

The Post-Covid World

Over the Hump

...or Over-Stimulated?

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Christopher Thornberg, PhD

Founding Partner, Beacon Economics
Director, UCR SoBA Center for Economic Forecasting and
Development



A division of Western Alliance Bank. Member FDIC.

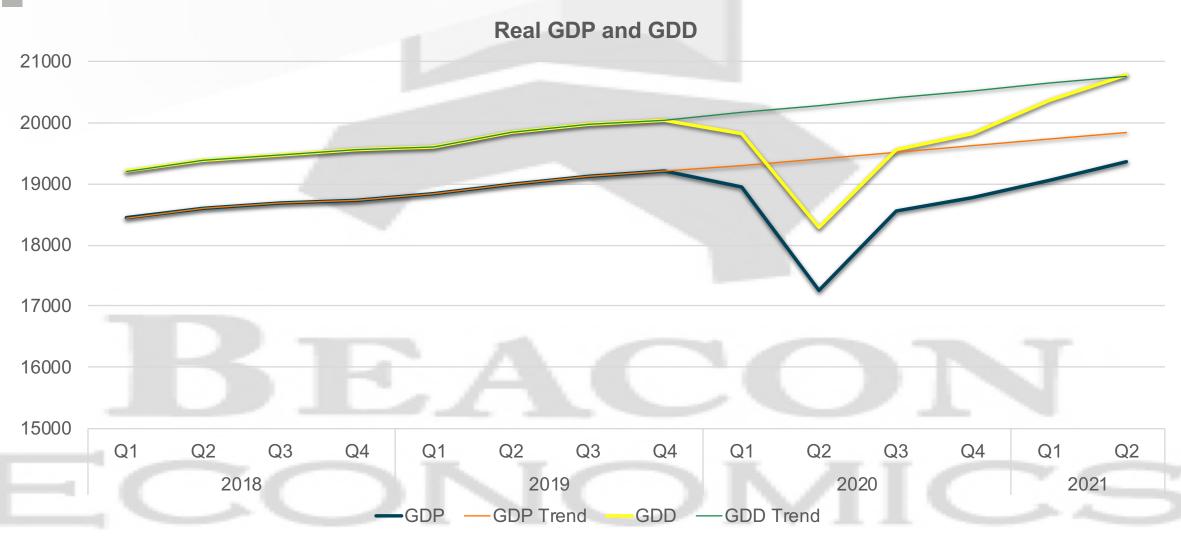
The Big Picture



- The Covid pandemic has been a tragic natural disaster. Yet history shows that natural disasters have limited long-run economic impact. A much quicker-than-normal recovery was certain.
- Fiscal and monetary policy reactions to the crisis have been excessive. This will lead to the introduction of dangerous instabilities into the next expansion, particularly inflation.
- The recovery is not even—in terms of the structure of output as well as the availability of inputs. The resultant supply chain issues are the major issue holding the economy back.
- Many of the day-to-day crises we hear about in the news are simply not real. National and local need to turn their attention to managing this next expansion
- There are no economic "new-normals" from the pandemic, but it has accelerated underlying trends that were already in place
- Real Estate is hot, but sustainable (for now). But the market is highly vulnerable to the economic sugar-crash that will occur when the current stimulus efforts wear off.

Where Are We Now?





The Great Recession vs Today



The Pre-Recession Economy

Recession Driver

Government Response

The Cycle

Then

Over-heated by sub-prime lending bubble

Demand shock caused by collapse in wealth, flow-stock issues

Inadequate

8 Years, 25% of one year of output lost

Now

Slow but steady growth due to labor shortages / trade disruptions

Short run supply shock driven by fear and health mandates

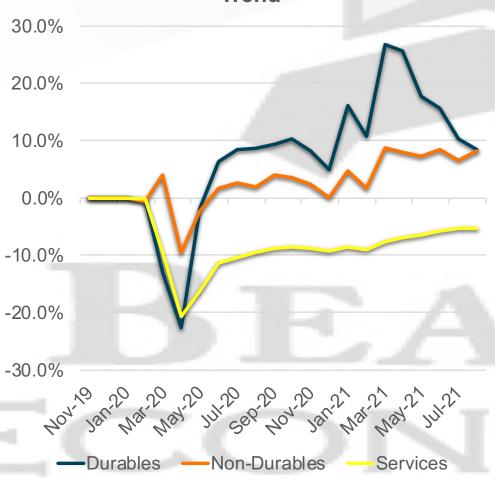
Excessive

2 Years, 6% of one year output lost

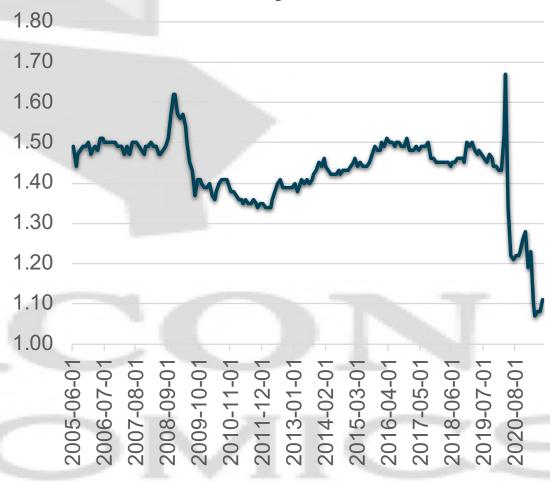
Where Are We Now?



Real Consumer Spending Relative to Trend



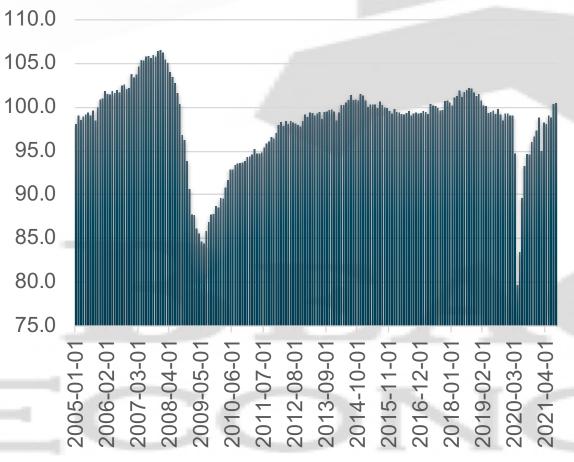
Retail Inventory to Sales Ratio



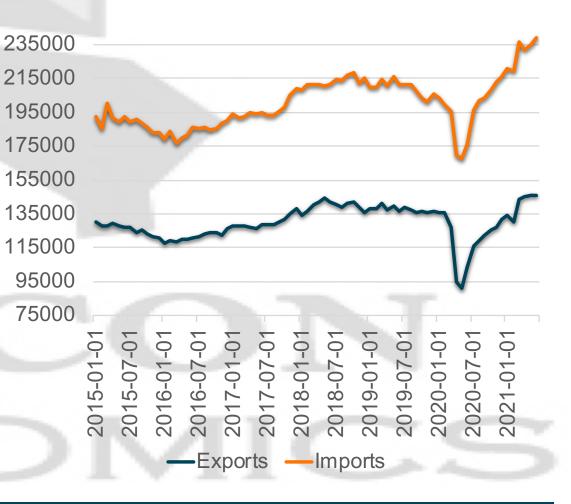
Production Trends





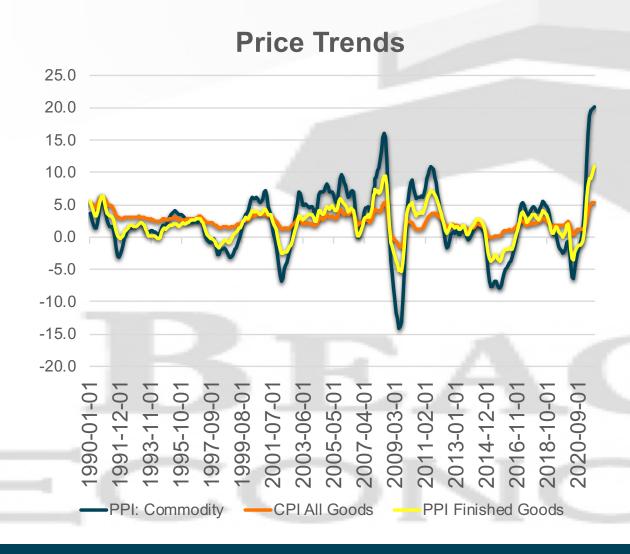


Monthly Goods Trade



Inflation Nation...

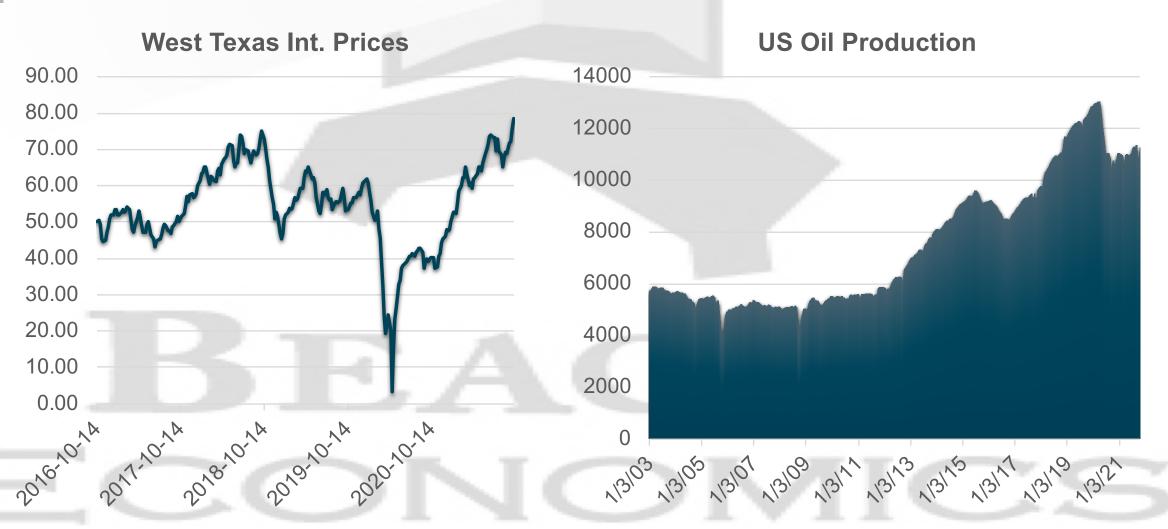




CPI By Category	<u>Wt</u>	<u>Inf</u>
All items	100	5.4
Shelter	32.6	3.2
Food	13.9	4.6
Energy	7.3	24.8
Medical care services	7.1	0.9
Transportation services	5.1	4.4
New vehicles	3.8	8.7
Used cars and trucks	3.4	24.4
Apparel	2.7	3.4
Electricity	2.5	5.2
Hospital services	2.2	3.2

The Energy Situation

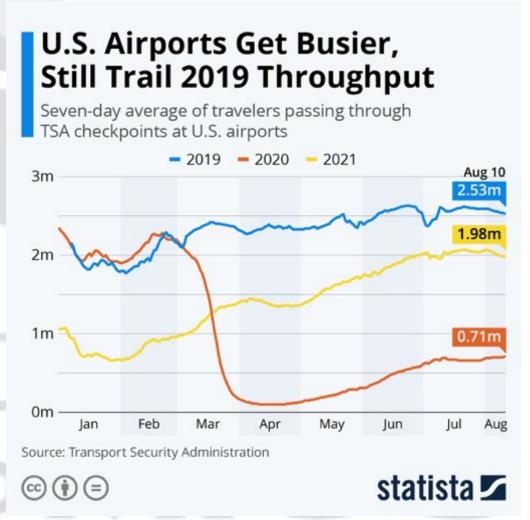




Hotel Metrics



01	Occupancy Rate		ADR	
County	Q2-2021	1-Yr P.P. Chg	Q2-2021	1-Yr % Chg
Yavapai	75.7	42.4	214.4	113.7
Yuma	69.4	29.9	98.8	26.2
Maricopa	63.7	29.9	125.2	61.0
Pima	60.0	28.8	113.3	52.9
Pinal	73.5	21.9	83.3	36.3

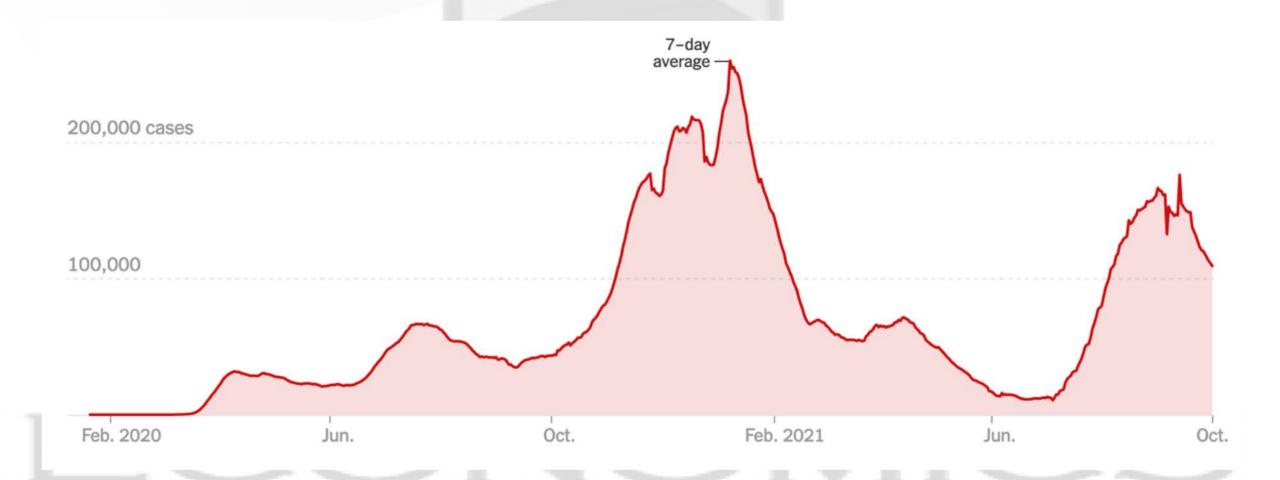


Source: Arizona Office of Tourism

Beacon Economics

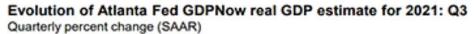
The Delta Surge

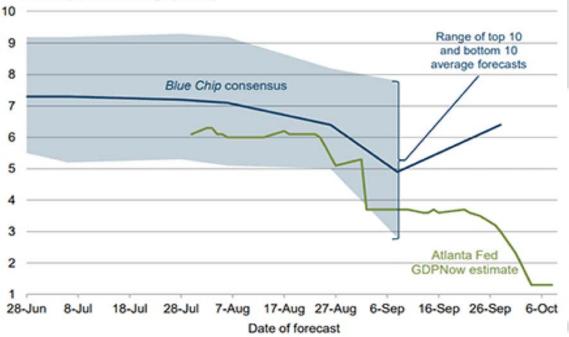




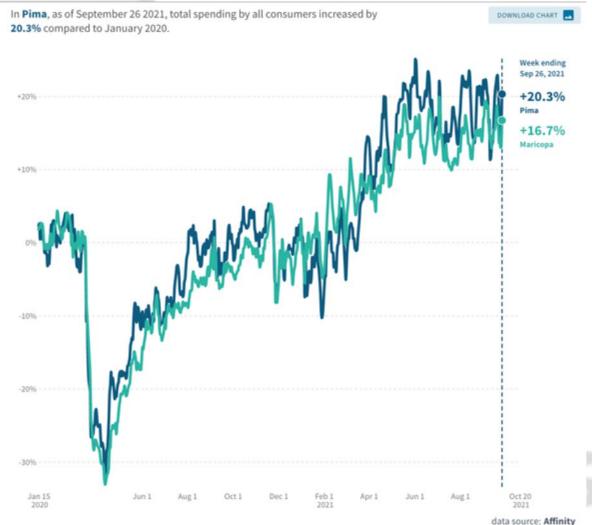
Consumer Spending (Opportunity Insights)







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.



Federal Policy (Over)reaction

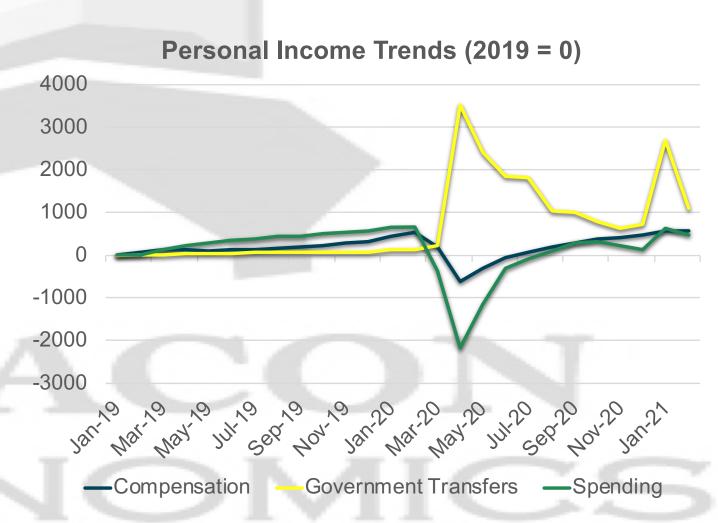


Fiscal Stimulus Plans: \$5.1 trillion

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

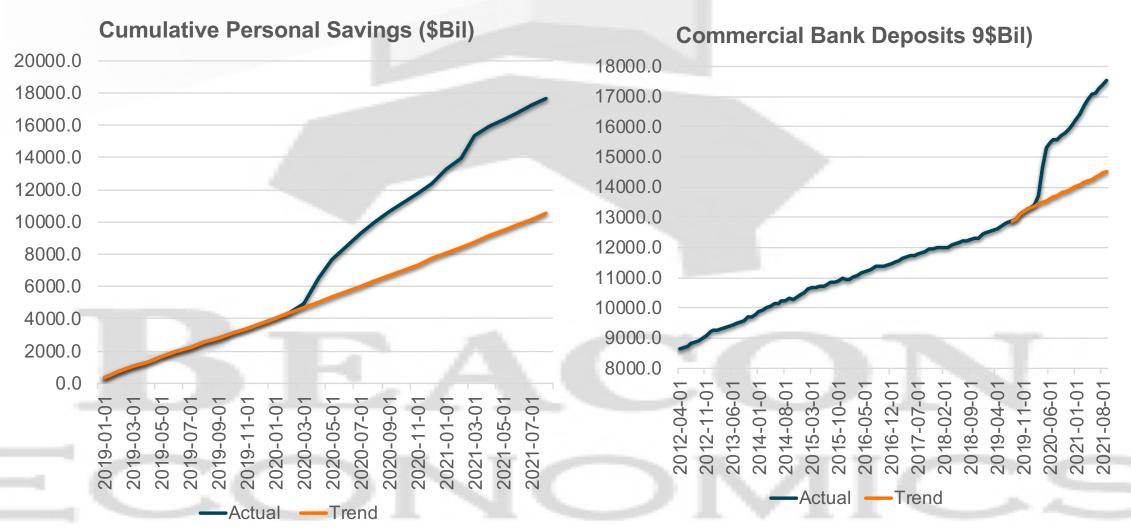
Personal Income

- \$525 billion in lost earnings
- \$1.67 trillion in direct payments
- > 3 to 1 replacement



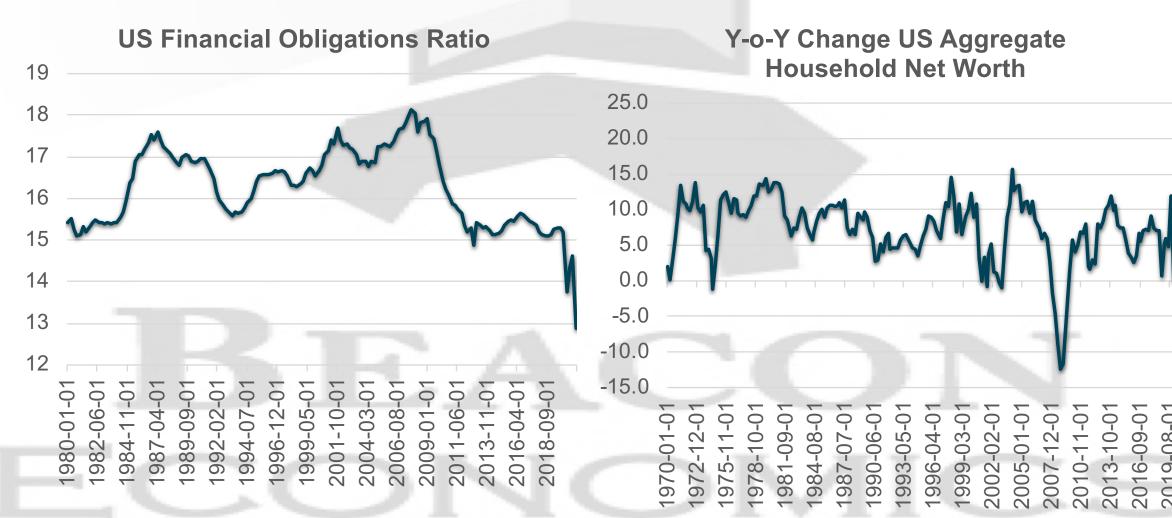
Excess Savings / Cash





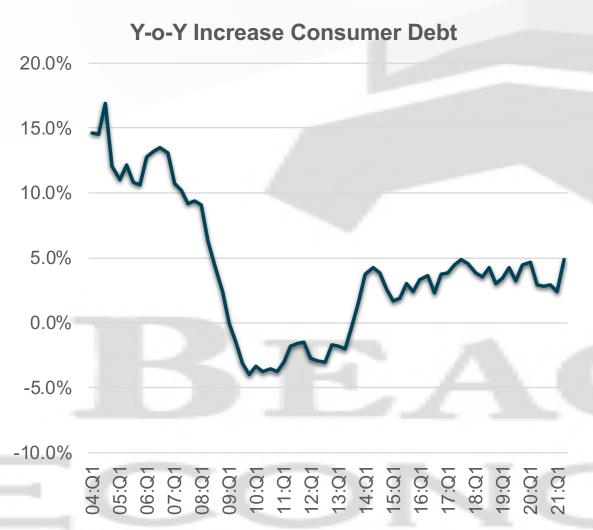
Financially Healthiest US Ever



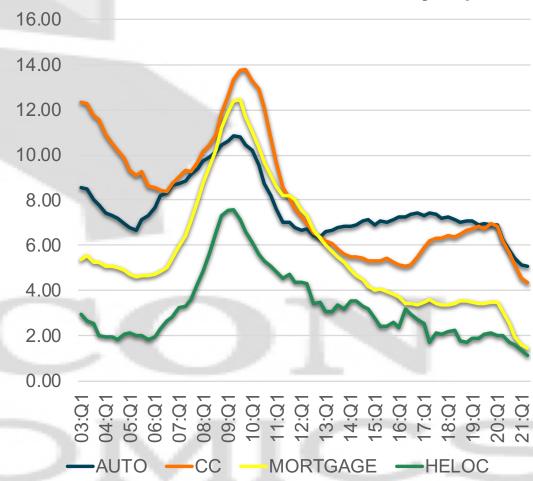


Consumer Credit



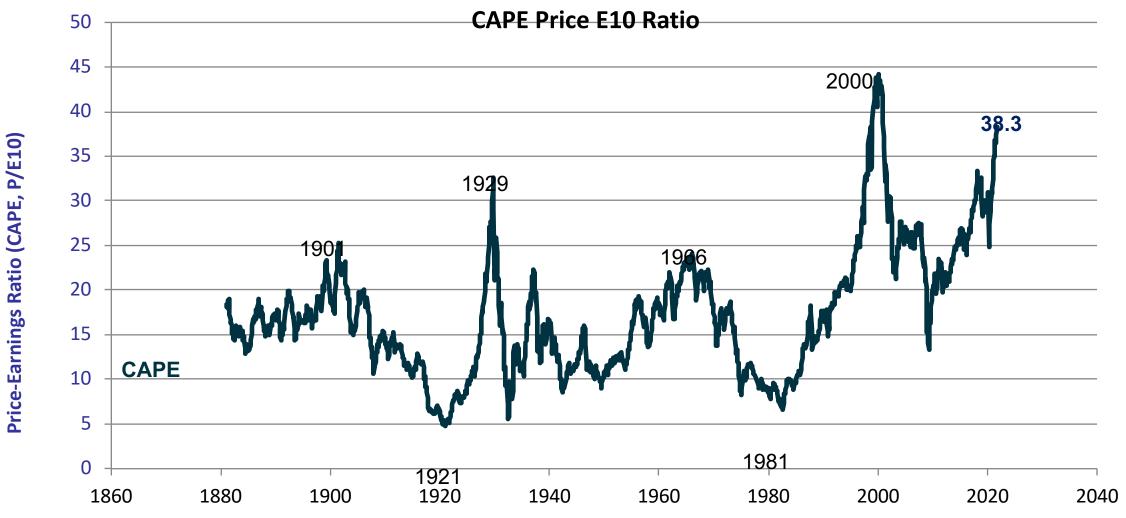


Credit Share Transition to 30 Day Dq



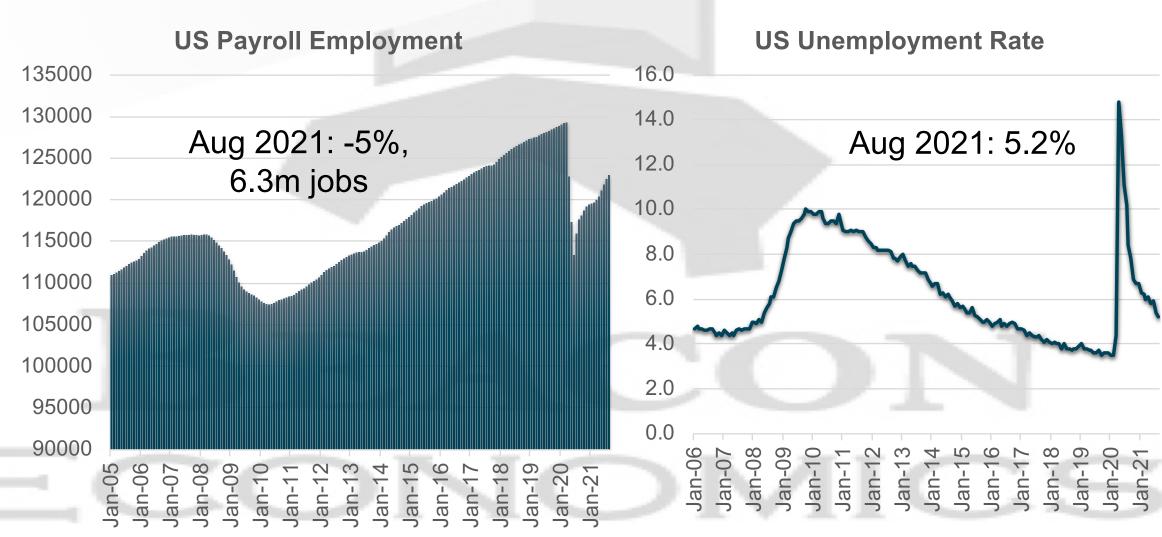
Asset Markets a Bit Frothy?





A Labor Market Paradox?

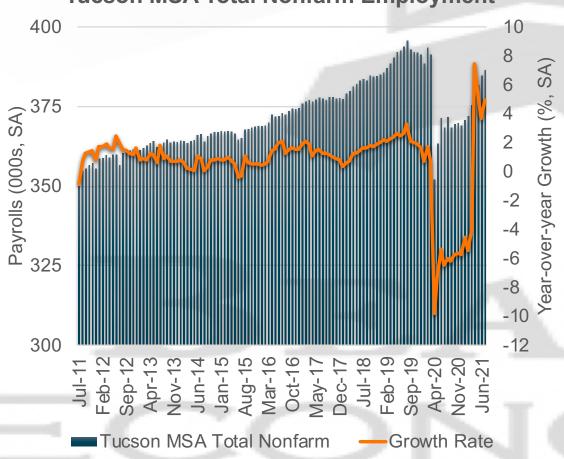




Tucson MSA Employment





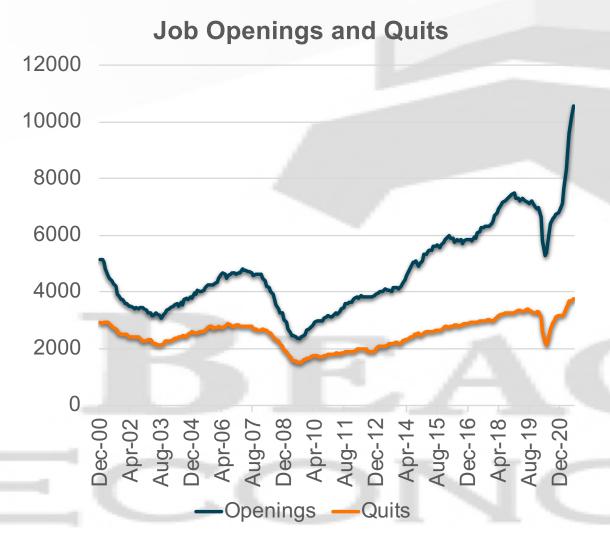


	Tucson	Change from Feb-2020			
Industry	Aug-21 Emp (000s)	Tucson Abs. Chg (000s)	Tucson % Chg	AZ % Chg	
Total Nonfarm	386.7	-6.9	-1.8	-0.3	
Retail Trade	69.4	5.9	9.2	5.3	
Prof Sci and Tech	18.1	0.5	2.9	0.4	
Construction	28.2	0.4	1.5	-0.5	
Manufacturing	18.7	0.1	0.8	9.4	
Financial Activities	41.5	0.3	0.6	1.5	
Wholesale Trade	18.5	0.1	0.6	-0.3	
Information	69.1	-1.1	-1.6	0.5	
Leisure and Hospitality	43.1	-1.5	-3.4	-7.4	
Management	74.7	-4.3	-5.4	-3.2	
Education/Health	6.8	-0.4	-5.7	2.2	
Government	5.3	-0.6	-10.3	-11.0	
Admin Support	24.7	-5.9	-19.2	-3.9	

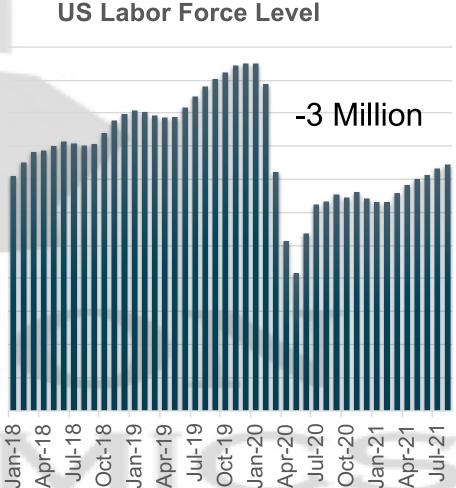
Source: BLS Beacon Economics

Labor Supply, Not Labor Demand



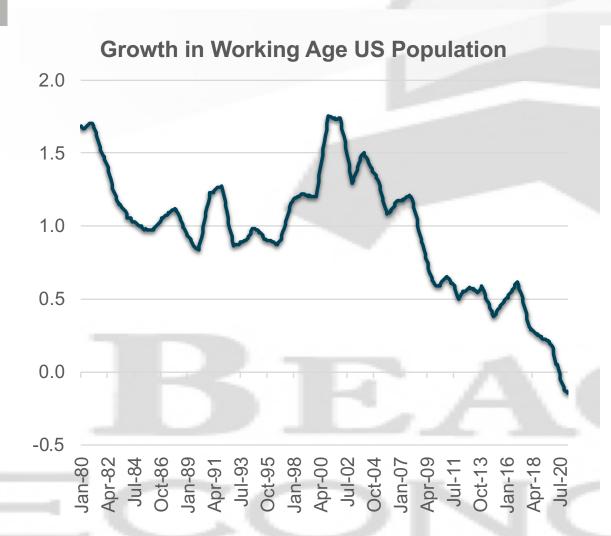


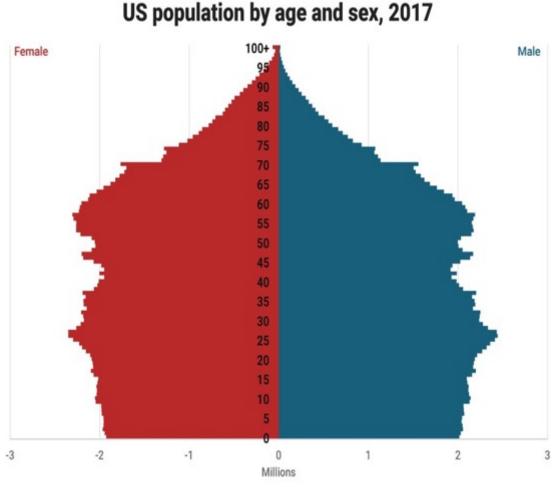




The Labor Force Issue

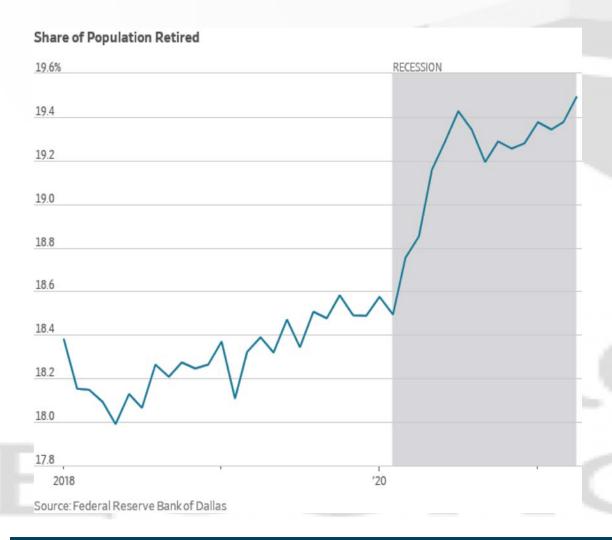






The Labor Force Issue

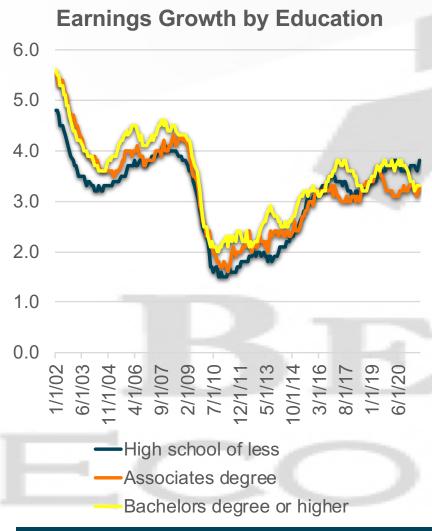


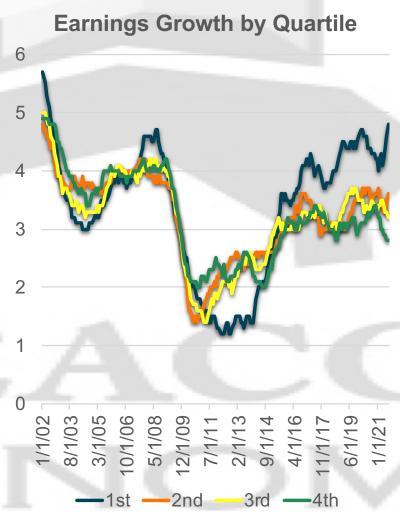


	Mar-20	Mar-21	
Men, 16 years and over	68.5	67.3	-1.2
16 to 19 years	35.1	35.3	0.2
20 to 24 years	71.5	72.4	0.9
25 to 34 years	88.7	87.3	<mark>-1.4</mark>
35 to 44 years	90.7	89.6	-1.1
45 to 54 years	87.4	85.7	<u>-1.7</u>
55 years and over	45.6	43.9	-1.7
Women, 16 years and over	57.1	56.1	-1.0
16 to 19 years	36.0	36.5	0.5
20 to 24 years	68.5	68.2	-0.3
25 to 34 years	76.3	76.0	-0.3
35 to 44 years	76.2	74.5	<u>-1.7</u>
45 to 54 years	<mark>76.0</mark>	<mark>75.1</mark>	<mark>-0.9</mark>
55 years and over	<mark>34.5</mark>	33.4	<mark>-1.1</mark>

What Is a K Shaped Recovery?





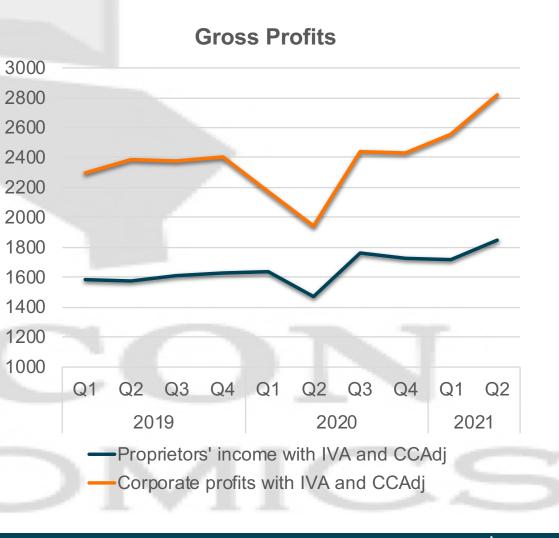




Profits and Investments

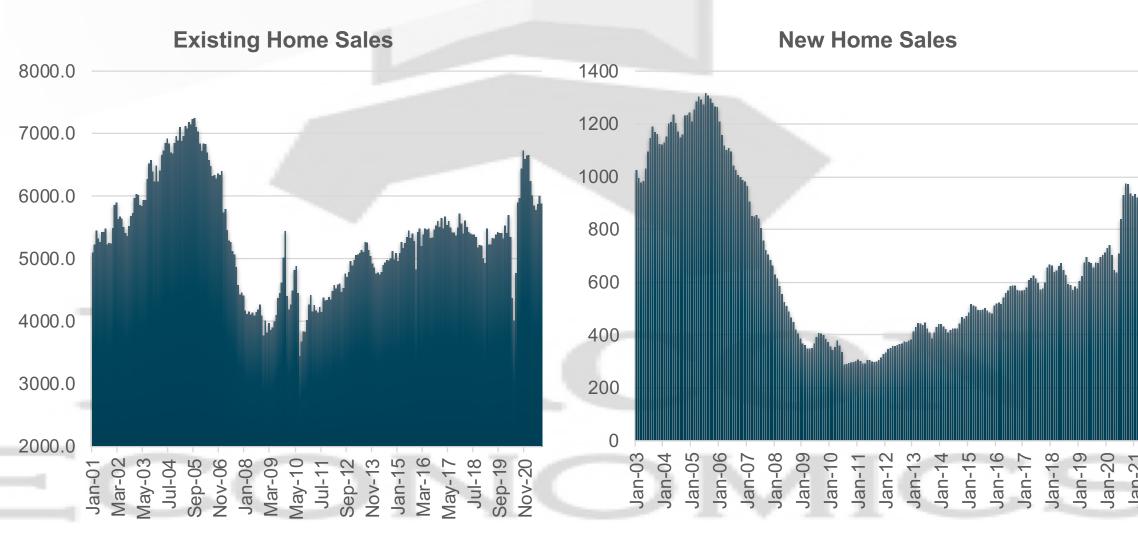


Real Investment by Type		Q1 19 to Q2 21
Private fixed investment	3590.7	4.4%
Information processing equipment	590.8	20.4%
Residential	712.1	16.3%
Software	561	16.0%
Industrial equipment	260.3	10.4%
Other equipment	263.2	8.3%
Research and development	492.9	6.4%
Entertainment, literary, and artistic	79.6	-7.4%
Commercial and health care	152.4	-12.3%
Manufacturing	52.3	-15.4%
Transportation equipment	236.6	-16.3%
Mining exploration, shafts, and wells	84.2	-23.7%
Power and communication	94.8	-25.2%
Other structures	74.2	-26.8%



Housing – U.S.

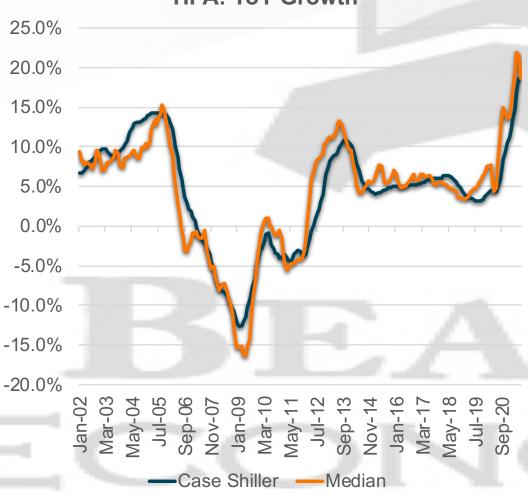




Housing – U.S.



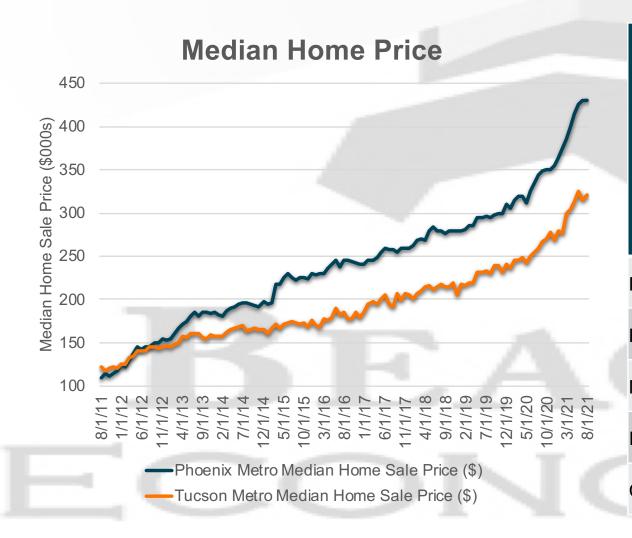




	18-19	19-20	20-21
Phoenix	5.8%	9.2%	28.3%
San Diego	2.0%	5.5%	26.0%
Seattle	-0.6%	7.0%	24.1%
Dallas	2.8%	3.3%	20.7%
Tampa	4.6%	5.9%	20.7%
San Francisco	0.2%	2.8%	20.4%
Miami	2.7%	4.1%	19.4%
Las Vegas	4.7%	3.4%	19.3%
Denver	3.1%	4.4%	18.9%
Charlotte	4.6%	6.0%	18.0%
Portland	2.5%	5.1%	18.0%
Los Angeles	1.2%	5.4%	17.2%
New York	1.2%	2.3%	16.7%
Atlanta	4.2%	4.9%	15.8%
Cleveland	3.2%	5.4%	15.1%
DC	2.7%	4.4%	15.0%
Chicago	1.8%	1.3%	12.5%

Home Prices and Sales

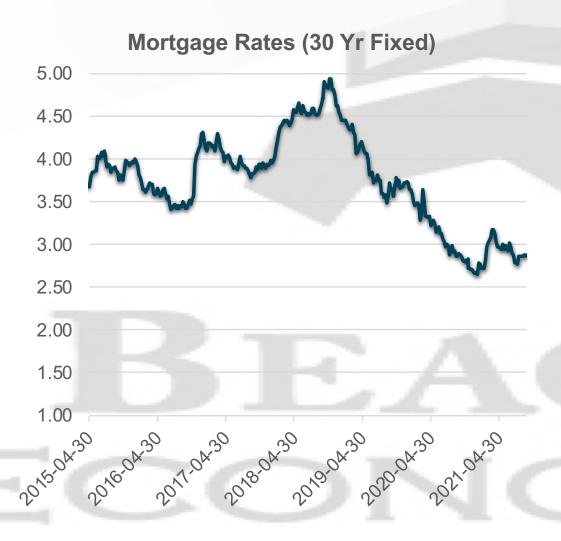




	Home P	rices (\$)	Sales	
MSA	Q2-21	1-Yr % Chg	Q2-21	1-Yr % Chg
Pinal County (AZ)	327,000	33.5	3,713	49.5
Pima County (AZ)	314,000	27.2	3,856	11.3
Maricopa (AZ)	410,000	27.1	26,197	38.2
Inland Empire (CA)	485,000	24.6	18,172	61.7
Clark County (NV)	375,000	21.0	12,201	81.6

Drivers of the Housing Boom





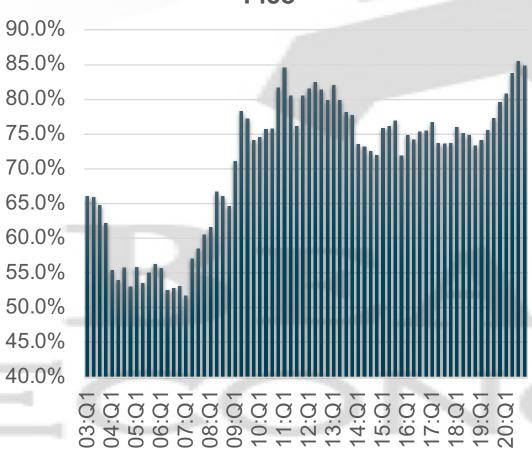
Drivers of Housing Volatility

- Long Run
 - Ownership rates
 - Pace of construction
 - Household Growth
- Short Run
 - Mortgage Rates
 - Cash savings
 - Wealth effects
 - Changes in tax laws
- Feedback effects

Bubble Alert? Not Yet...



Share Mortgage Originations > 720 Fico

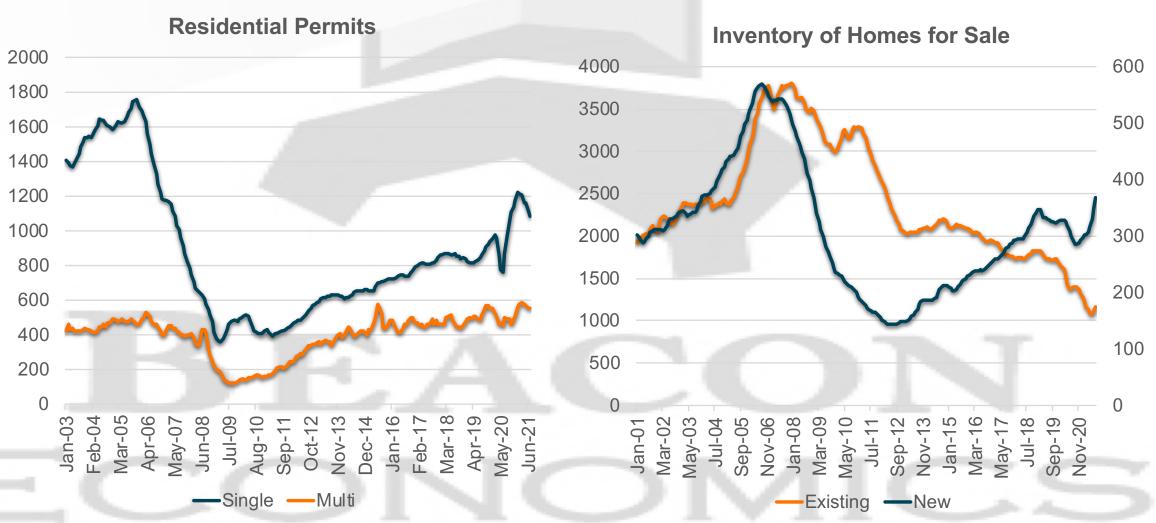


Owner Costs as % Income

		2011	2019
	Units w/		
	Mortgage	Less than 20	0.0 percent
US	49,049,732	34.9%	47.6%
Arizona	1,023,943	32.8%	48.0%
California	5,064,795	23.8%	35.1%
Colorado	948,904	36.2%	45.1%
Nevada	403,792	29.8%	44.2%
Utah	446,690	33.6%	47.7%
		35.0 percer	nt or more
US	49,049,732	28.1%	19.9%
Arizona	1,023,943	30.5%	19.3%
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Construction Activity





Residential Permits



Tucson MSA Residential Permits



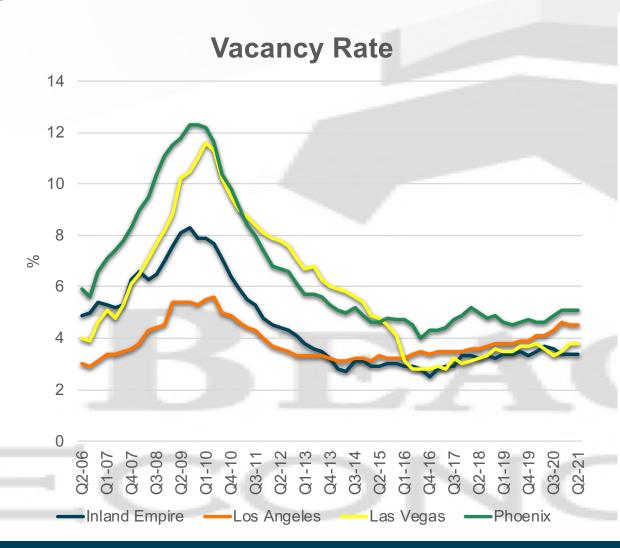
MSA	Single-family		Multifamily	
	2021*	1-Yr Chg	2021*	1-Yr Chg
Phoenix	24,585	5,316	10,016	161
Tucson	3,555	830	600	153
Prescott	1,109	266	147	61
Yuma	820	48	195	108
Flagstaff	393	31	443	135

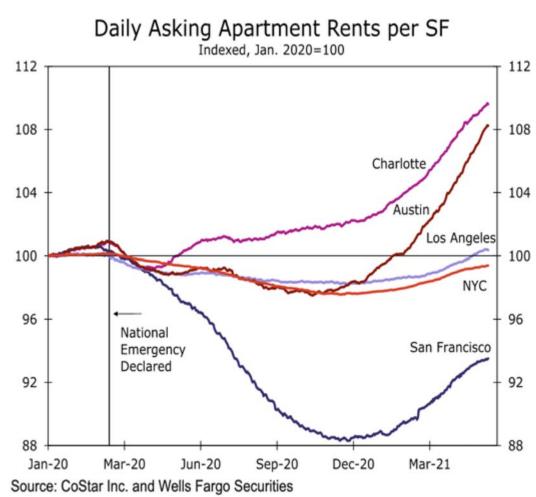
*Year-to-date August

Source: Census Beacon Economics

Apartments



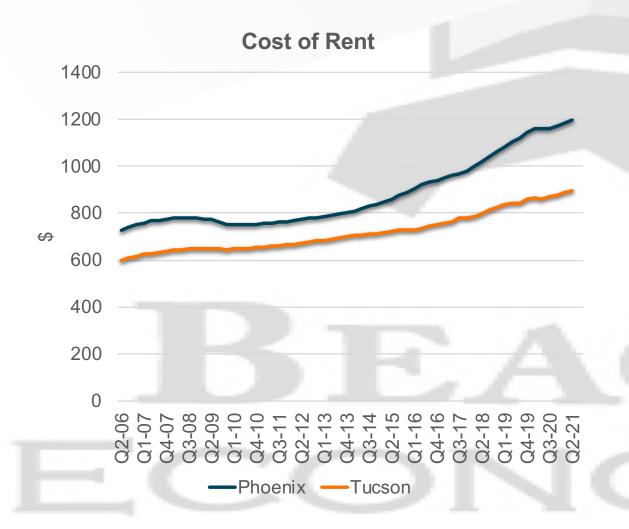


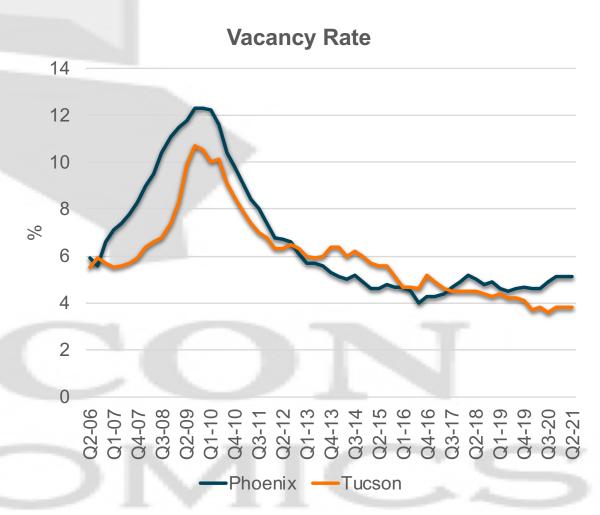


Source: REIS Beacon Economics

Residential



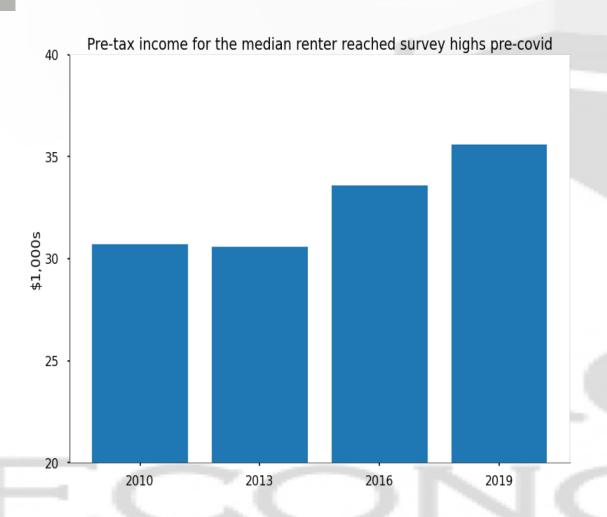


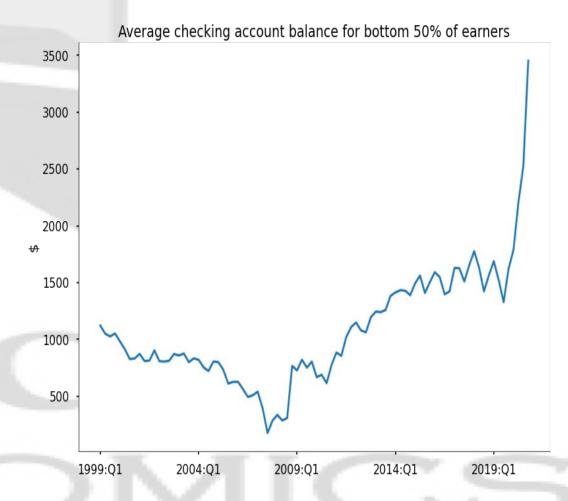


Source: REIS Beacon Economics

Financial Status



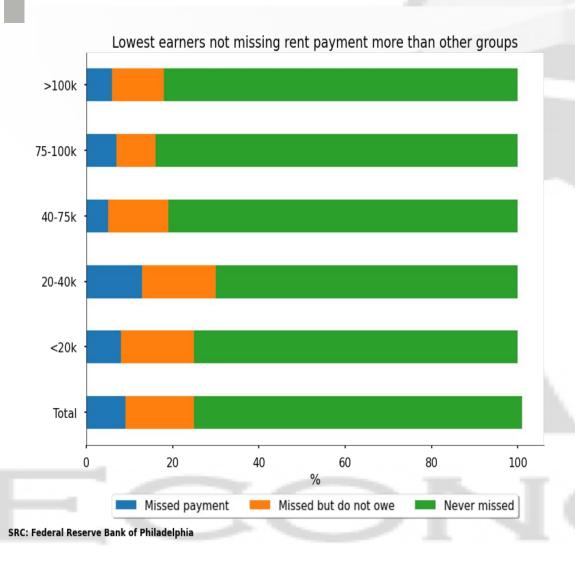


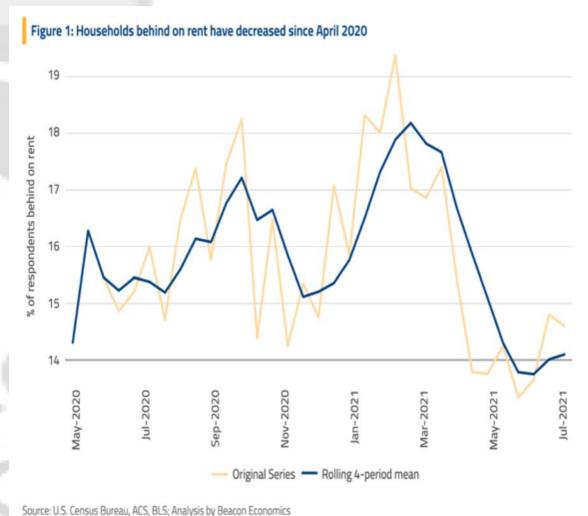


SRC: Federal Reserve Board, SCF SRC: Federal Reserve Board, DFA

Rental Status: Pulse vs Other Data

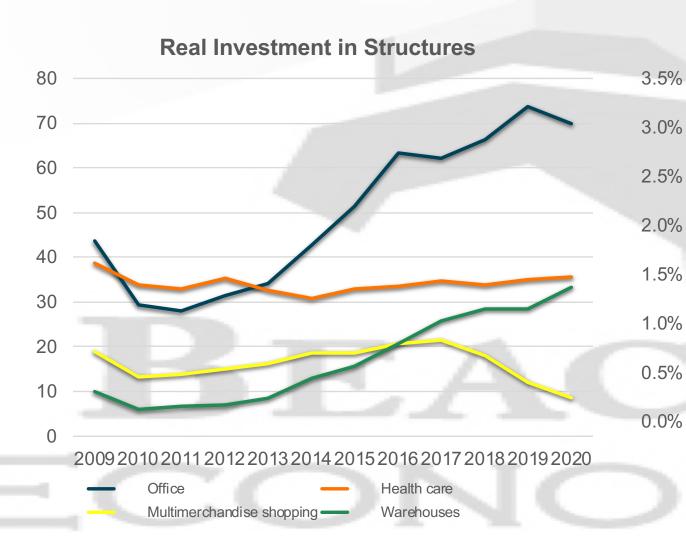




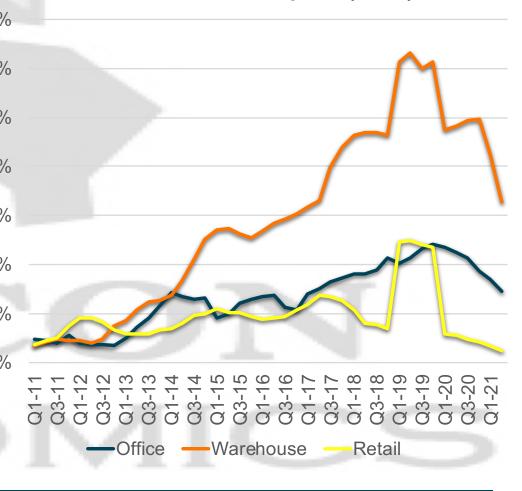


Commercial Markets



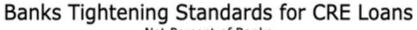


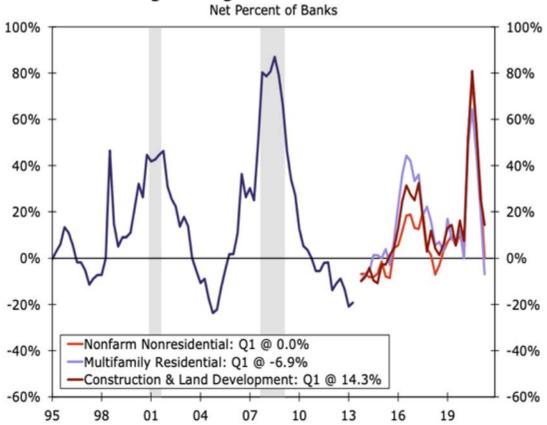
Growth in Stock of Space (REIS)



Commercial Markets

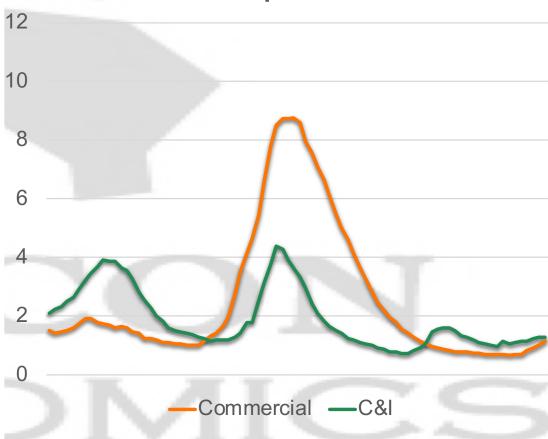






Source: Federal Reserve Board and Wells Fargo Securities

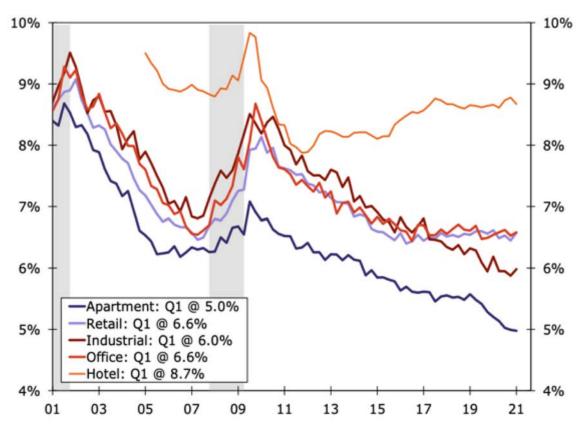
Commercial Bank Loan Delinquencies



Commercial Markets

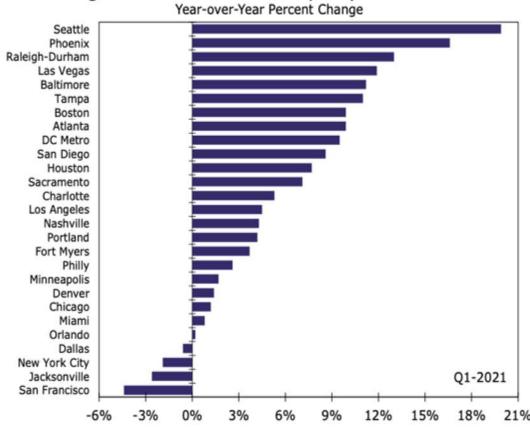


CRE Cap Rates by Propety Type



Source: Real Capital Analytics and Wells Fargo Securities

Regional Commercial Property Price Index



Source: Real Capital Analytics and Wells Fargo Securities

Nonresidential Rents and Vacancies



Office	Cost	of Rent	Vacancy Rate		
	Q2-21 (\$)	1-Yr % Gr	Q2-21 (%)	1-Yr Chg	
Phoenix	27.4	1.8	21.5	-0.1	
Inland Empire	23.6	0.9	17.8	0.7	
Tucson	22.3	0.8	22.9	-1.6	
Las Vegas	25.4	-0.4	23.3	-0.2	

Retail	Cost	of Rent	Vacancy Rate		
	Q2-21 (\$)	1-Yr % Gr	Q2-21 (%)	1-Yr Chg	
Las Vegas	22.7	-0.4	13.0	0.0	
Phoenix	20.7	-0.8	9.8	0.2	
Tucson	18.2	-0.7	9.8	-0.2	
Inland Empire	22.5	-2.6	9.9	0.0	

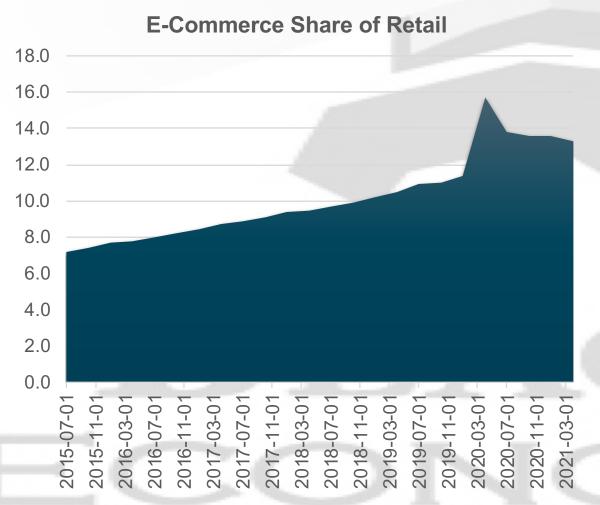
Warehouse	Cost	Cost of Rent		cy Rate
vvarenouse	Q2-21 (\$)	1-Yr % Gr	Q2-21 (%)	1-Yr Chg
Phoenix	6.4	2.4	12.8	-2.2
Tucson	5.7	2.5	12.9	-2.2
Las Vegas	7.1	2.0	7.5	0.7
Inland Empire	5.9	1.5	8.2	-2.3

Source: REIS

Beacon Economics

The Retail Dilemma



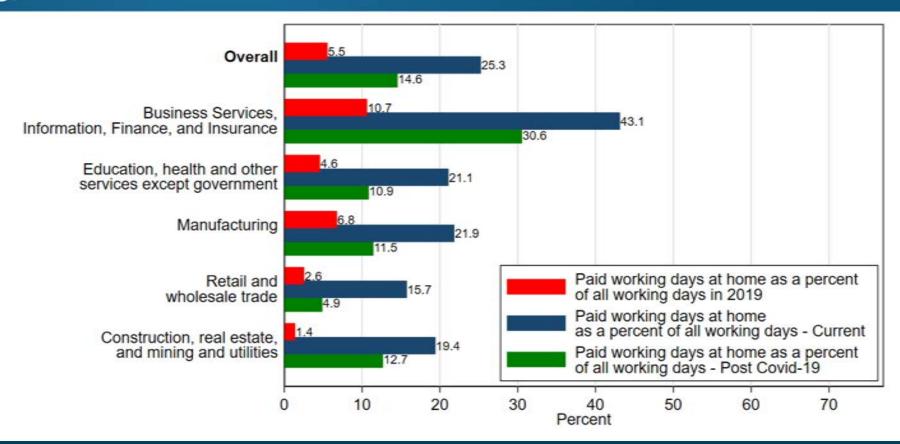




WFH Before, During, and After COVID

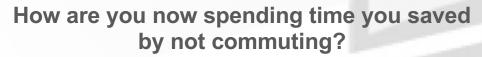


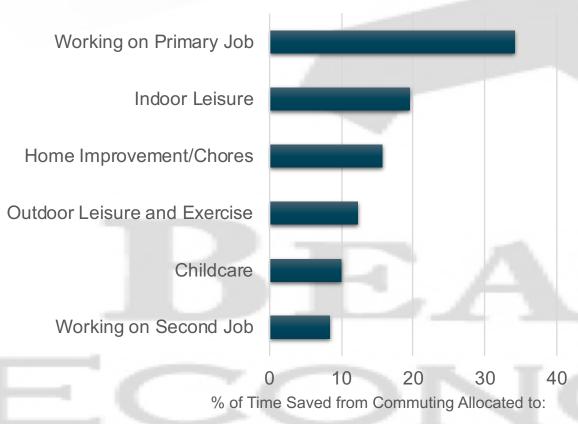
Chart 2: Paid WFH Days as a Share of All Working Days before, during, and after the Pandemic



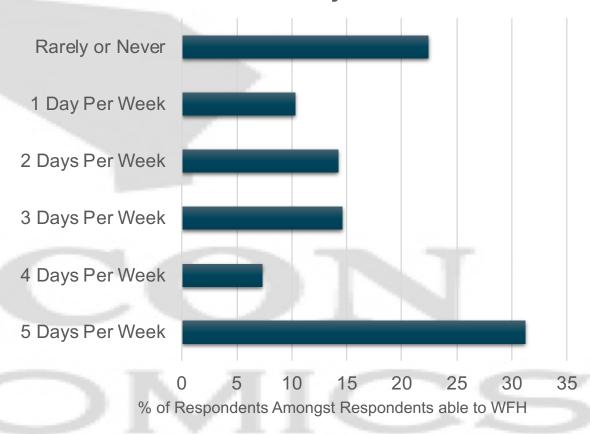
WFH – Time and Preferences







Workers' desired amount of post-COVID WFH days



Density Distributions

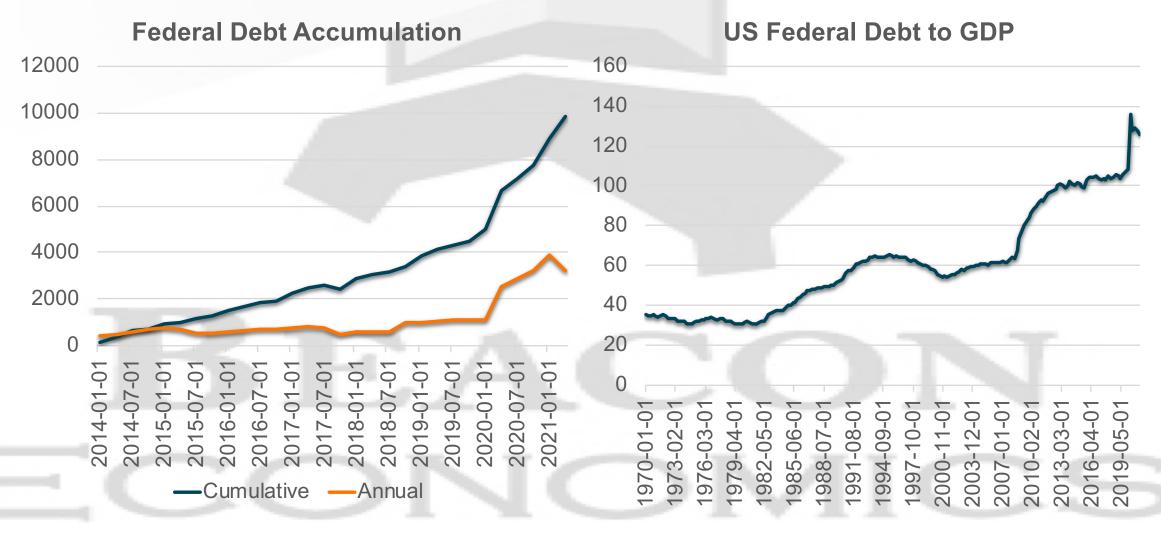


- When cities have high enough densities of firms and workers they can:
 - Share infrastructure and suppliers
 - Achieve better matches between employees and employers
 - Communicate better and learn more
- Great cities and neighborhoods rely on economies of scale
 - Wall Street
 - Hollywood
 - Silicon Valley
 - Fleet Street



No Such Thing As a Free Lunch...

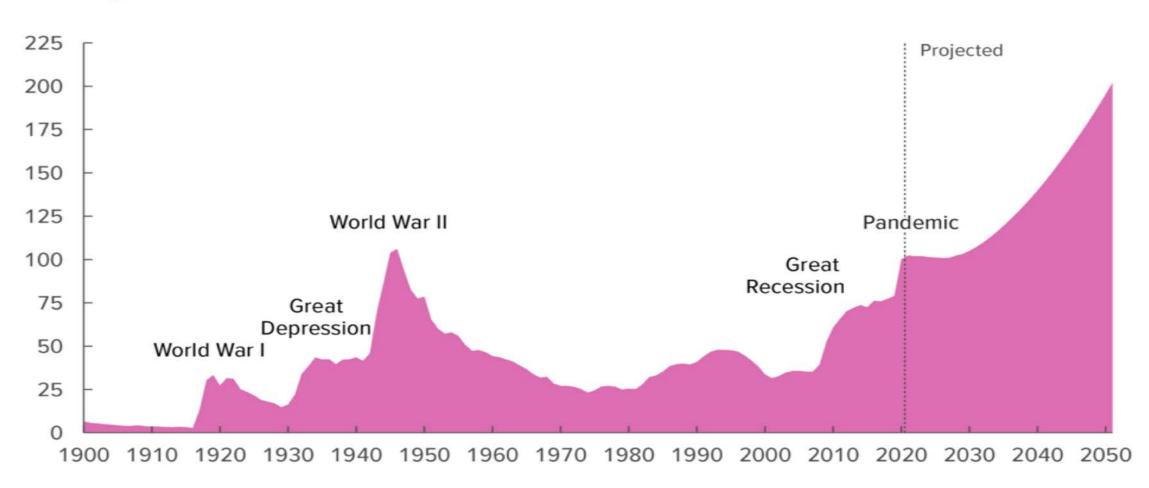




The Long Run



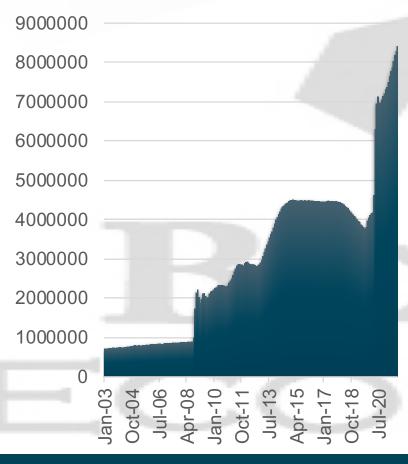
Percentage of Gross Domestic Product



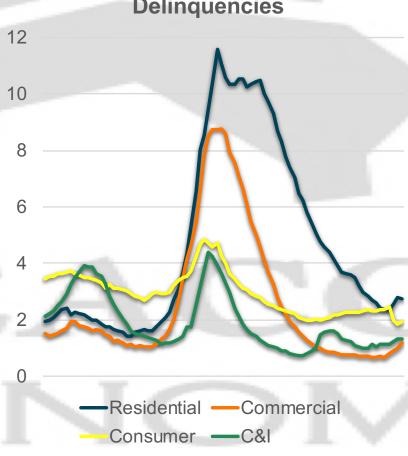
Federal Reserve Policy



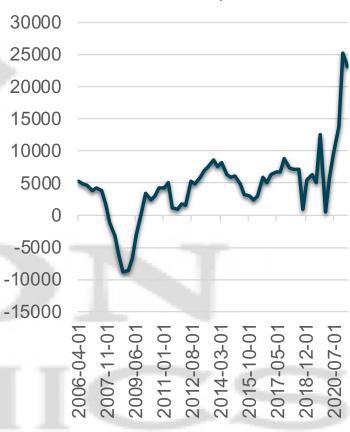




Commercial Bank Loan Delinquencies



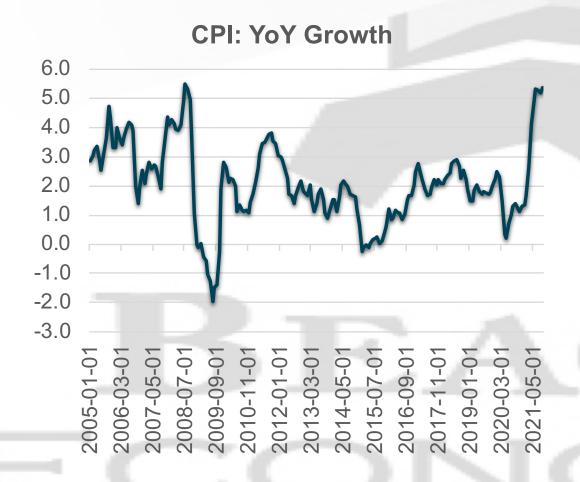
YoY Change Household Net Worth \$Bil



Source: FRED

Inflation

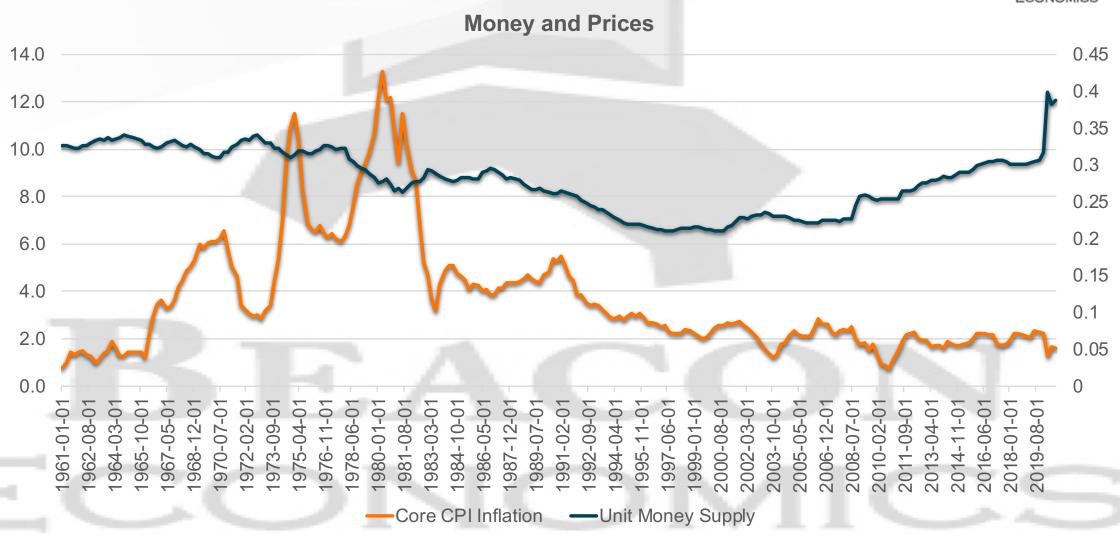




<u>Item</u>	<u>Wt</u>	<u>Inf</u>
All items	100	5.4
Shelter	32.6	3.2
Food	13.9	4.6
Energy	7.3	24.8
Medical care services	7.1	0.9
Transportation services	5.1	4.4
New vehicles	3.8	8.7
Used cars and trucks	3.4	24.4
Apparel	2.7	3.4
Electricity	2.5	5.2
Hospital services	2.2	3.2

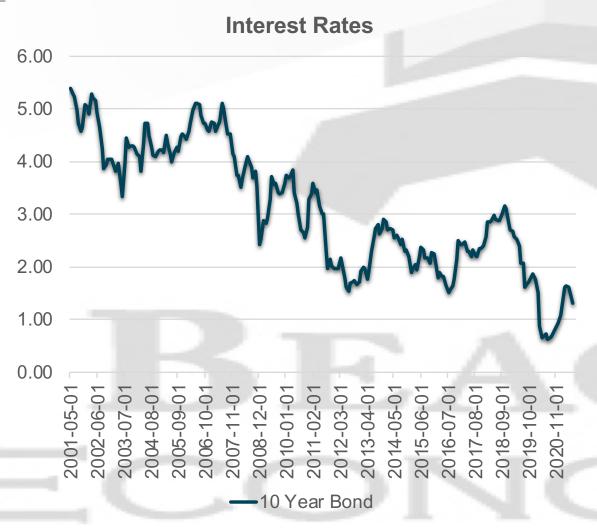
Inflation and Inflation Potential

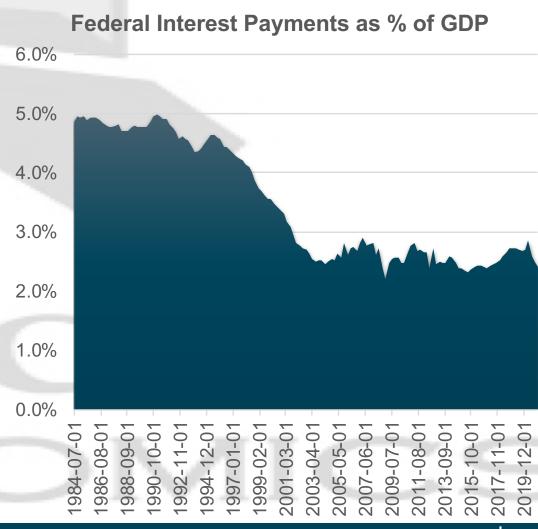




Interaction of Monetary and Fiscal Problems

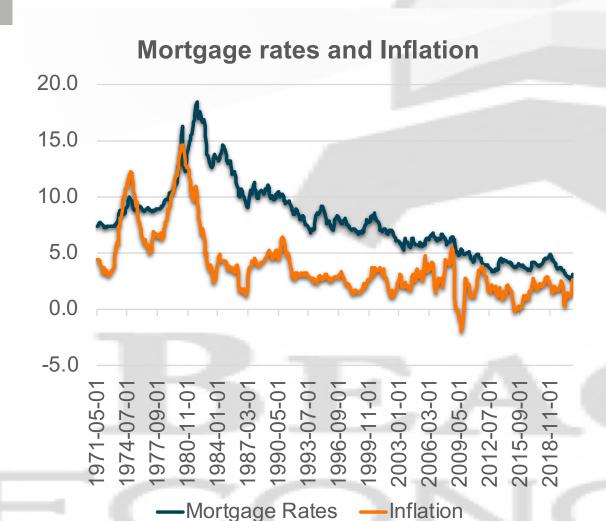




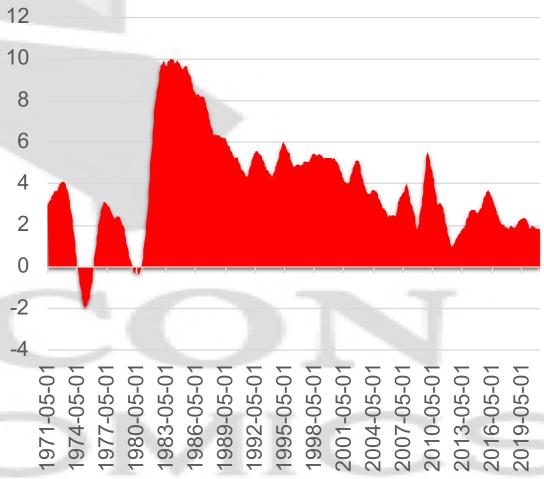


Mortgage Rates





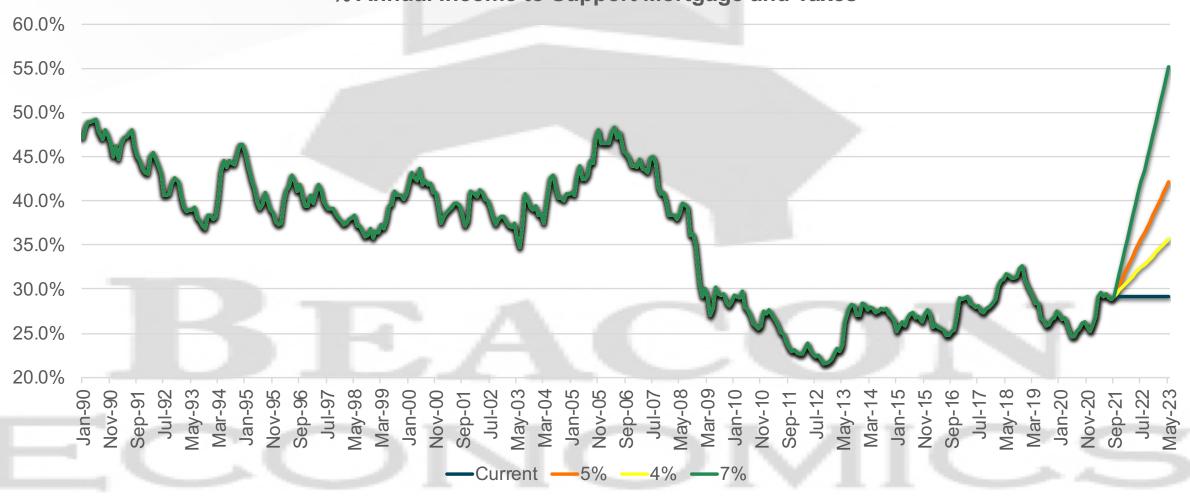




Affordability and Interest Rates

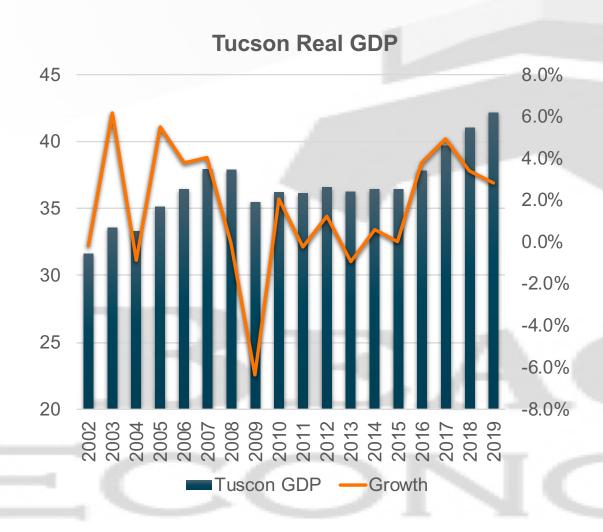


% Annual Income to Support Mortgage and Taxes



The Local Situation?

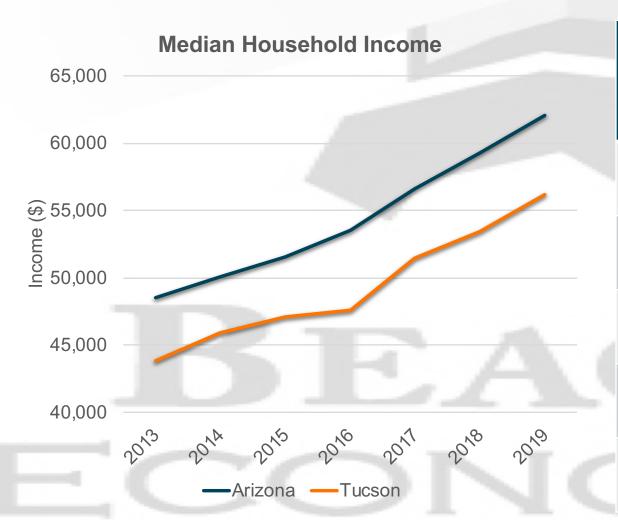




All industry total	42169490 Ch	15-19
Information	2090315	89.9%
Durable goods manu	5826362	56.0%
Utilities	329729	36.9%
Construction	1343596	25.9%
Nondurable goods manu	358443	22.9%
Retail trade	2881325	20.3%
Transportation warehousing	918184	19.1%
Administrative	1518967	14.3%
Other services	939269	13.6%
Finance, insurance, real estate	8458114	10.1%
Health care	4033784	8.2%
Arts, accommodation	1606852	6.6%
Government	7467838	5.4%
Professional, scientific	2170475	5.0%
Educational services	292963	-2.3%
Agriculture	51973	-8.3%
Wholesale trade	969244	-10.8%
Mining, quarrying	834967	-12.6%

Household Incomes





Income Bucket	2019 Household Income		ncome 3-Year Change	
	Arizona	Tucson	Arizona	Tucson
Total HH's	2.6 Million	410,404	5.1%	2.4%
Less than 25K	20.7%	20.9%	-3.6	-17.8
25K to 49.9K	23.5%	24.5%	-2.2	-2.5
50K to 99.9K	31.4%	30.5%	1.2	5.7
100K or More	24.5%	24.1%	4.7	31.9

Source: ACS Data Beacon Economics

Tucson MSA Demographics



Age Bucket	Share of Population		5-Year Change	
	Tucson AZ		Tucson	AZ
Total Pop. (000s)	7,278	1,047	4.3%	8.1%
Less than 25	32.2%	32.1%	-2.0	-2.0
25 - 44	24.5%	26.1%	0.8	0.3
45 - 64	23.1%	23.9%	-1.4	-0.4
65+	20.3%	18.0%	2.6	2.1

Age Bucket	Shar Popul		5-Year Change	
	Tucson	AZ	Tucson	AZ
Pop 25+ (000s)	0.71	4,944	11.5%	7.4%
Less than HS	11.9%	12.4%	-0.1	-1.5
HS	22.0%	23.7%	-1.0	-0.6
Some College	33.5%	33.7%	-0.8	-0.5
Bachelors	18.9%	18.8%	1.3	1.5
Grad/Prof	13.7%	11.3%	0.6	1.0

Source: ACS Beacon Economics

Labor Force by Education



Education Bucket	2019 Une	mployment	5-Year (Change	Education Bucket			5-Year (Change
	Arizona	Tucson	Arizona	Tucson		Arizona	Tucson	Arizona	Tucson
Total Unemployment Rate	5%	6%	-3%	-3%	Total rate of Labor Force Participation	61%	59%	1%	0%
Less than HS	5%	9%	-0.1%	-4%	Less than HS	61%	62%	2%	-1%
HS Diploma (GED or equivalent)	7%	6%	-0.3%	-5%	HS Diploma (GED or equivalent)	71%	70%	2%	0%
Associates/ Some College	8%	4%	-0.2%	-3%	Associates/ Some College	77%	74%	1.3%	-3%
Bachelor's Degree	5%	3%	-1%	-1%	Bachelor's Degree	85%	83%	3%	1%

Source: ACS Beacon Economics

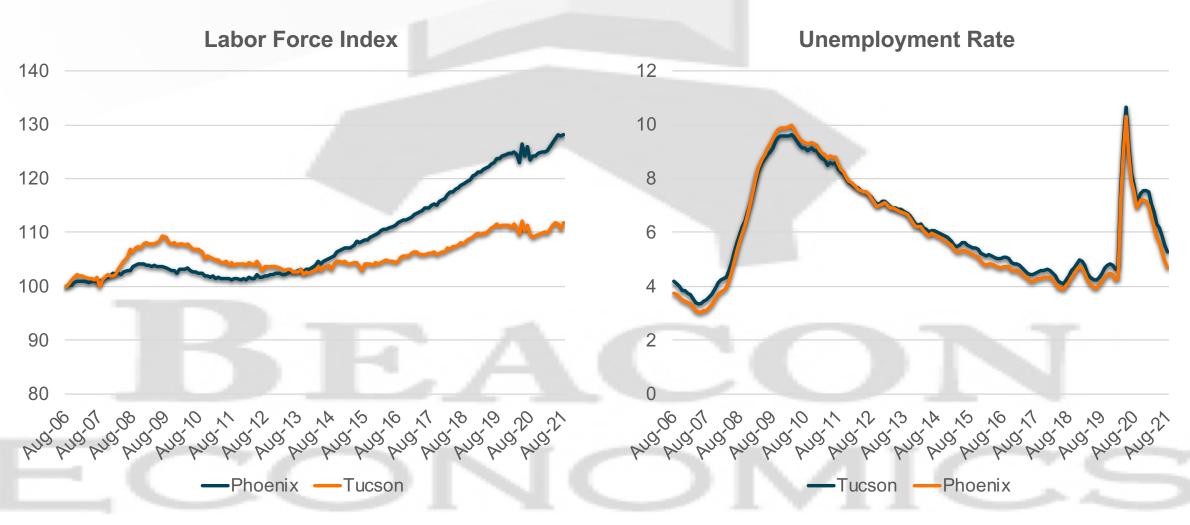
Tucson In Context



MSA Population Growth 2010-2020		200110111100
44 Richmond, VA MSA	1,314,434	10.78%
45 Louisville/Jefferson County, KY-IN MSA	1,285,439	6.88%
46 New Orleans-Metairie, LA MSA	1,271,845	6.89%
47 Salt Lake City, UT MSA	1,257,936	15.63%
48 Hartford-East Hartford-Middletown, CT MSA	1,213,531	0.09%
49 Buffalo-Niagara Falls, NY MSA	1,166,902	2.76%
50 Birmingham-Hoover, AL MSA	1,115,289	5.11%
51 Rochester, NY MSA	1,090,135	0.97%
52 Grand Rapids-Kentwood, MI MSA	1,087,592	9.45%
53 Tucson, AZ MSA	1,043,433	6.44%
54 <u>Urban Honolulu, HI MSA</u>	1,016,508	6.64%
55 Tulsa, OK MSA	1,015,331	8.30%
56 Fresno, CA MSA	1,008,654	8.40%
57 Worcester, MA-CT MSA	978,529	6.71%
58 Omaha-Council Bluffs, NE-IA MSA	967,604	11.82%
59 Bridgeport-Stamford-Norwalk, CT MSA	957,419	4.43%
60 Greenville-Anderson, SC MSA	928,195	12.63%
61 Albuquerque, NM MSA	916,528	3.32%
62 Bakersfield, CA MSA	909,235	8.29%
63 Albany-Schenectady-Troy, NY MSA	899,262	3.28%

The Labor Issue





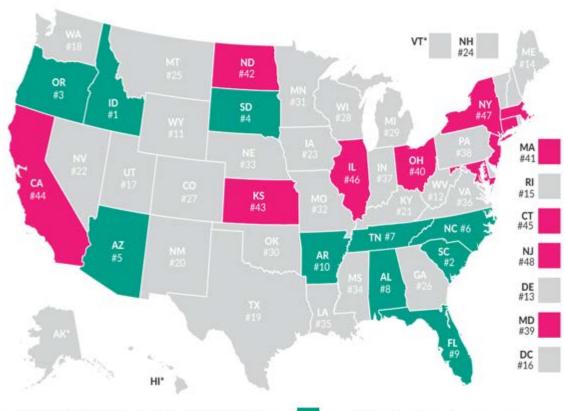
Source: BLS Beacon Economics

State to State Movements



Where Did Americans Move in 2020?

State Migration Patterns, from Most Inbound to Most Outbound, 2020

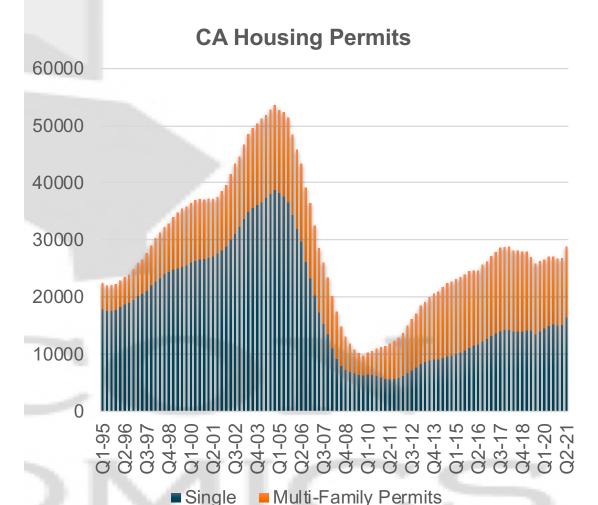


Note: Rankings are determined based on the number of inbound moves as a percentage of total moves in a state. DC is included in state rankings while Vermont is excluded because of its small sample size. Alaska and Hawaii are not included in the study.

Source: United Van Lines, 2020 National Movers Study.



Top 10 States for Outbound Migration



Tucson Trends

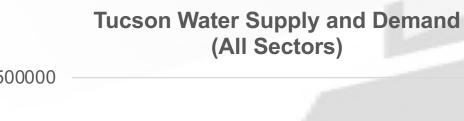


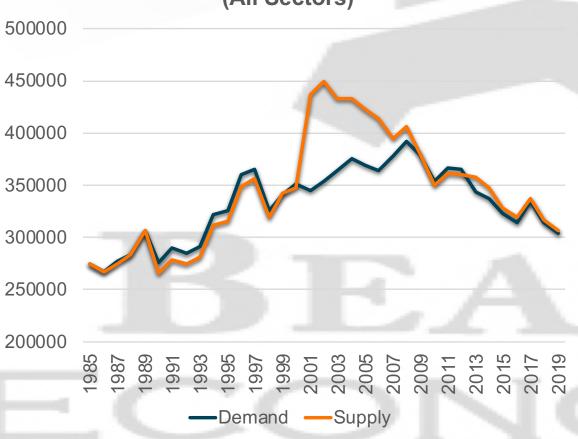
- https://biztucson.com/2021/04/02/transforming-downtown-tucson/
 - Over \$500 million in construction projects took place during the pandemic
 - La Placita Village is turning in to a massive residential and retail community,
 - new high rises (first time in 35 years).
- https://www.tucsonaz.gov/water/distribution-system
 - 90% of drinking water comes from groundwater;
- https://techparks.arizona.edu/raytheon-tucson-expansion-emphasizehigher-wage-jobs
 - Raytheon employs around 13,000 Tucsonans
- https://news.arizona.edu/story/ua-packing-multibilliondollar-economic-punch
 - University of Arizona is one of the biggest contributors to the Tucson economy
 - Student housing apartments account for at least 30 complexes around the city with many more in process of being built near downtown



Water Resources







Supply of Water by Sector	Tuc	son	Ariz	ona
	2019 (000s)	5-Yr % Gr	2019 (000s)	5-Yr % Gr
Industrial	52.2	3.7	305.4	6.1
Municipal	150.2	-12.5	1,343.7	5.8
Indian	17.2	-15.9	419.8	-4.9
Agricultural	86.3	-18.0	1,496.6	-15.1

The Long Run Still Matters



- The Economy is back..
 - The "V" was the only logical outcome
 - Recovery hampered not by lack of demand but by lack of supply
 - Lucky at some level: Spanish Flu 100x as deadly, record roll out of vaccines
- The Outlook
 - 3.5% Q3, 6% Q4
 - Unemployment below 5% by year end
 - US economy will remain heated for the next few years: a new roaring 20's
 - Expect a sugar crash to come, combination of tight federal budget and inflation could crash the economy.

- Labor market slow recovery is a function of labor supply
 - Good for workers at all skill levels, reduces inequality issues
 - Bad for businesses, consumers in short run
 - Businesses will have to deal with labor supply shortages for the foreseeable future
- Policy Thoughts
 - Immigration policy
 - Programs to encourage senior and female employment
 - Infrastructure needs
 - Workforce of tomorrow

What can Beacon do for you?



Connect with us.

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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

Chris@BeaconEcon.com | beaconecon.com