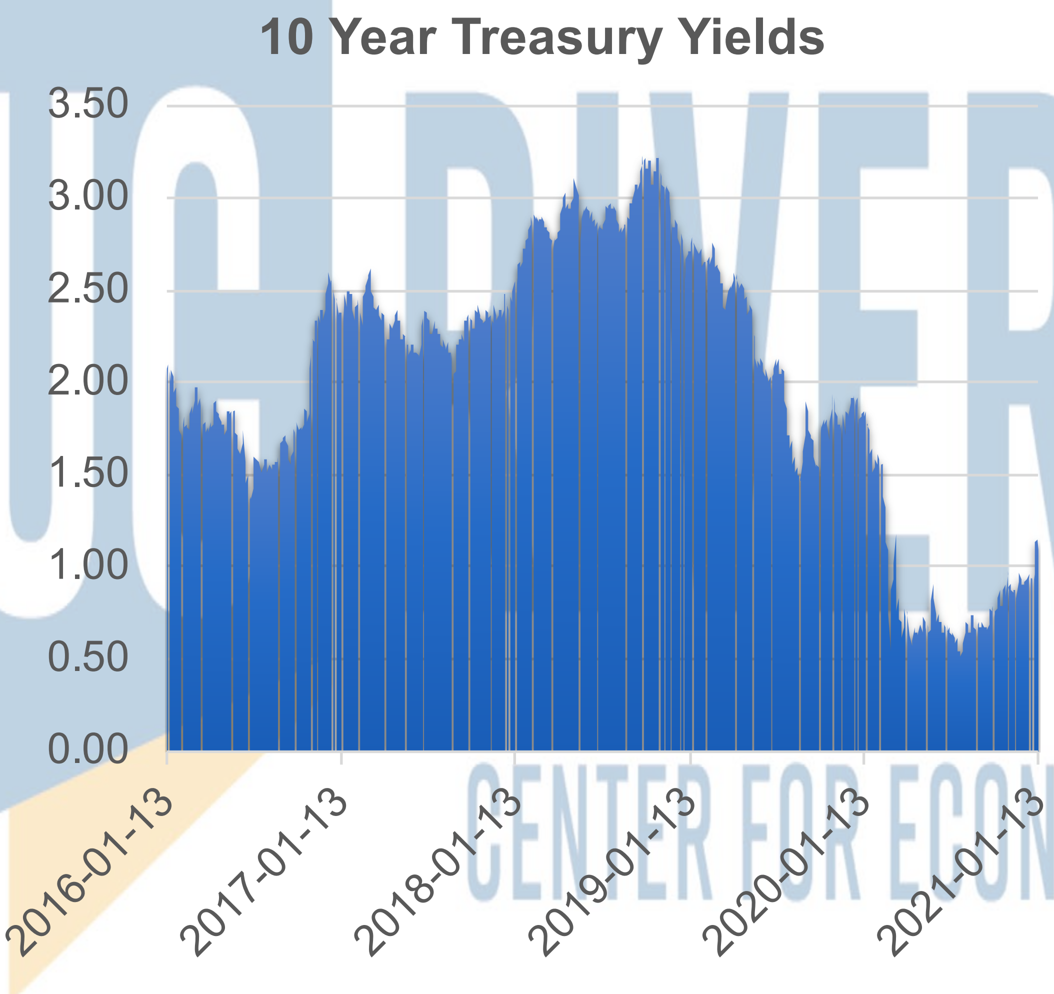
Unneeded Liquidity

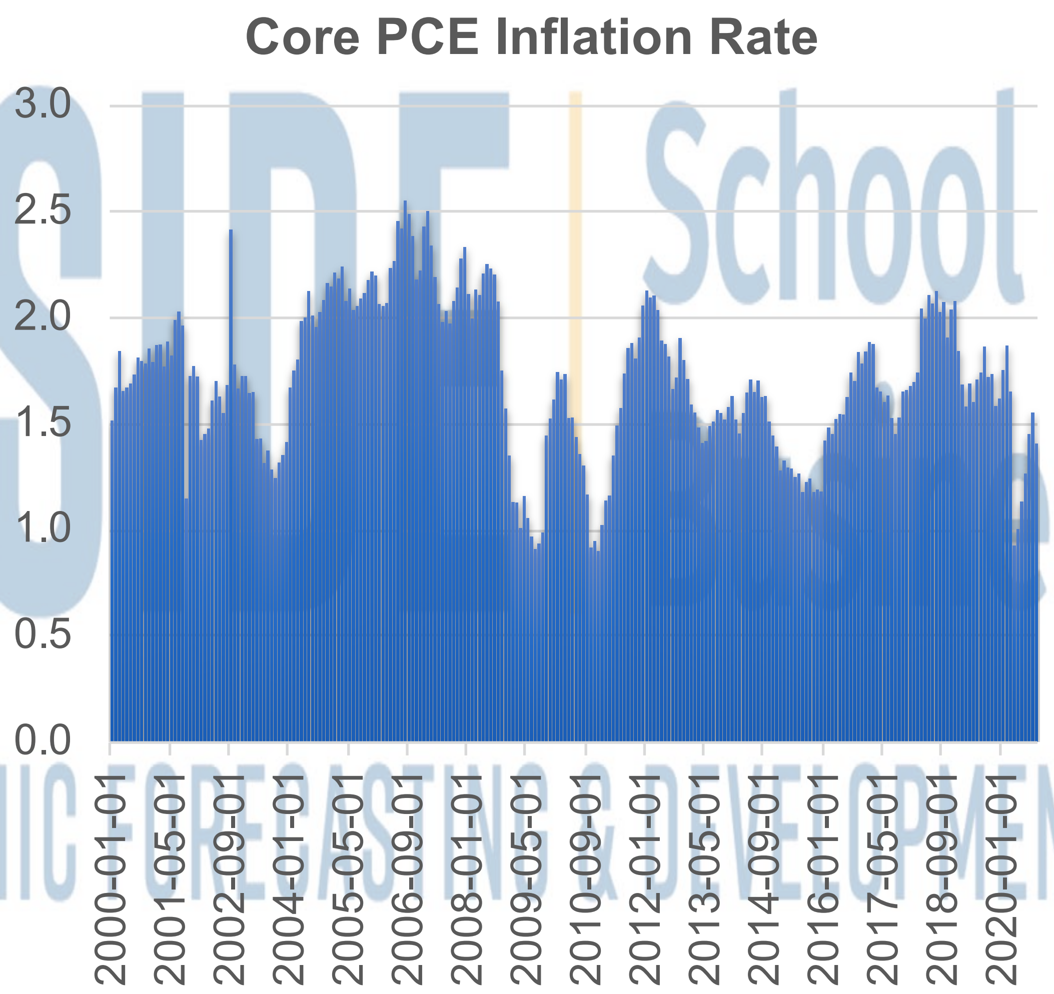




Source: FRED

Rates and Inflation





Long Run Consumer / Business Behavior

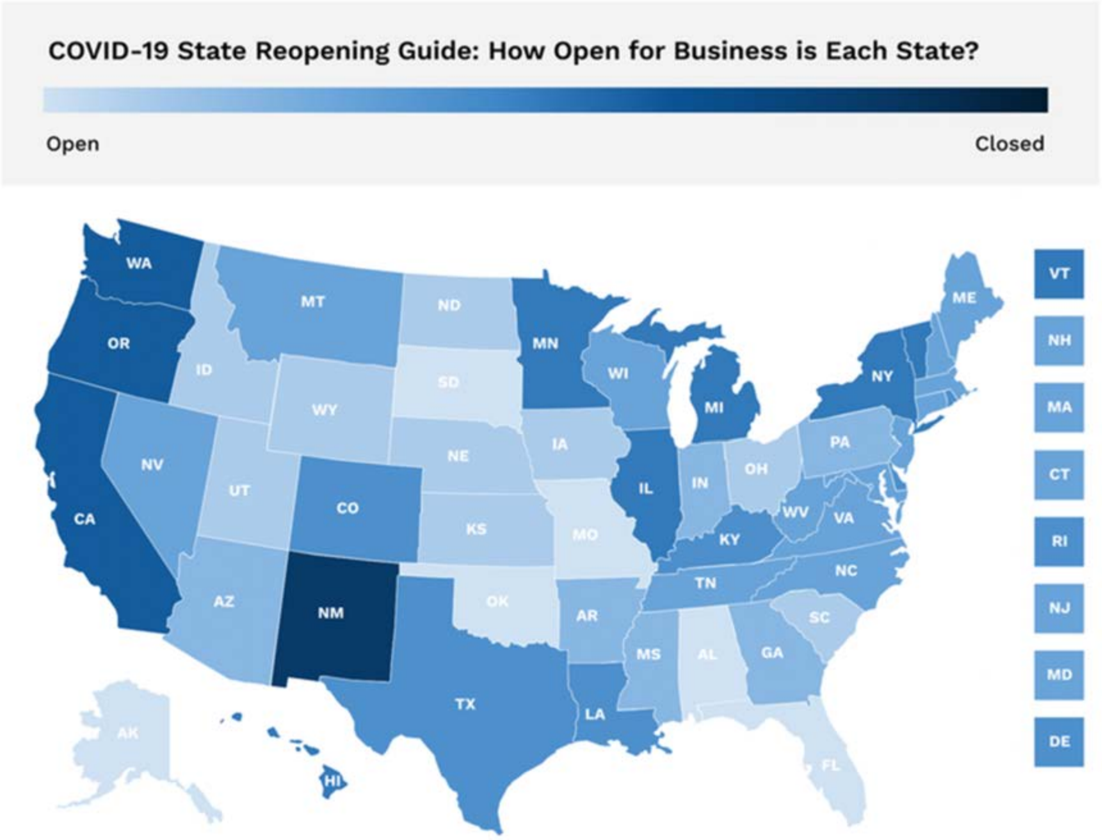
Personal Behavior

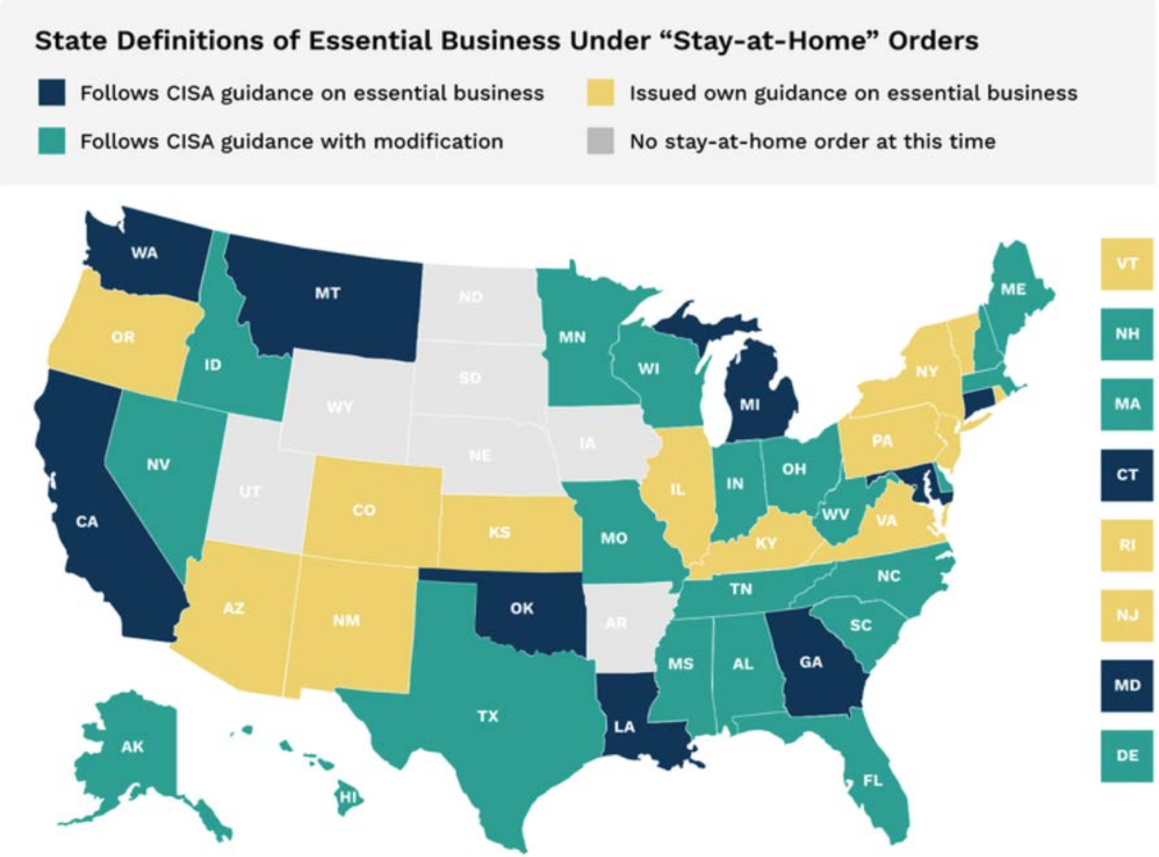
- This is not a "new normal"
  - Polio, smallpox, plague, etc
  - Spanish flu, MERS, SARS
  - Terrorism episodes
  - No permanent change in consumer behavior seen
- Some segments will lag
  - Older consumers
  - Global tourism

Business Issues

- Shakeout in stressed sectors
  - Oversupply of restaurants
  - Retail shifting to online
- Perhaps a good lesson?
  - More flexibility for remote work
  - Some long run impact on business travel
  - Office is not over, but…
  - Industrial: Local vs global transport

A long-needed debate…





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

What can the UCR Center do for you?

UCR School of Business

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Continue the conversation.

Contact **Dr. Chris Thornberg** directly at chris.thornberg@ucr.edu or **951.827.2792**

Let's discuss your goals and needs.

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- *Economic, Fiscal and Social Impact Analysis*
- *Regional and Sub-Regional Analysis*
- *Litigation and Testimony*

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- Regional Intelligence Reports
- Employment and Industry Cluster Analysis

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- South Coast Air Quality Management District
- BNSF Railway
- Riverside Public Utilities
- Autoclub Speedway
- City of Ontario
- Coachella Valley

Thank You

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