

About Beacon Economics

Our accurate, insightful, and empirically-based analysis drives informed decisions about growth, investment, revenue, and policy. We deliver energetic and engaging forecasts that have drawn audiences for over a decade. Let us guide you into the future! We first built our reputation by being one of the few organizations to stand against the tide and correctly forecast the 'Great Recession'. We continue that commitment to accuracy and empirical excellence every day.

Leveraging unique proprietary models, vast databases, proven methodologies, and sophisticated data processing, we equip our clients with the intel needed to understand today's on-the-ground realities and to make the best business and policy decisions possible.

As part of our commitment to spread accurate, balanced information, Beacon publishes a series of free monthly and quarterly analyses that deliver the latest data and commentary on the direction of the economy, employment, income, real estate markets, consumer and business spending, and more.

Our Clients:



"The professional and technically skilled staff at Beacon Economics delivered an excellent product that has been key in our District's long term planning and fiscal health."
~ East Bay Regional Parks District



Sustainable Growth & Development

Beacon has deep in-house expertise conducting industry and policy analysis on vital sustainability topics including green innovation, technology and workforce development, long-term economic development, and industry sector strategies.

Housing, Land Use, & Real Estate Advisory

Beacon leverages long- and short-range economic models to identify growth and investment opportunities and advance solutions to housing and real estate challenges across urban, suburban, and rural landscapes.

Economic & Revenue Forecasting

Beacon is a recognized leader in delivering highly accurate economic, fiscal, and revenue outlooks that inform public and private sector decision making. Banks, governments, public utilities, and major industries rely on Beacon forecasts.

Litigation Support & Expert Testimony

Working for both plaintiffs and defendants, we bring our reputation for analytical excellence and objectivity to bear on every client's case.

Economic, Fiscal, & Social Impact Analysis

Beacon evaluates the economic impact and value of universities, events, public policies, and infrastructure/real estate development. Our analyses have provided support and justification for proposed legislation, construction projects, sustainable power projects, and large-scale events.

Regional & Sub-regional Analysis

Beacon conducts analysis at an international, national, state, county, and city level – even down to the zip code. We identify highly specific trends occurring within communities in Employment, Industry, Real Estate, and Consumption, and deliver actionable steps that capitalize on local strengths and address local challenges.



Navigating the Stimulus Hangover *Focus on Washington State*

November 2022

Christopher Thornberg, PhD

Founding Partner, Beacon Economics

*Director, UCR SoBA Center for Economic Forecasting and
Development*

Renters Hit Breaking Point in a Sudden Reversal for Landlords

Affordability pressures and inflation are holding back tenants, forcing landlords to ease off big increases.

There's a 98% chance of a global recession, research firm warns



By [Matt Egan](#), CNN Business

Updated 11:27 AM EDT, Wed September 28, 2022

FINANCE • HOUSING

The housing market just slid into a full-blown correction, says top economist Mark Zandi

BY LANCE LAMBERT
May 27, 2022 9:36 AM PDT

BUSINESS

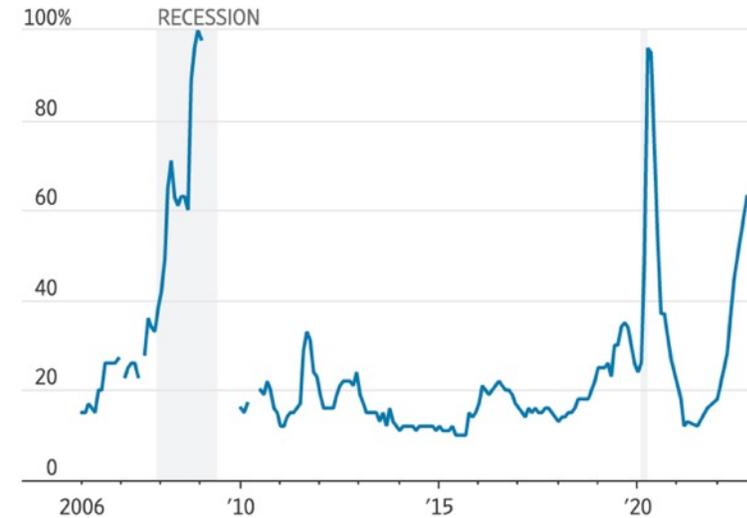
Stocks entered a bear market. Here's what that means

May 20, 2022 · 3:40 PM ET

Jamie Dimon Says JPMorgan Is Bracing Itself for Economic 'Hurricane'

- Says Fed actions, war in Europe create unprecedented challenge
- Still too soon to say how intense the storm will be, CEO says

Probability the U.S. is in a recession in next 12 months including today



More Americans Are Going Hungry, and It Costs More to Feed Them

The director of the nation's largest network of food banks is seeing support dwindle as need rises: "You're in the middle of a battle, and people are leaving the field."

Remembering the U or V Debate



Coronavirus to cause worst economic downturn since Great Depression, IMF forecasts

CBO: Coronavirus pandemic will scar U.S. labor market for the next decade

30-40 Million People in America Could Be Evicted from Their Homes by the End of 2020

As many as 30% of Americans with home loans — about **15 million** households — could stop paying if the U.S. economy remains closed through the summer or beyond, according to an estimate by Mark **Zandi**, chief economist for Moody's Analytics.

JPMorgan now sees economy contracting by 40% in second quarter, and unemployment reaching 20%

Home prices rose in June, but they'll likely fall in 2021: CoreLogic

'Make no mistake...the pandemic morphed into a Depression-like crisis,' says UCLA economist, who predicts U.S. economy won't recover from coronavirus until 2023

2019: The Year of the Bear

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

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

Real Estate Markets Cool Across The Country, And It's

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

Trump could... more China tariffs,...

Global recession if he imposes... economists predict

Housing Is Already in a Slump. So It (Probably) Cause a Recession

DoubleLine CEO Jeffrey Gundlach... recession driven by 'cool'

"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.

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

Real Estate | Market Outlook

...ing Market Crisis 2.0: The Jury

Economy

Trump is heading into reelection with a deep manufacturing recession

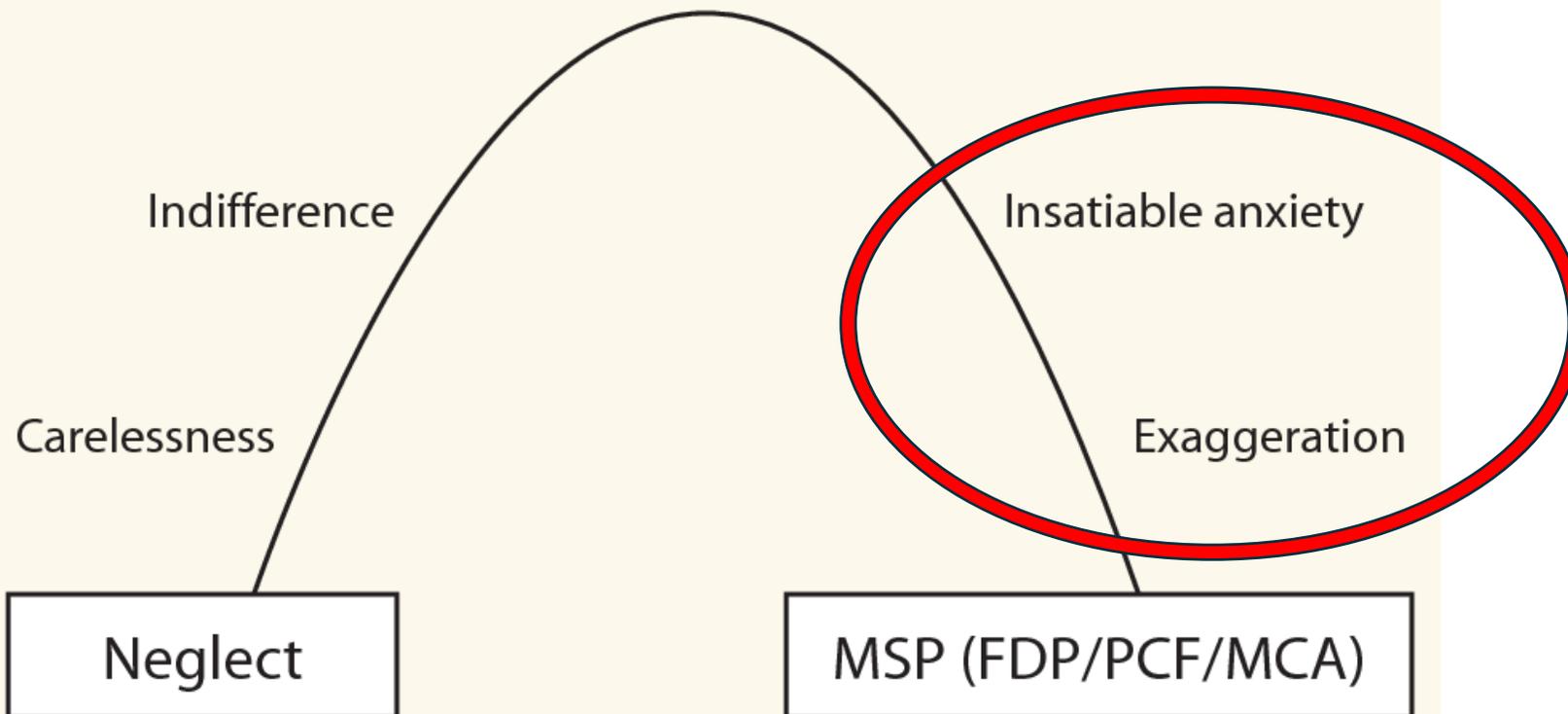
September marked the worst month for U.S. manufacturing since the Great Recession

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



Spectrum of health care seeking by parents

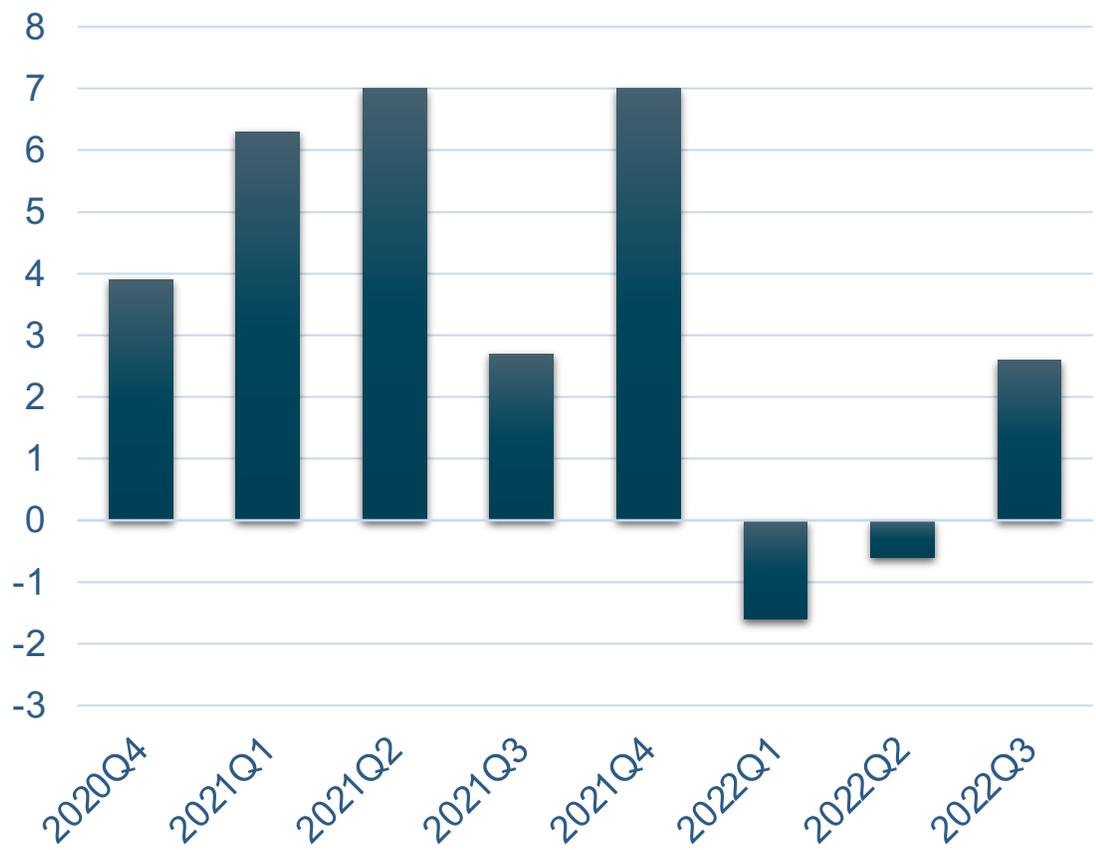
Appropriate concern and anxiety
related to child's symptoms



Mixed Economic Signals



Real GDP Growth



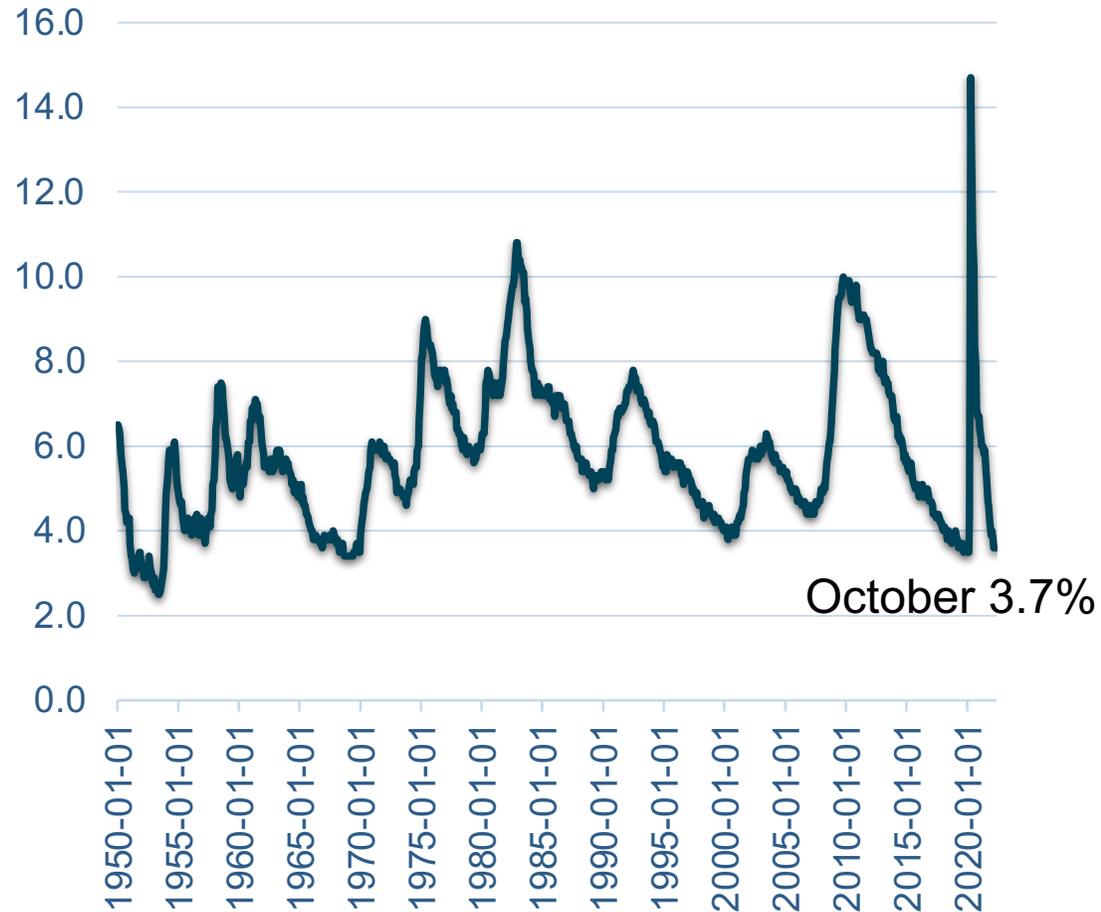
UM Consumer Sentiment



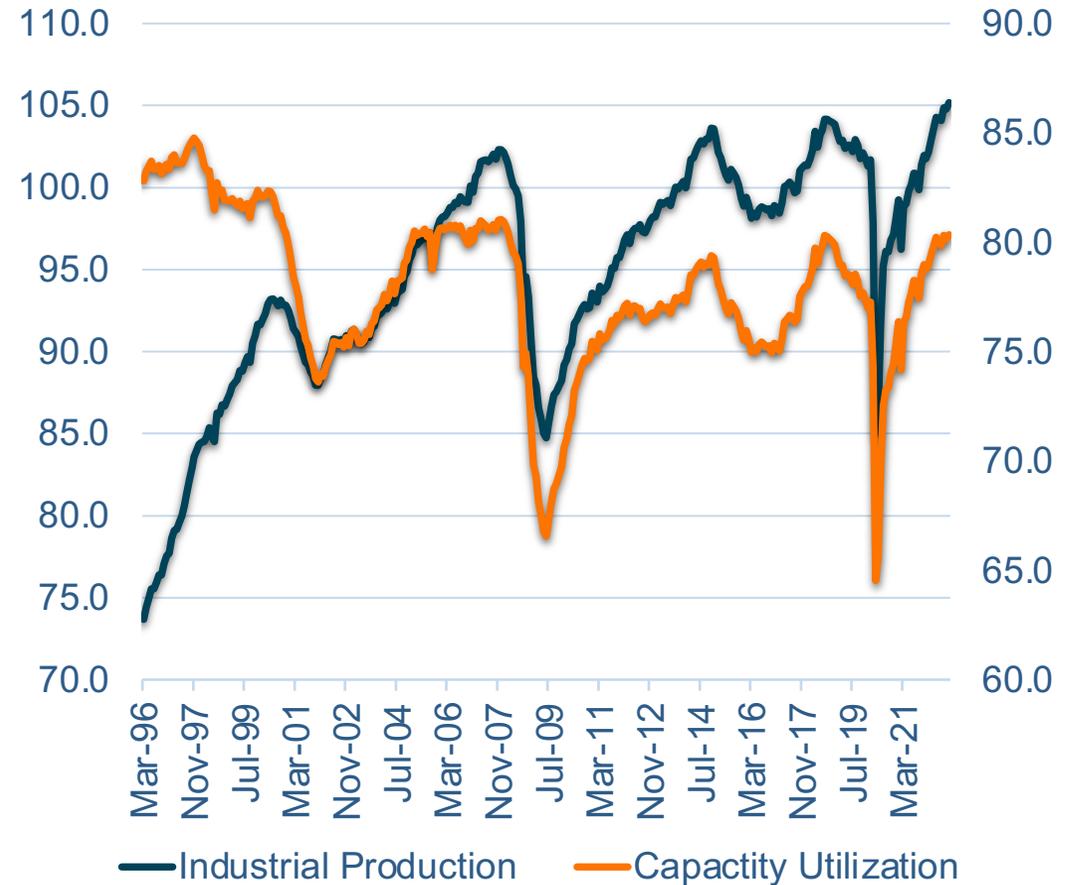
Does this look like a recession?



US Unemployment Rate



US Industrial Output



Navigating the Miserabilist Narrative



Not every shock is an existential crisis

- Pre-pandemic economy was very healthy
- Congress and the Fed vastly over-reacted to the pandemic
- They are now over-reacting to inflation, but in opposing directions

Gravity still exists

- Rate hikes are causing asset prices to fall back to earth
- Mini-tech boom is busting, Real Estate freezing up
- Fundamentals solid, losses minimal

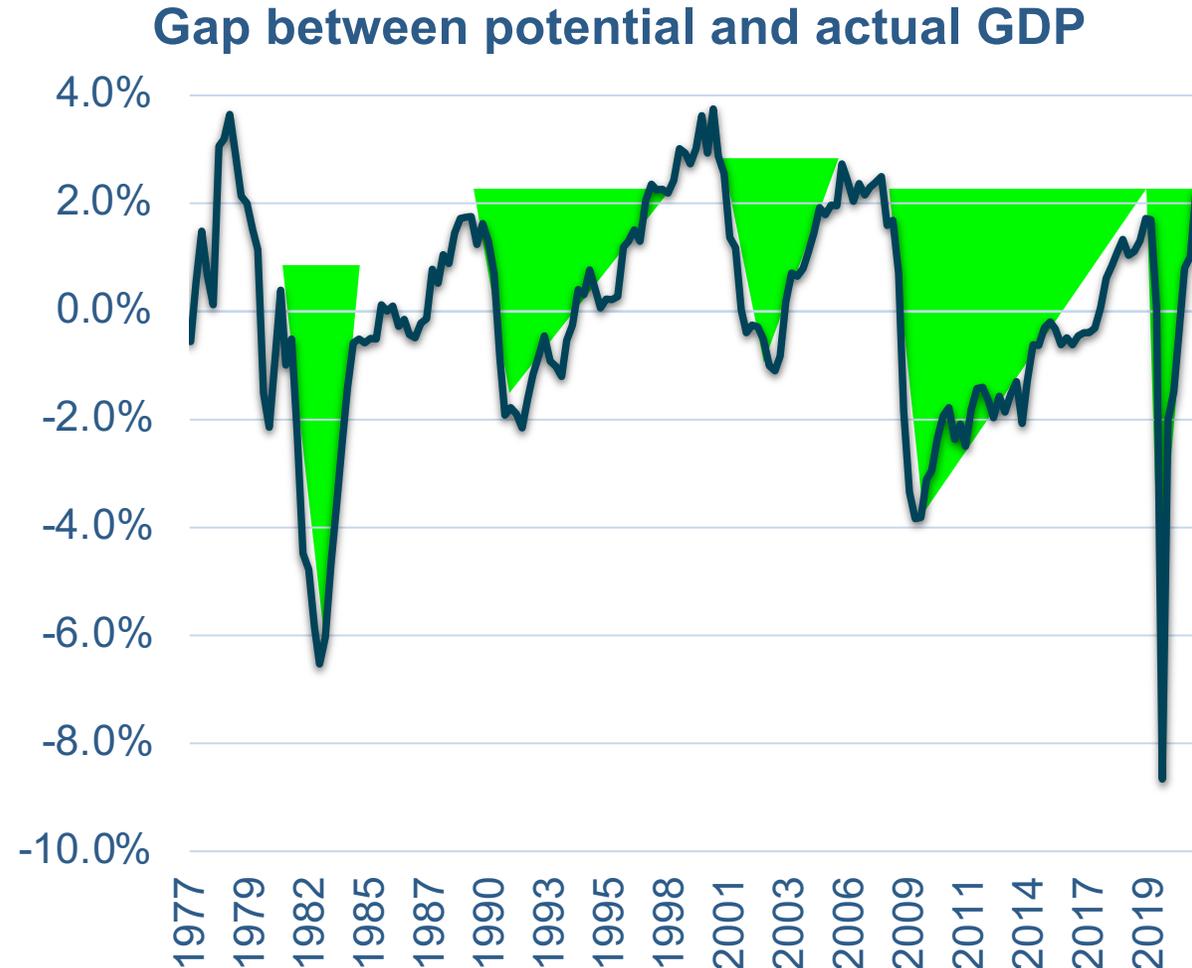
This is not in a recession, nor are we doomed to have one

- Plenty of pent-up consumer demand to drive economy forward
- Supply chains starting to clear
- Inflation will burn out on its own

Things are not fine

- Economy is brittle
- Fed continues to pursue quixotic policies
- Long run issue is Federal debt
- The narrative remains disconnected from reality

The Pandemic Mini-Recession



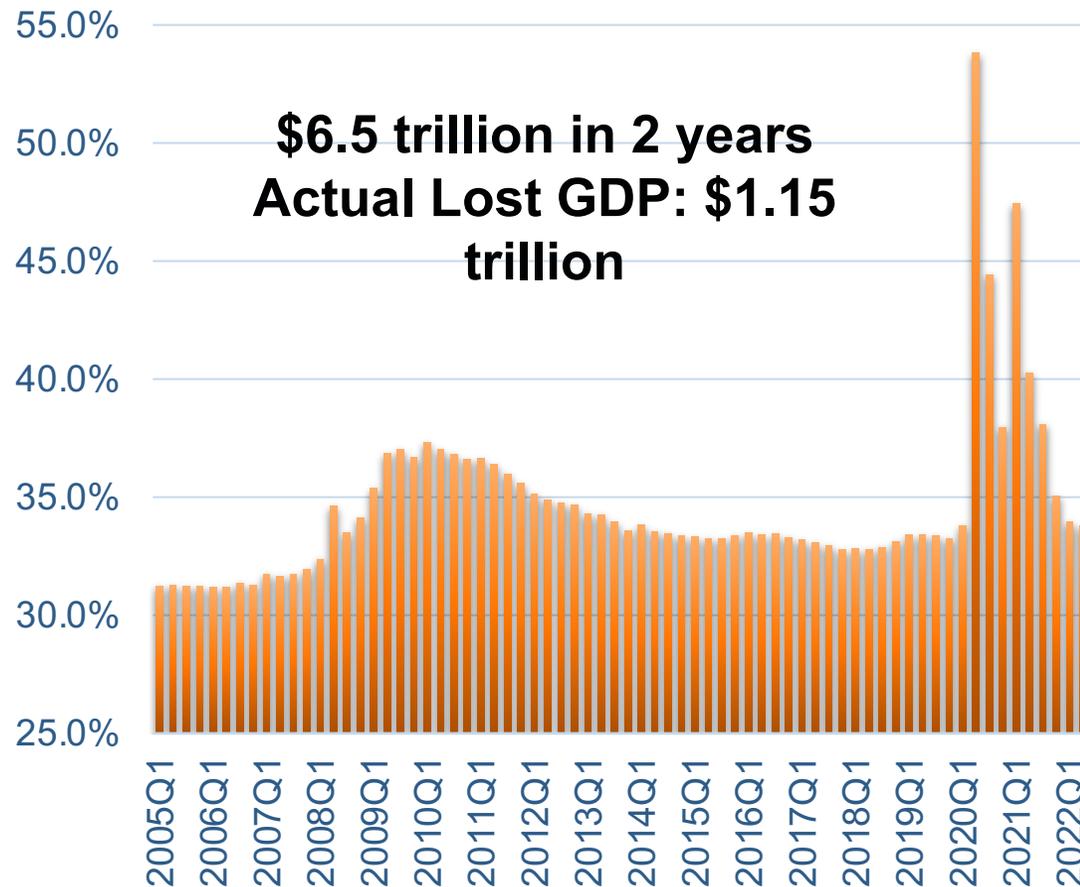
Why the “V”?

- Pre-pandemic economy was healthy and well-balanced
- Supply shock recession, rather than a demand shock
- Pandemic shifted spending over time and across sectors, not canceled

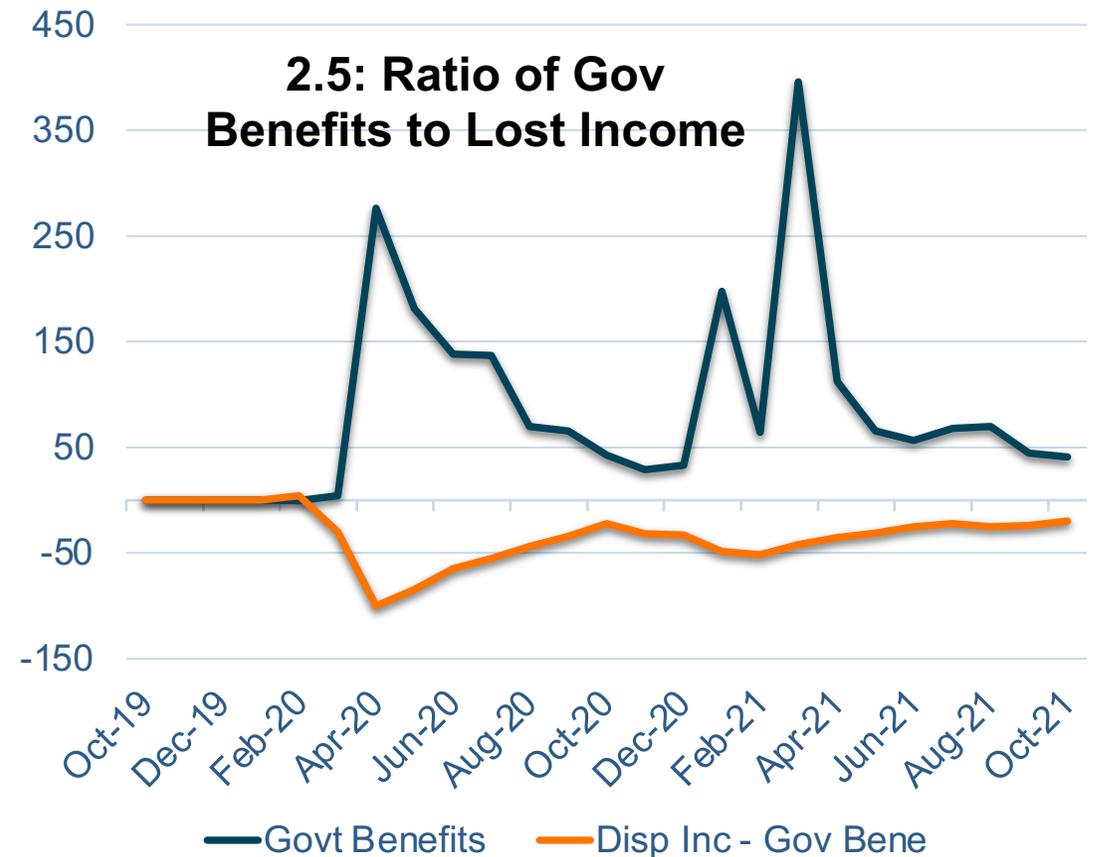
Federal Fiscal (Over)reaction



Federal Expenditures as a Share of GDP



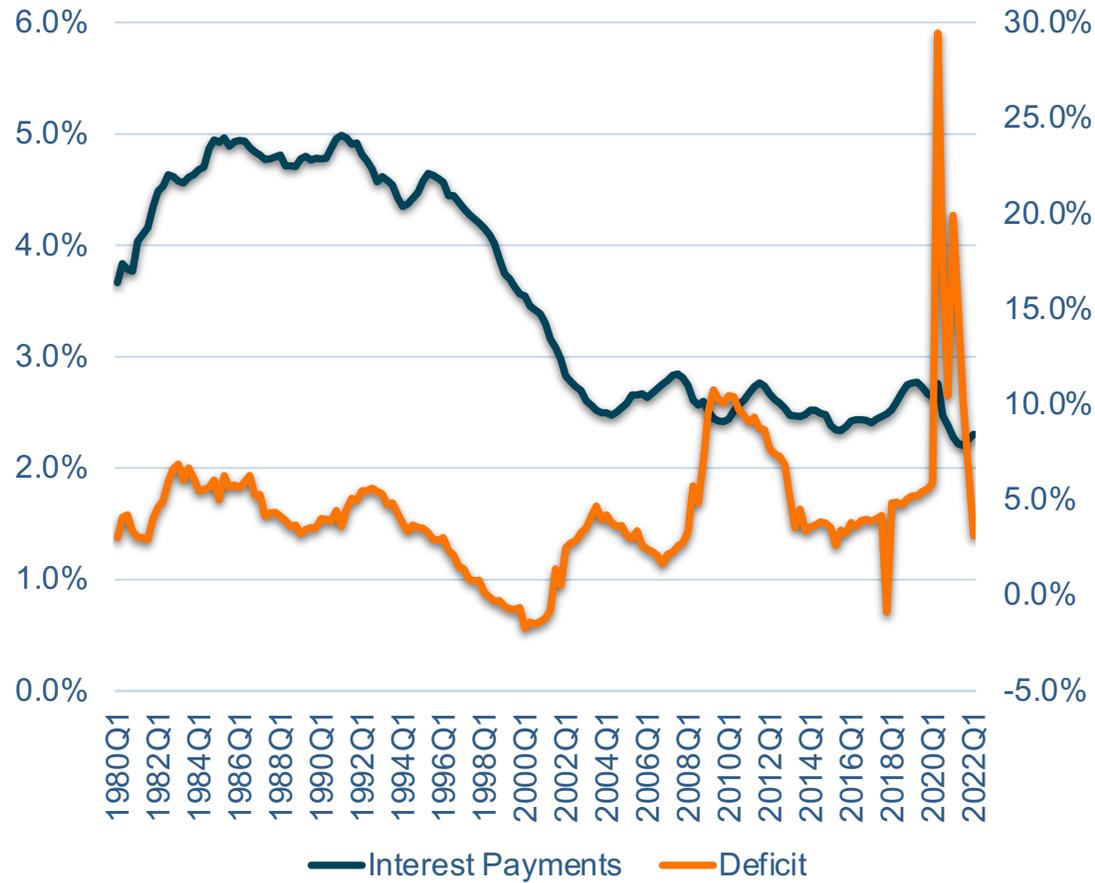
Levels of Personal Income Relative to Pre-Pandemic Trends



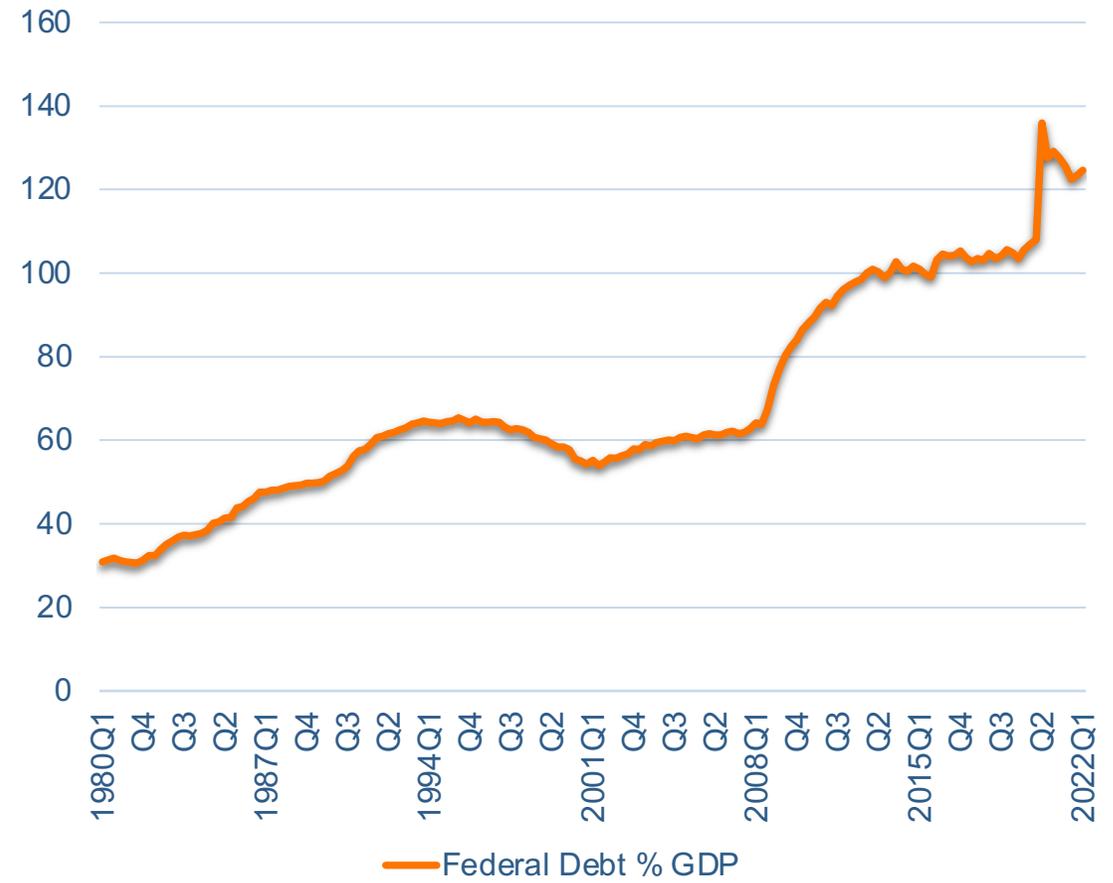
The Fiscal Problem



Federal Flows % GDP



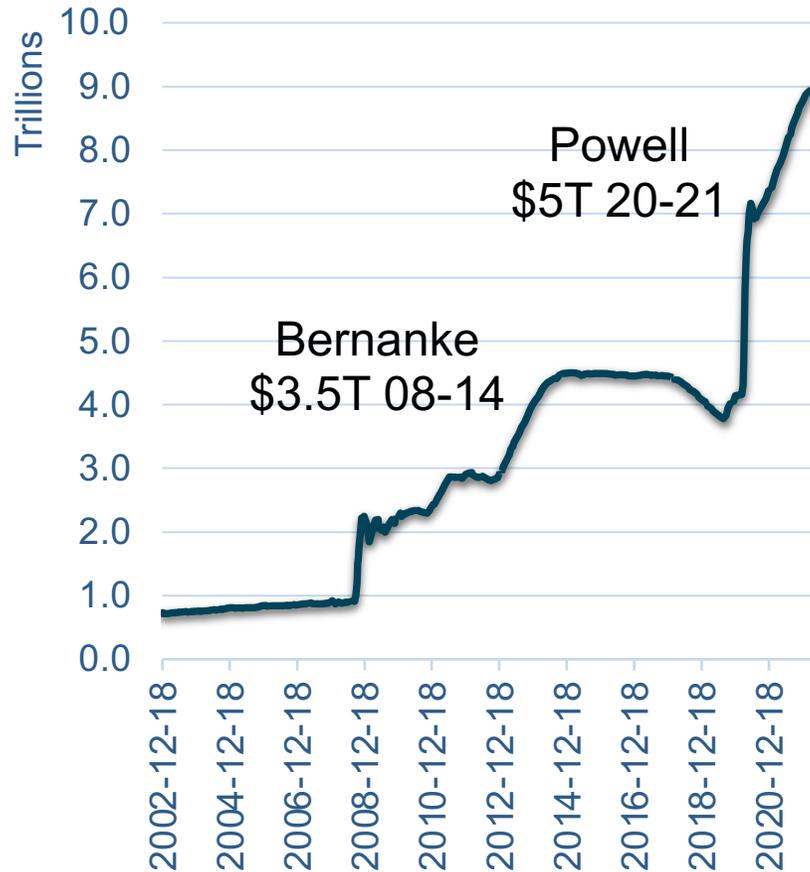
Federal Debt % GDP



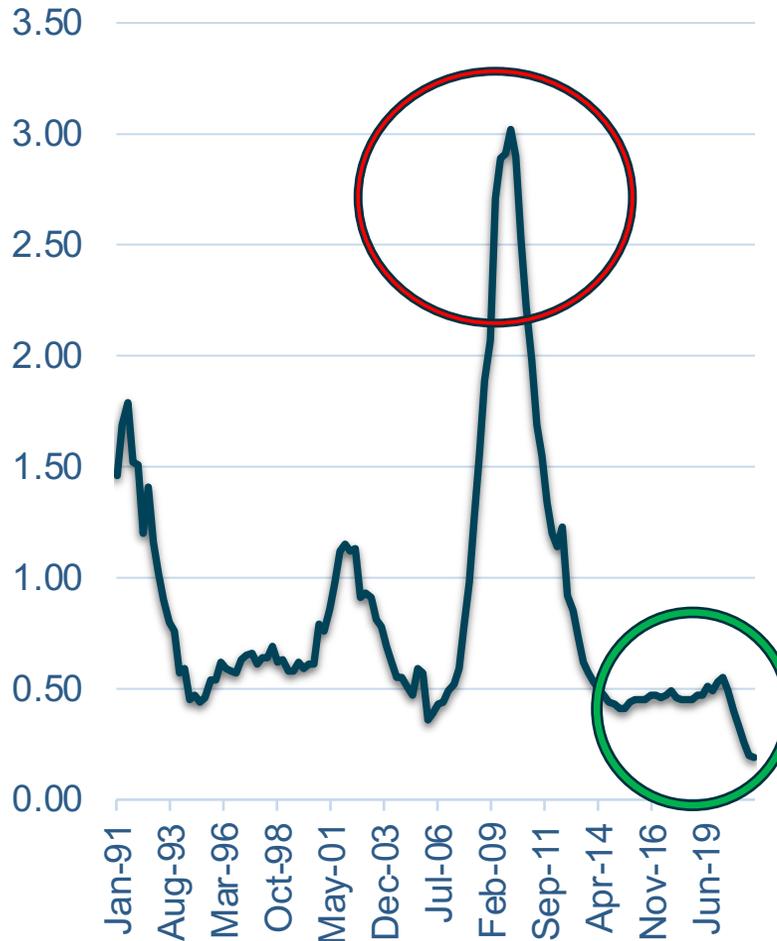
Funding the Deficit



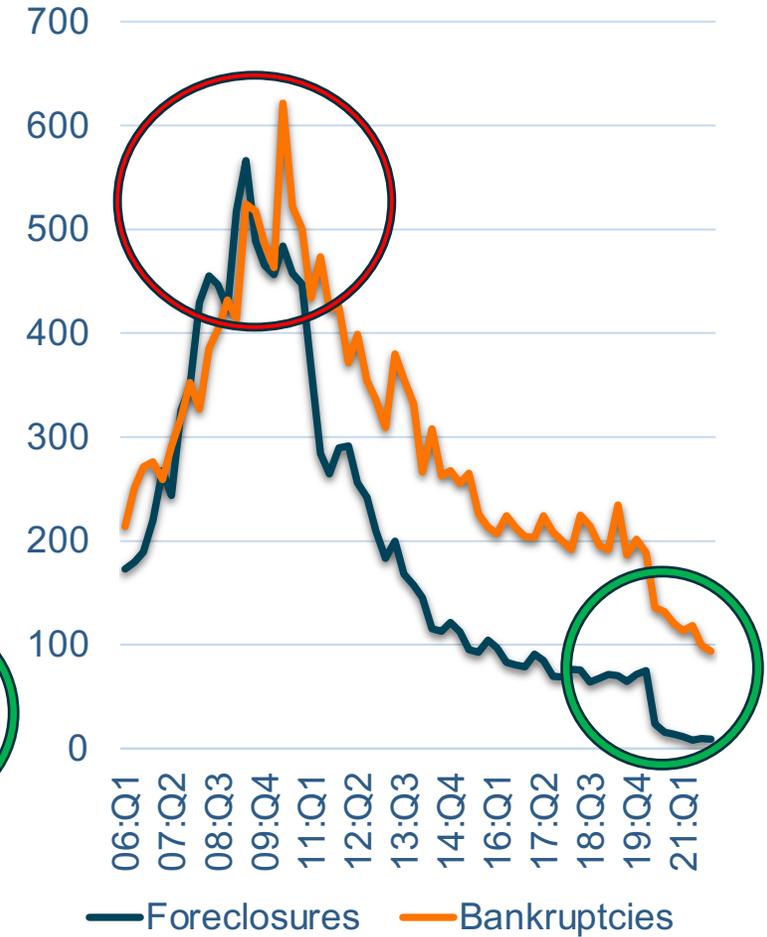
Federal Reserve Balance Sheet Holdings of Government Debt



Bank Loan Charge-Off Rate



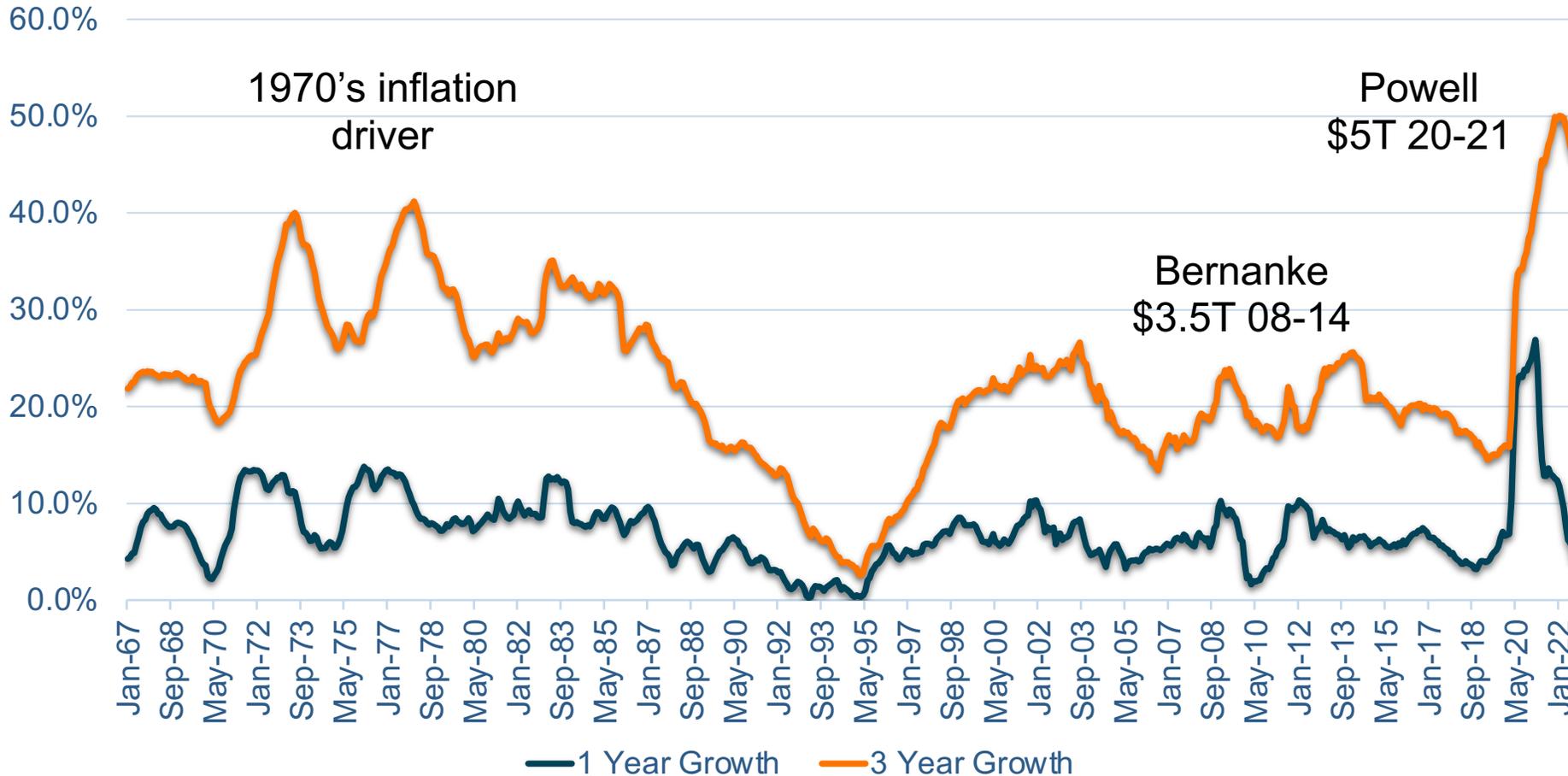
Consumer Finances



QE and Money: Then vs Now



Money Supply (M2) Growth Rates



QE and Money: Then vs Now



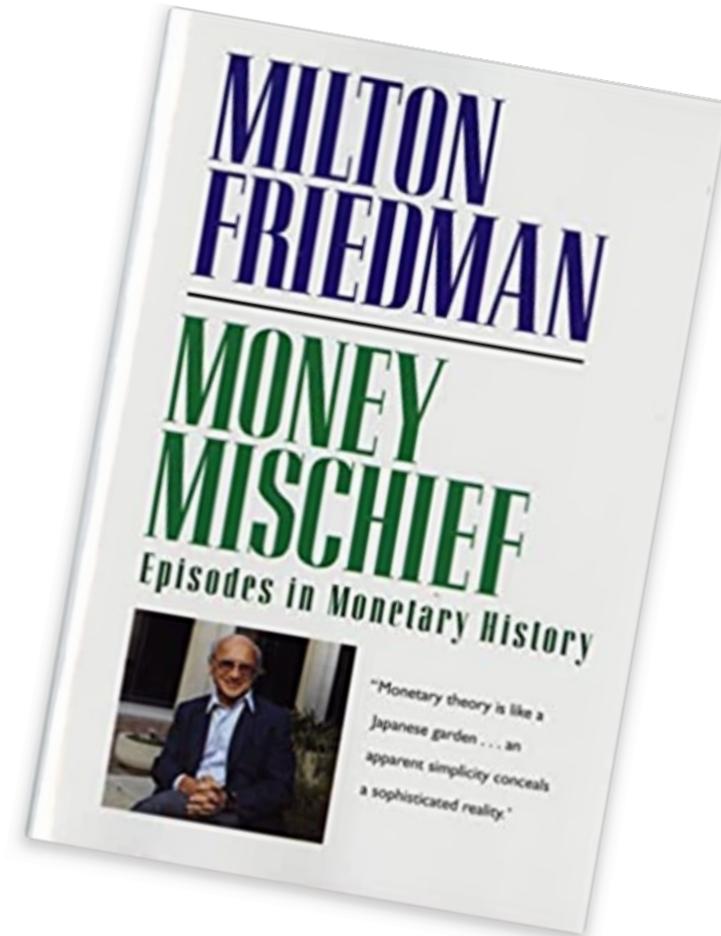
The Problem of Excess Money

Short run: Money illusion

- Falling interest rates
- Asset price bubbles form
- Spending and investment binge ensues

Long run: The Hangover

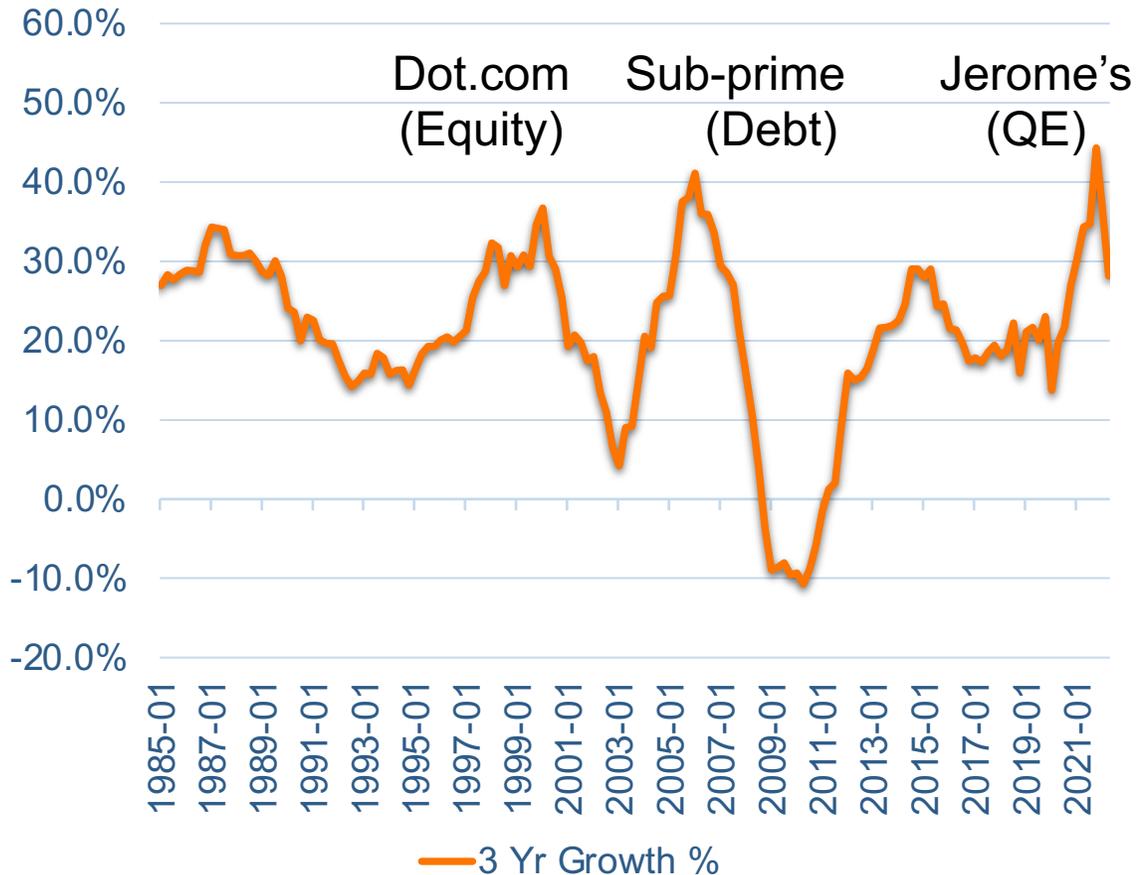
- Sharp transfers of real wealth
- Investments risk rises
- Inflation and rates rise
- Asset markets sag



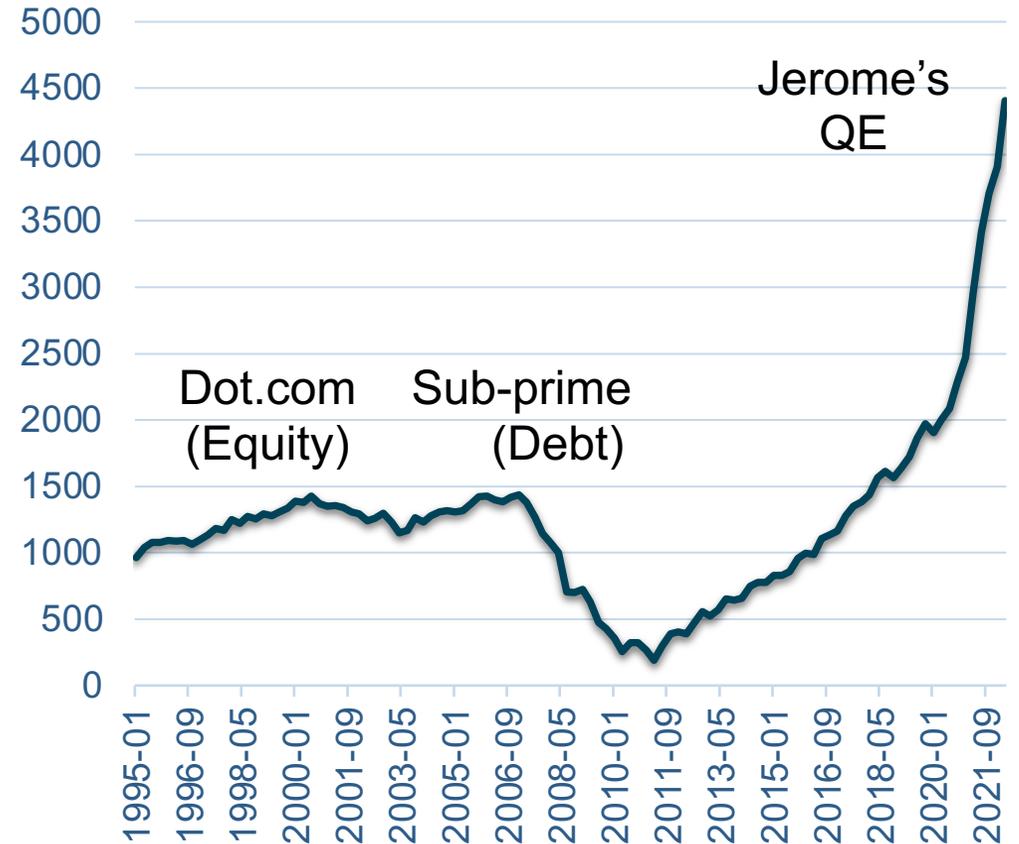
A progressive asset bubble...



US Household Net Worth grew by \$30 trillion from 2020-2022



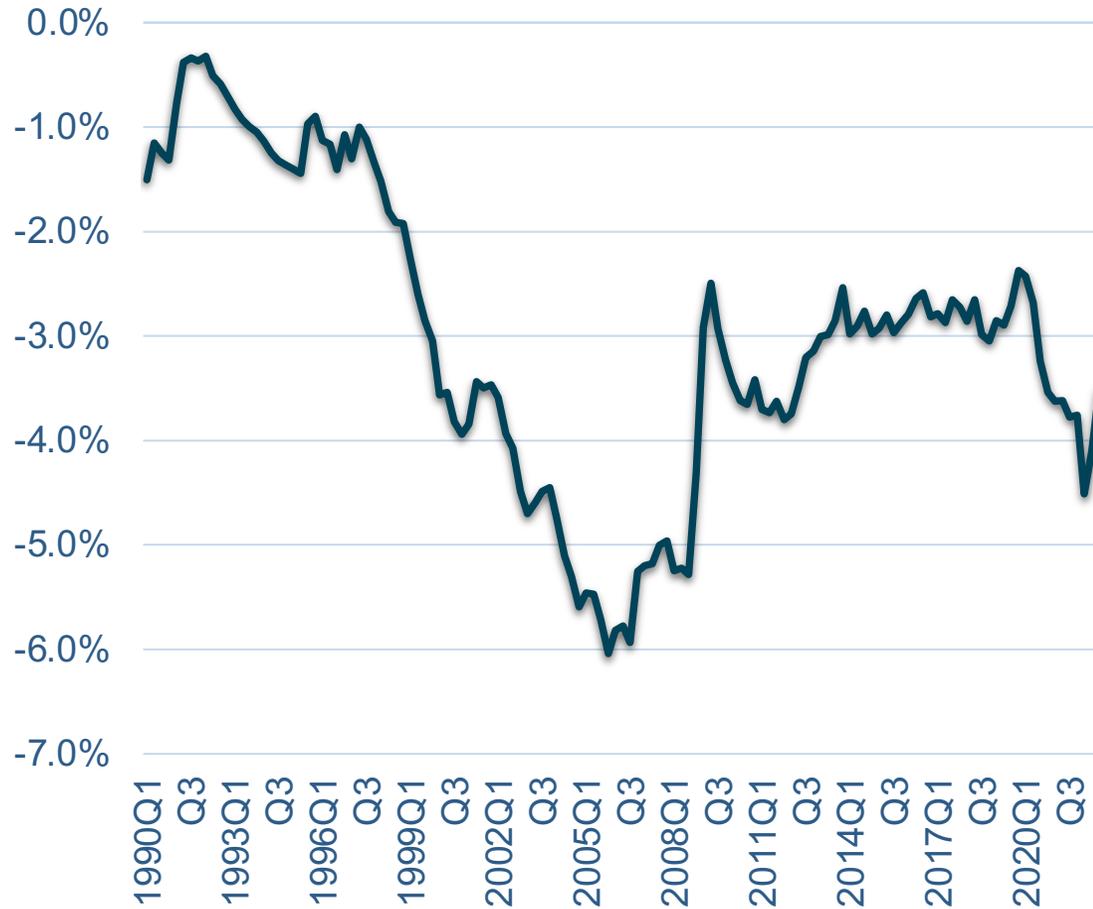
Wealth Level in bottom 50% of Household, \$Billion



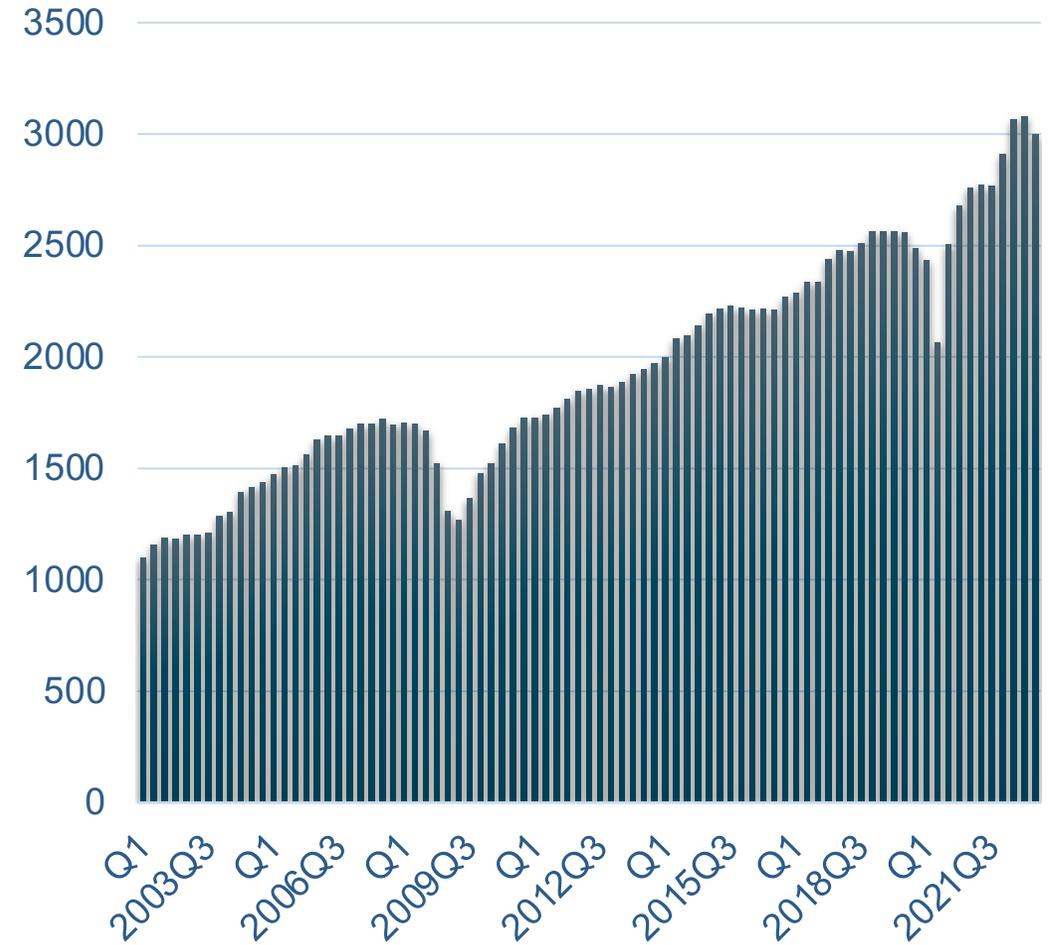
A Binging Economy...



Trade Gap as % of GDP



Real Non-Petroleum Imports



Trade constraints



NY Fed Global Supply Chain Pressure Index



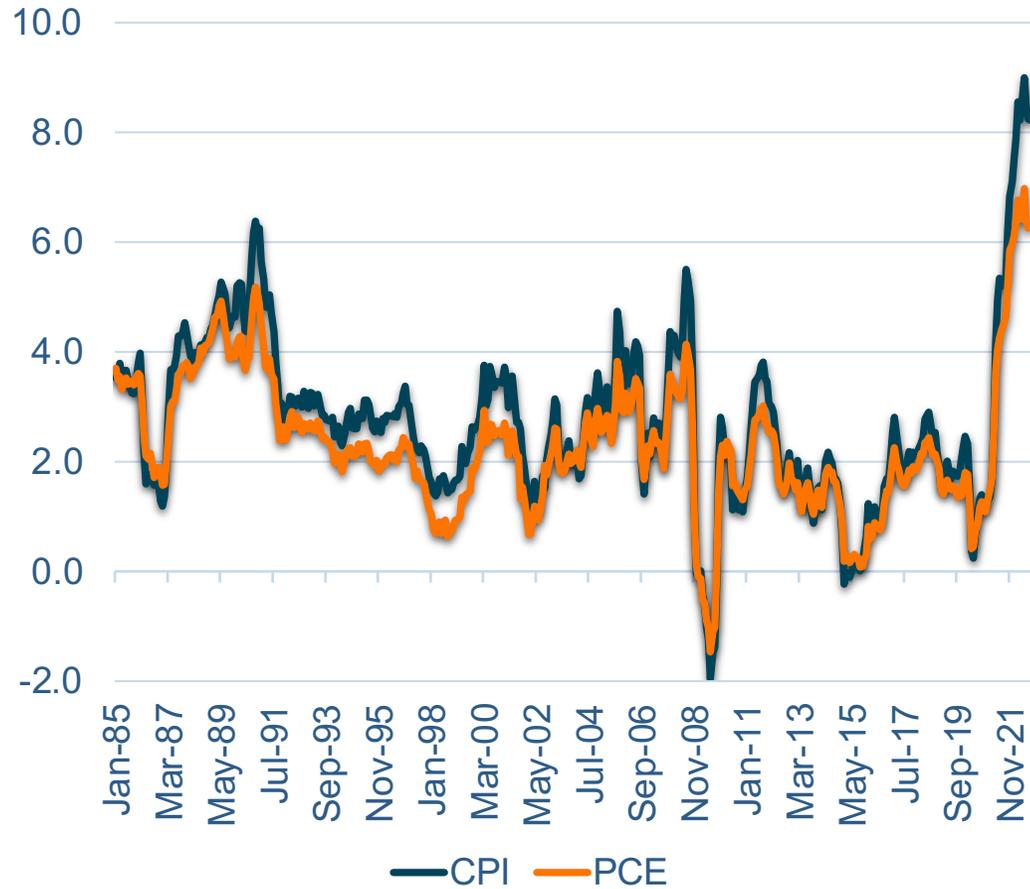
Retail Inventories/Sales Ratio x Auto



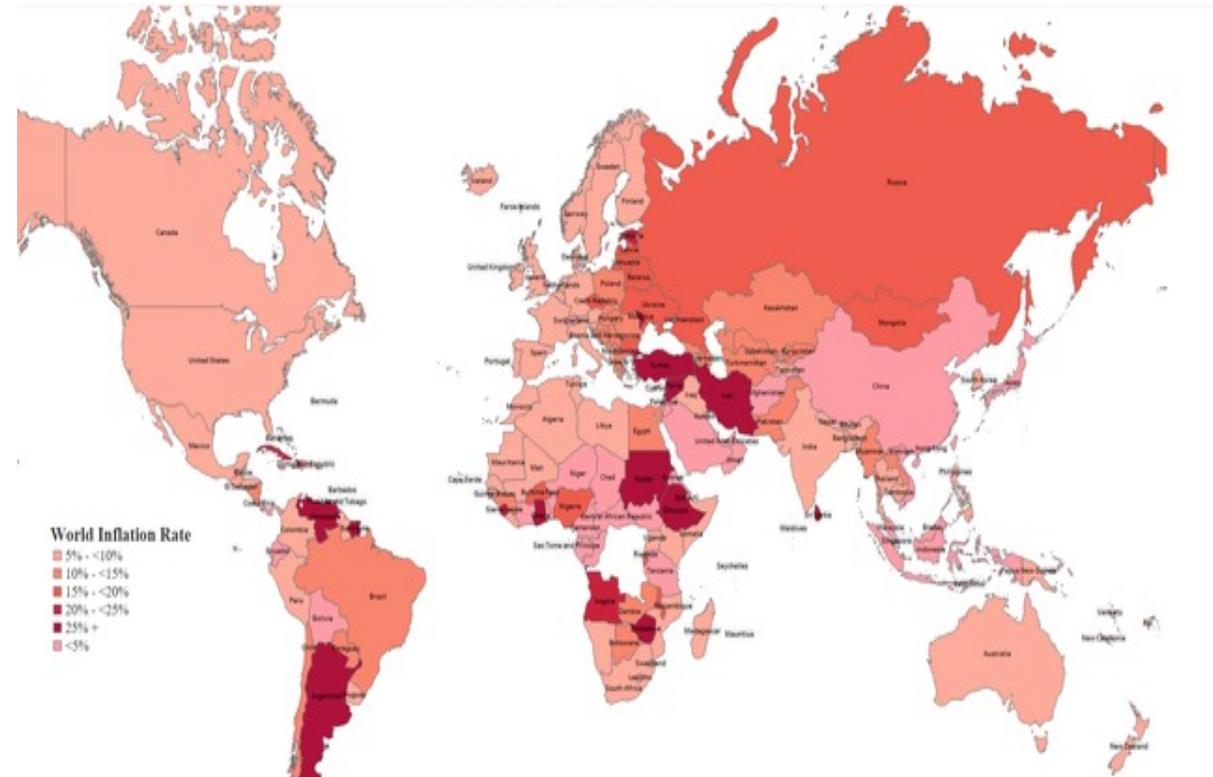
Inflation nation...



US Inflation Rates



World Inflation Rate 2022



The Inflation Conversation



- Supply chain issues
- The federal deficit
- Greedy corporations and profiteering
- Not enough manufacturing jobs in the US
- Biden’s bad green energy policies
- Putin’s fault!
- Saturn is aligned with Jupiter
- Kim shouldn’t have dumped Kanye
- The Seahawks horrible front line

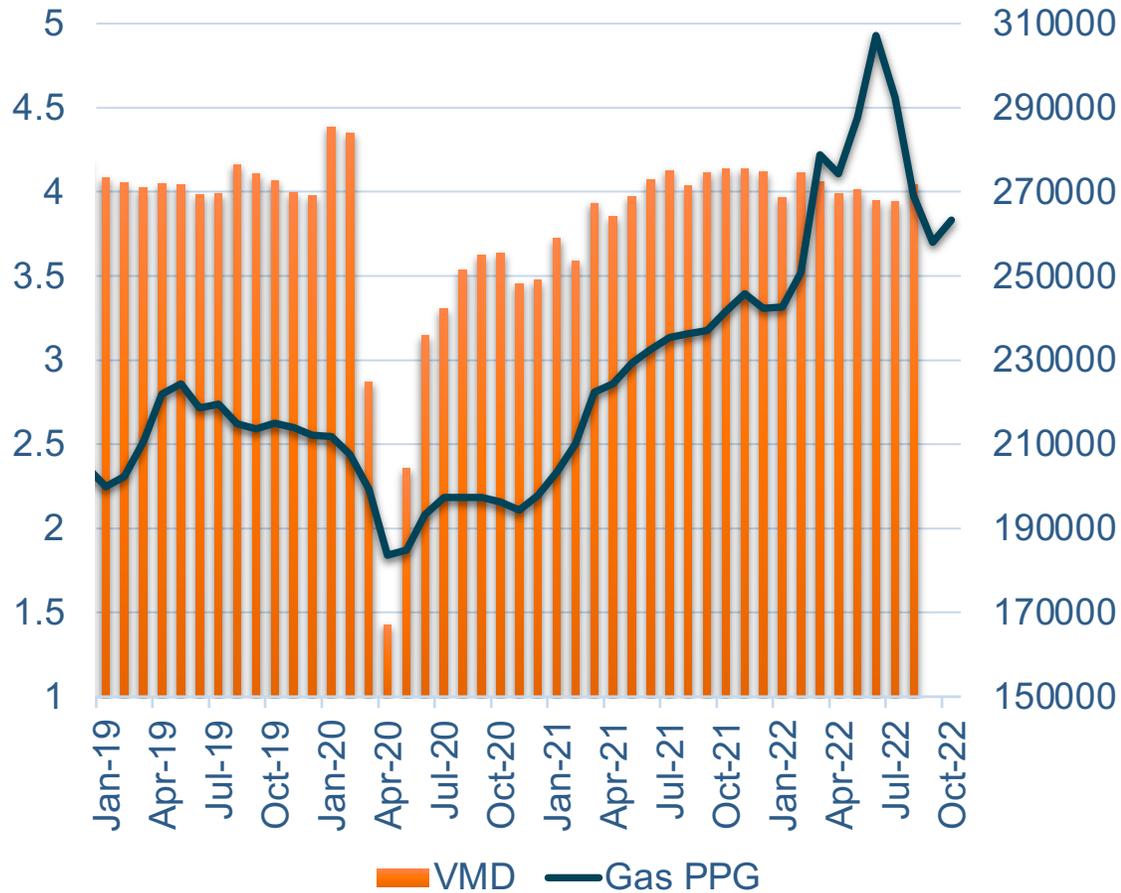
“Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.”

Milton Friedman

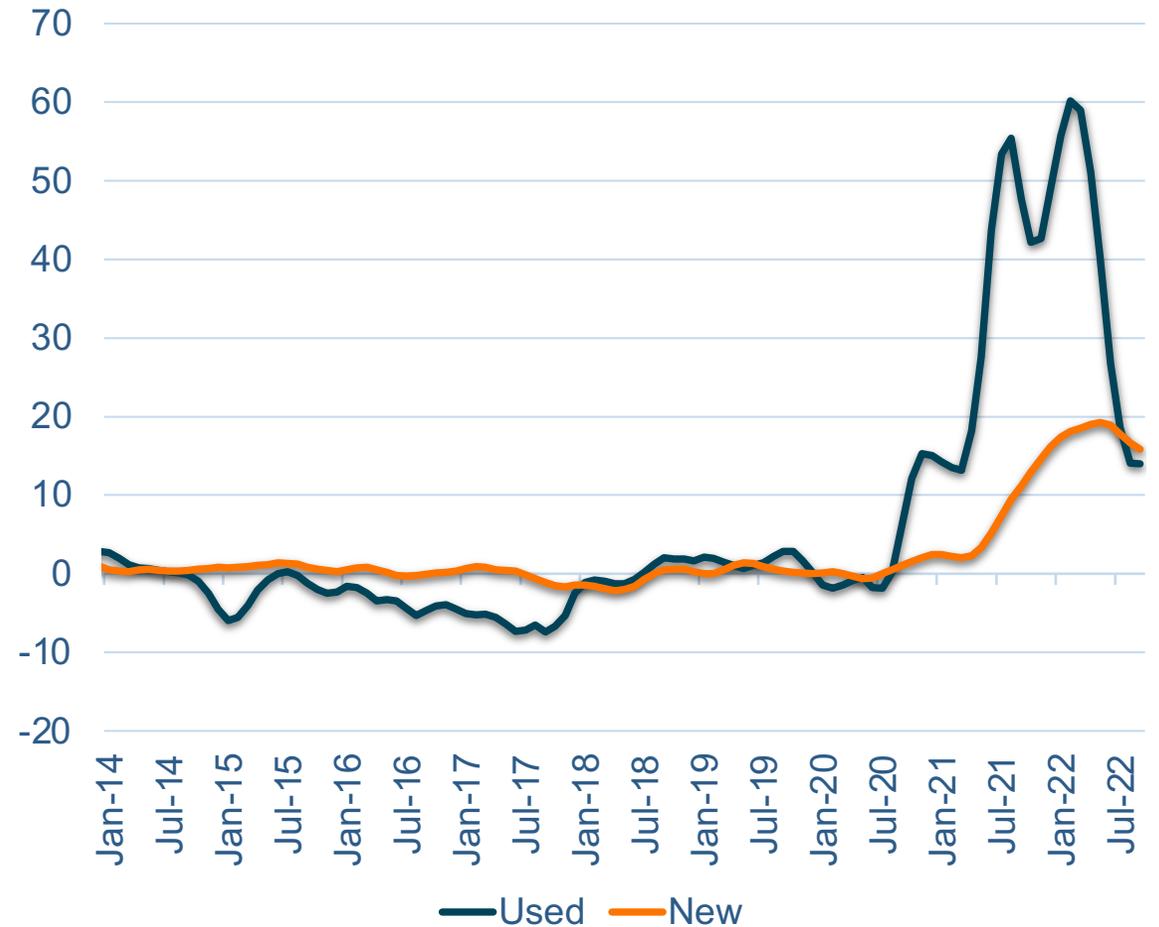
Supply or Demand?

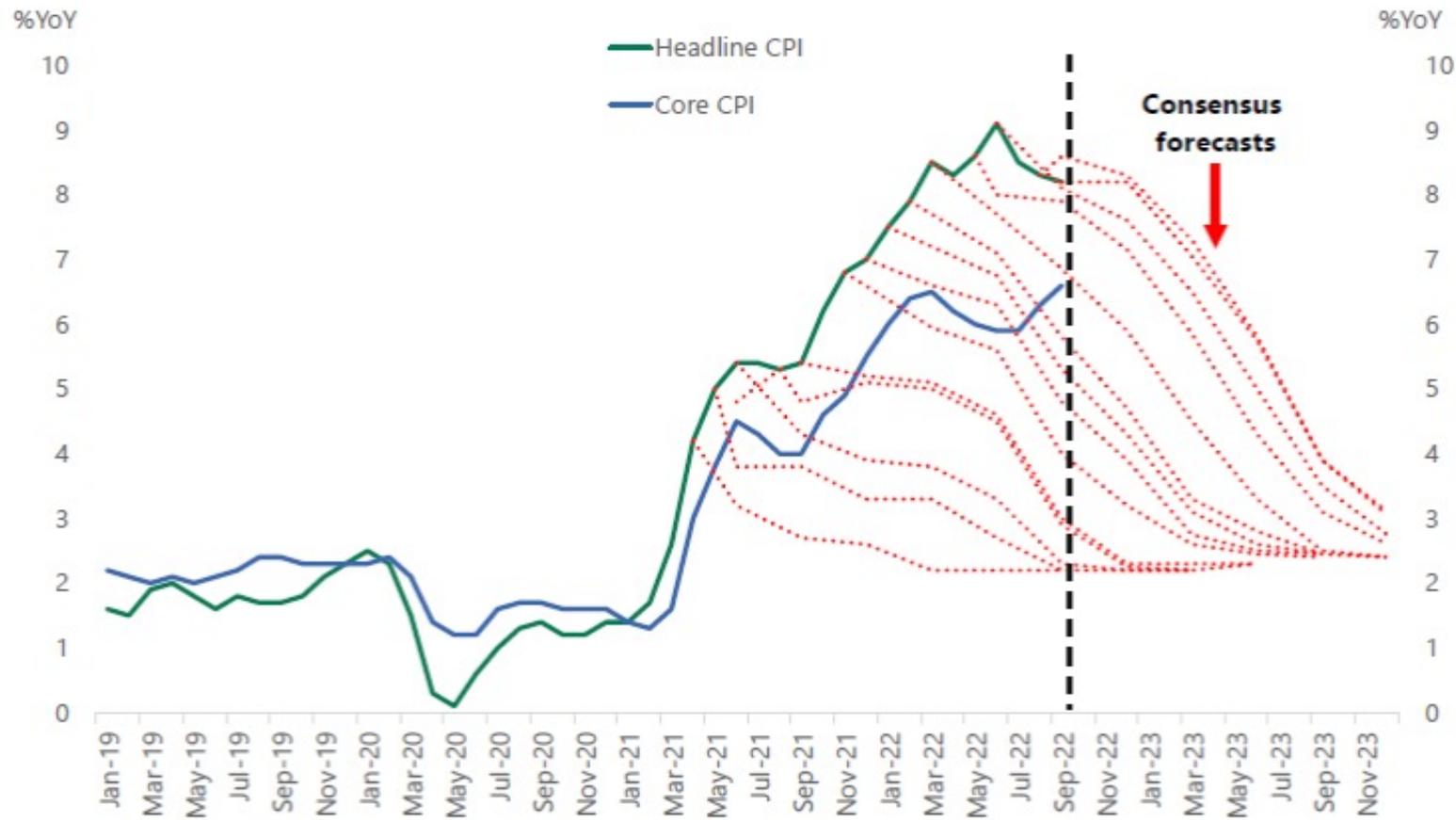


Gas Prices and VMD



Car Price Inflation (YoY)

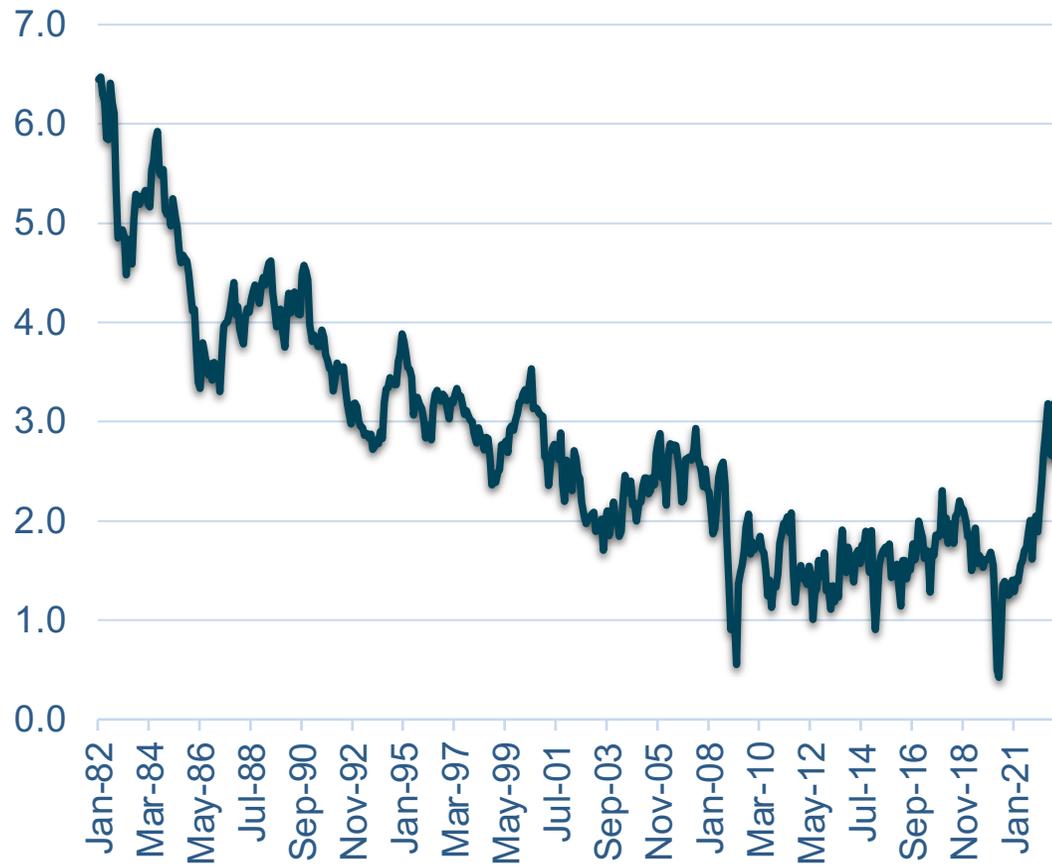




Inflation Expectations



Cleveland Federal Reserve 2 Year Inflation Expectations



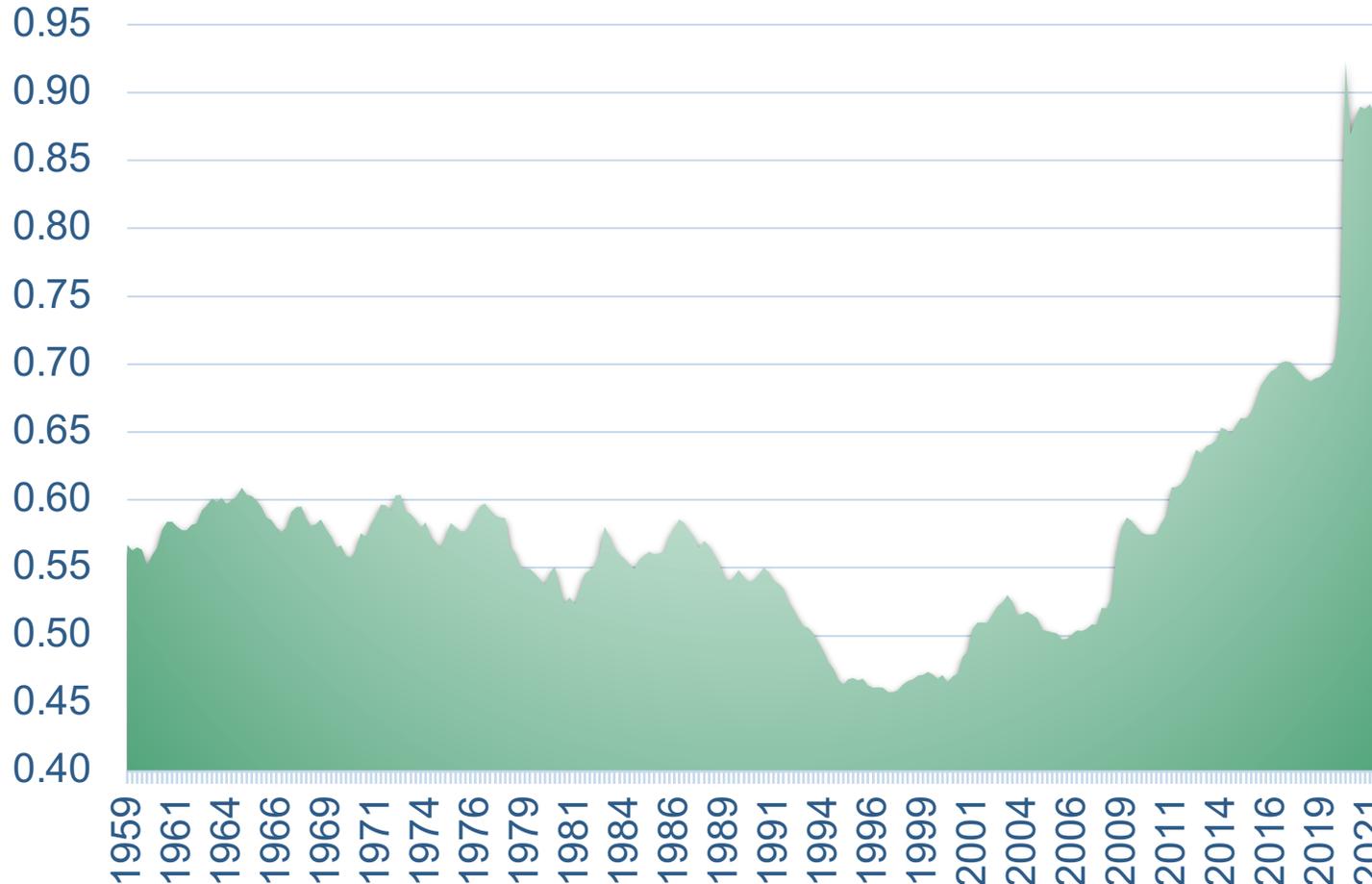
5 Year Breakeven Inflation Rate



How much farther can inflation go?



Unit Money Supply: $M2 / (P * RGDP)$



15% to 20% increase in P to offset M2 (with little real growth)

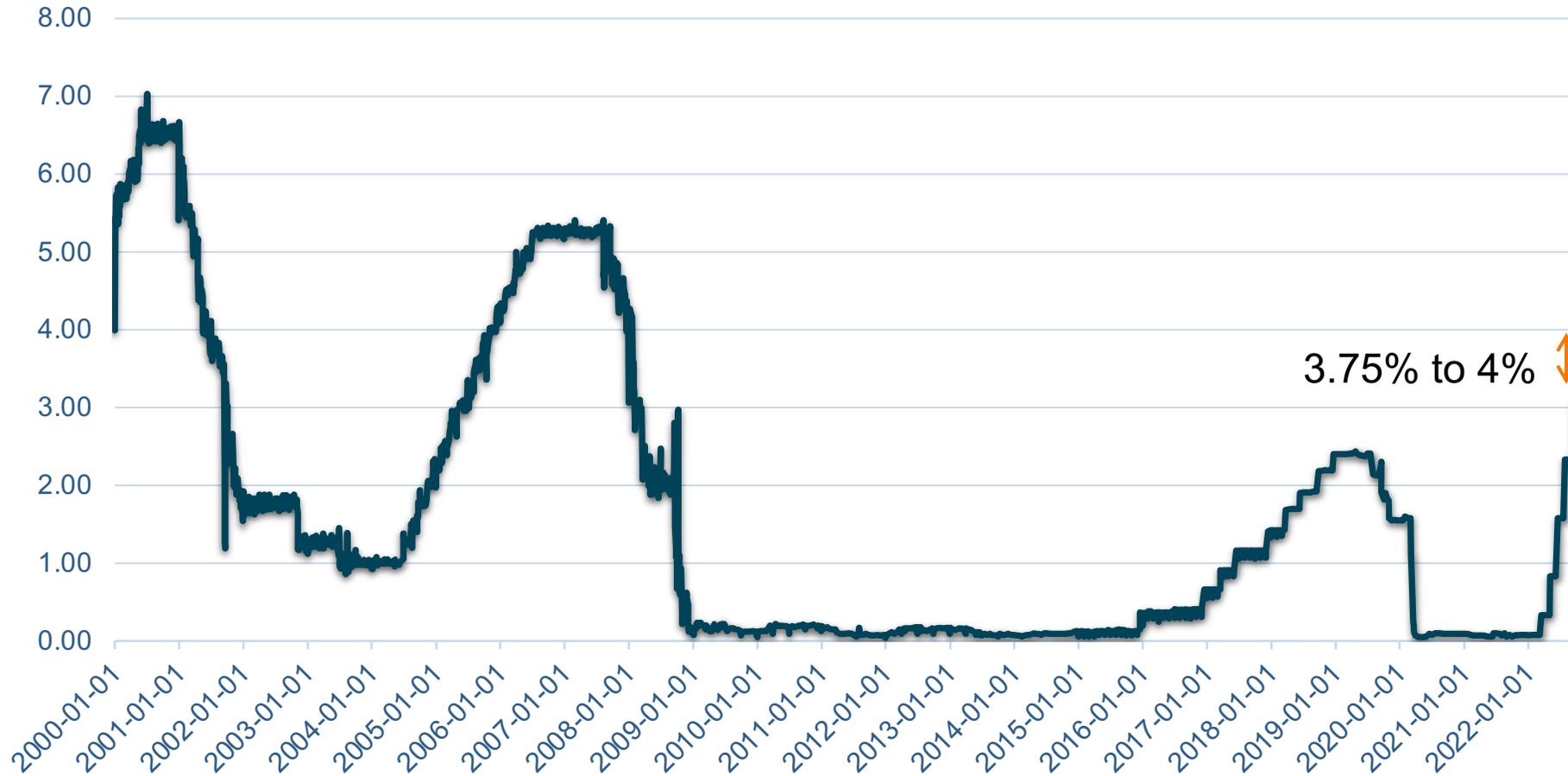
Growth Q419 to Q322

M2	32.3%
Real Output	4.1%
Inflation to date	12.7%
Remainder	15.5%

The Fed Fight Inflation Against Inflation



Federal Funds Rate





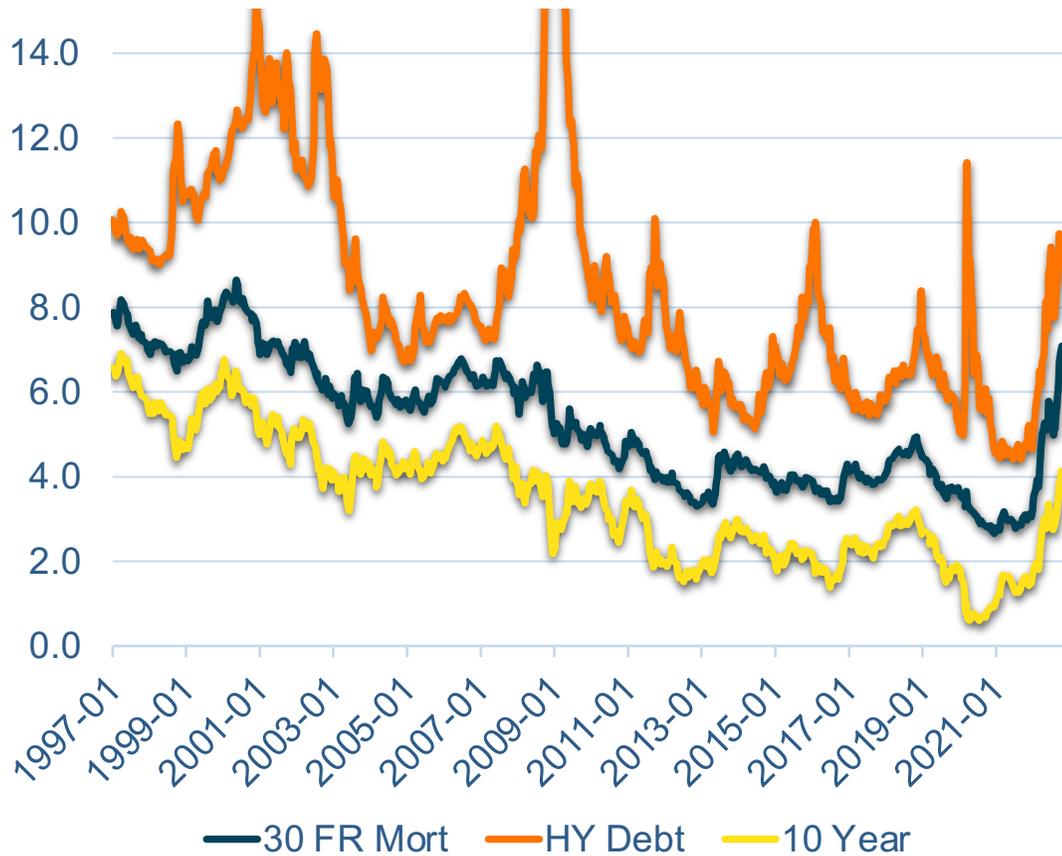
"That time is coming and it may come as soon as the next meeting or the one after that," Powell said.

But he added the Fed isn't close to pausing its rate hike campaign and needs to boost rates a good bit more to reach a level that's "sufficiently restrictive" to lower inflation to the Fed's 2% target. The concern, he said, is that inflation could become "entrenched" in the expectations of consumers and businesses and the Fed must move decisively to head off such a dynamic.

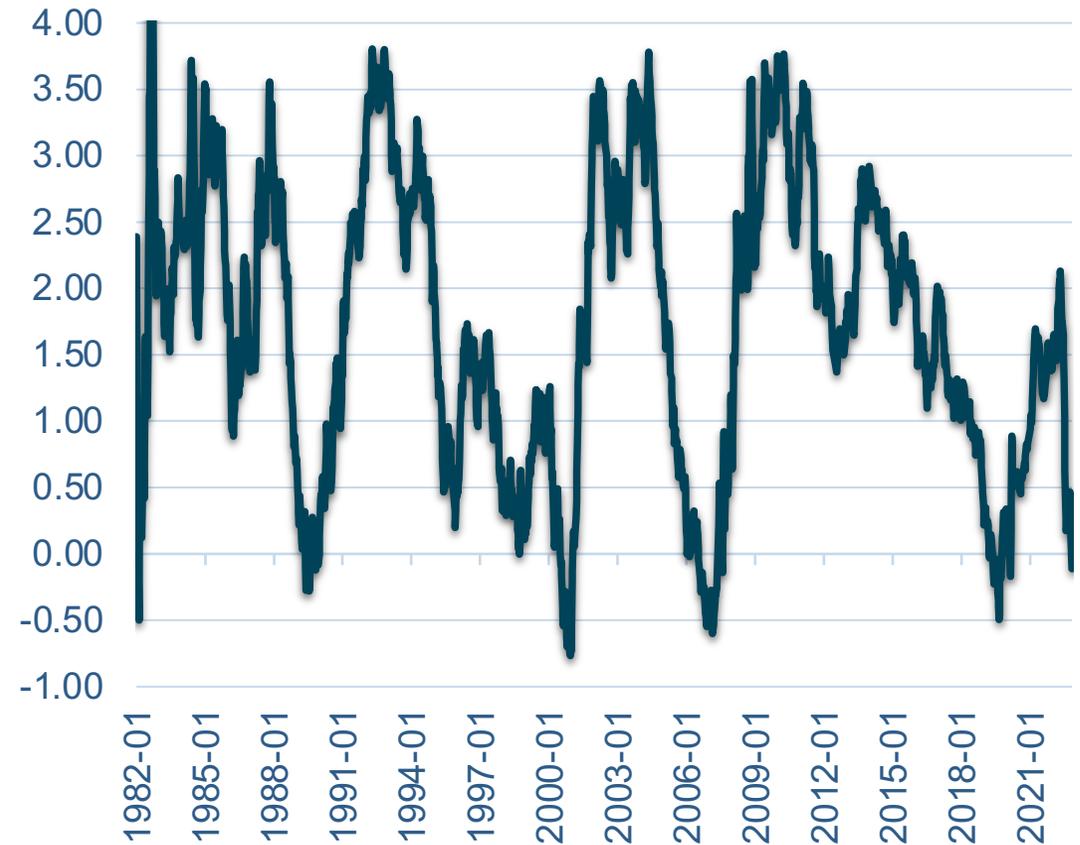
The era of cheap money has ended...



Debt Yields



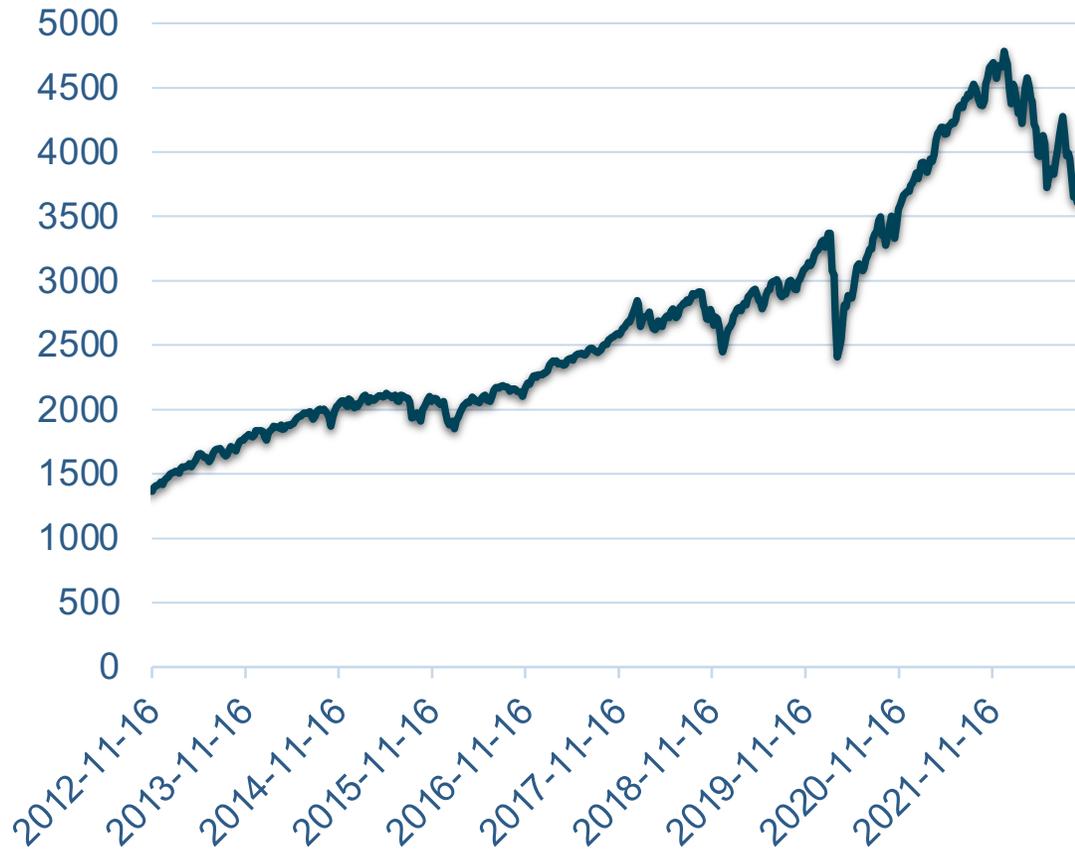
10 Year – 3 Month Spread



Gravity still works...



S&P 500



Shiller's CAPE Price E10 Ratio





The Washington Post

Breaking News

Technology Alert

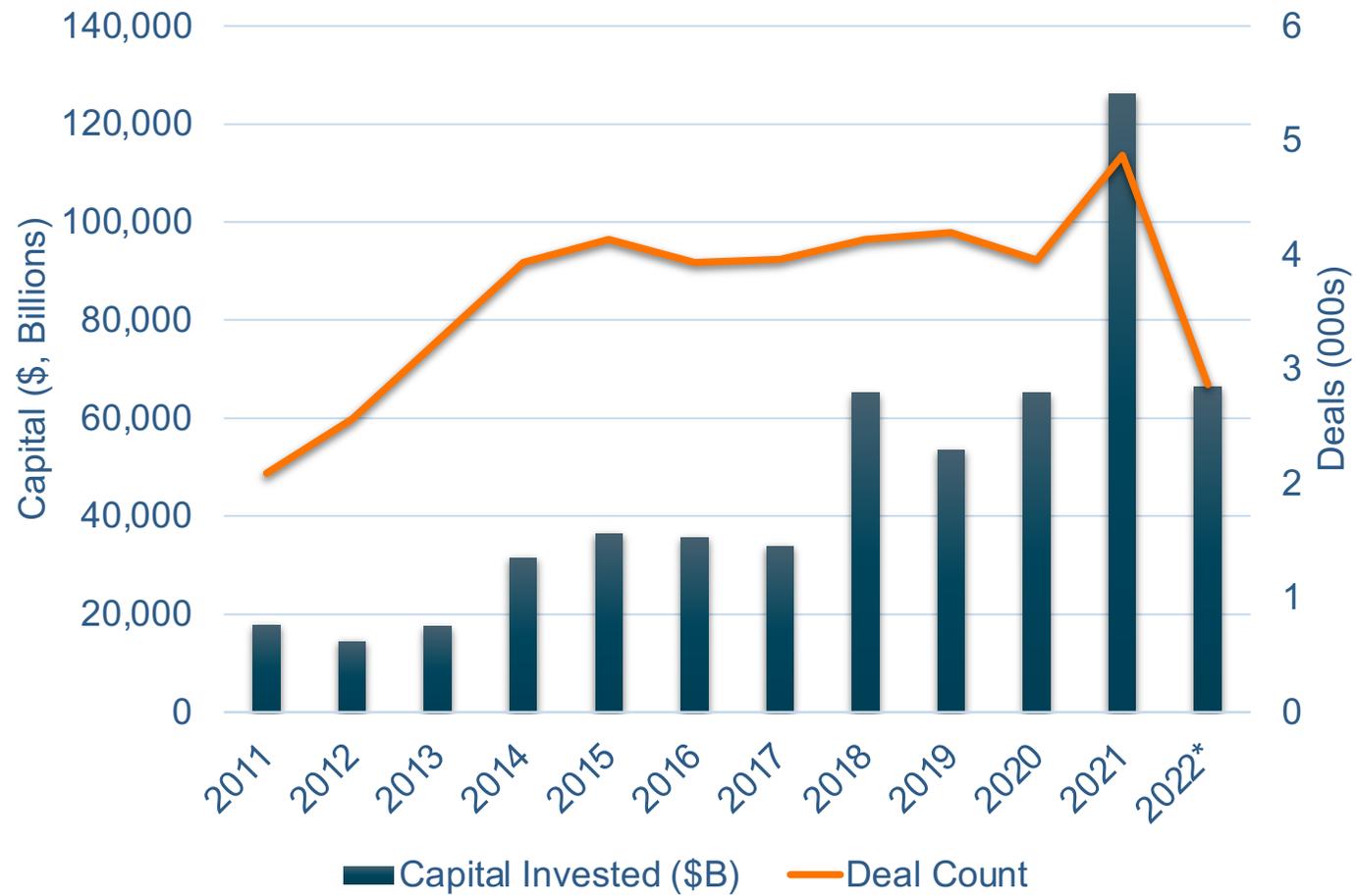
Oct. 26, 10:59 a.m. EDT

Billion-dollar tech funding rounds becoming more rare as layoffs, CEO resignations and belt-tightening take their toll on start-ups

In a shifting economy, Silicon Valley investors minted only 25 companies worth over \$1 billion each in the third quarter of 2022, according to venture capital research firm CB Insights. A year ago, there were more than five times as many new so-called unicorns.



Capital Invested and Number of Deals,





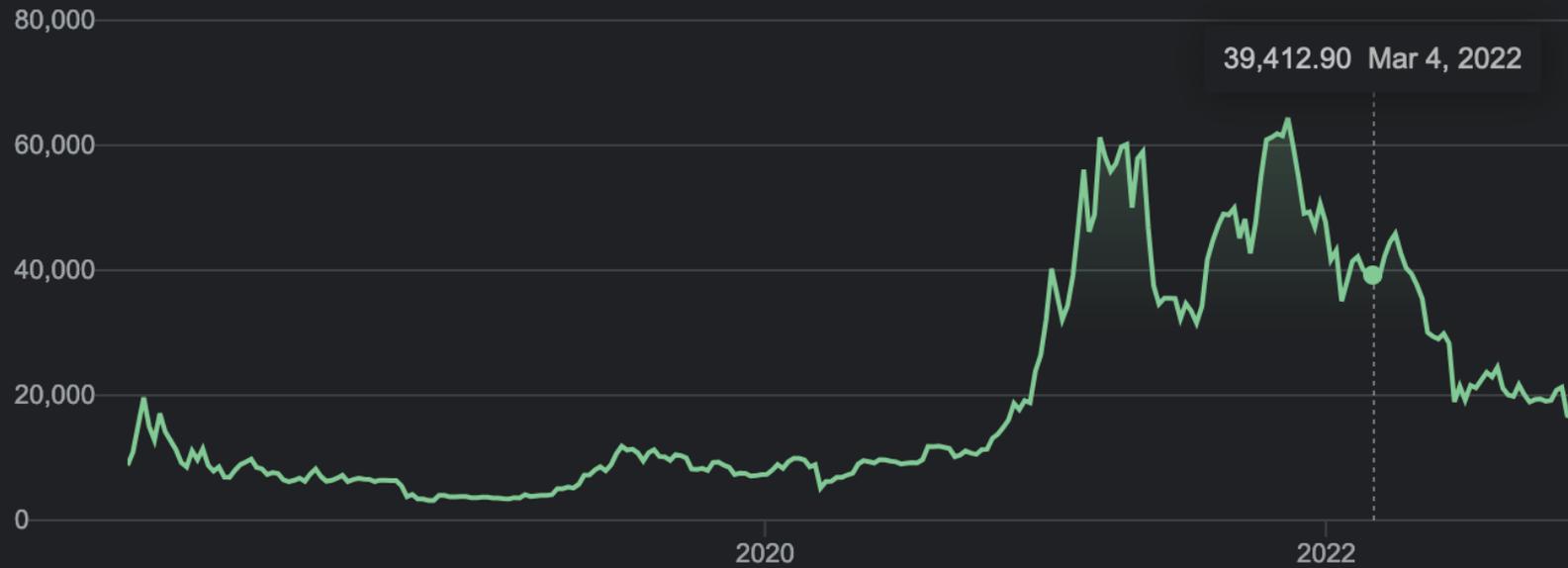
16,493.90 USD

+ Follow

+7,698.40 (87.53%) ↑ past 5 years

Nov 16, 5:05 PM UTC · [Disclaimer](#)

1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max



Residential Markets



Existing Home Sales



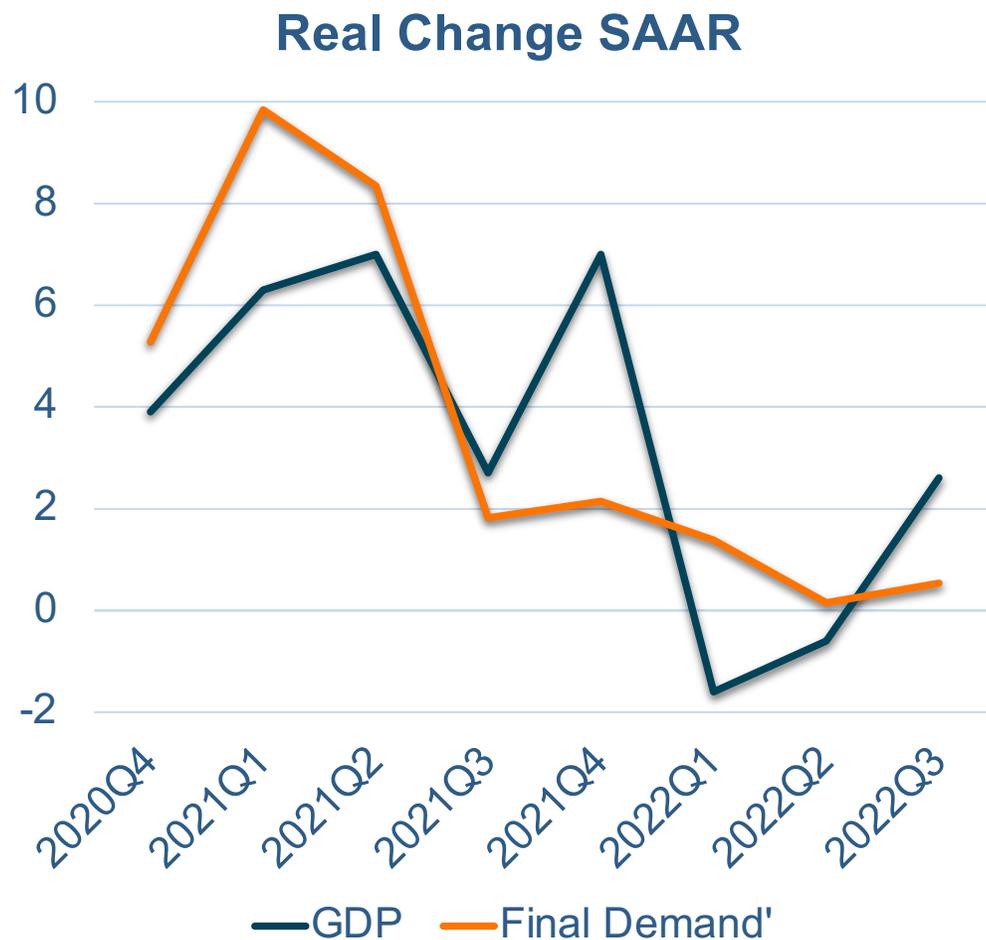
Monthly Growth Case Shiller HPI (National)



Recent Real GDP Growth



Contributions to Real GDP Growth

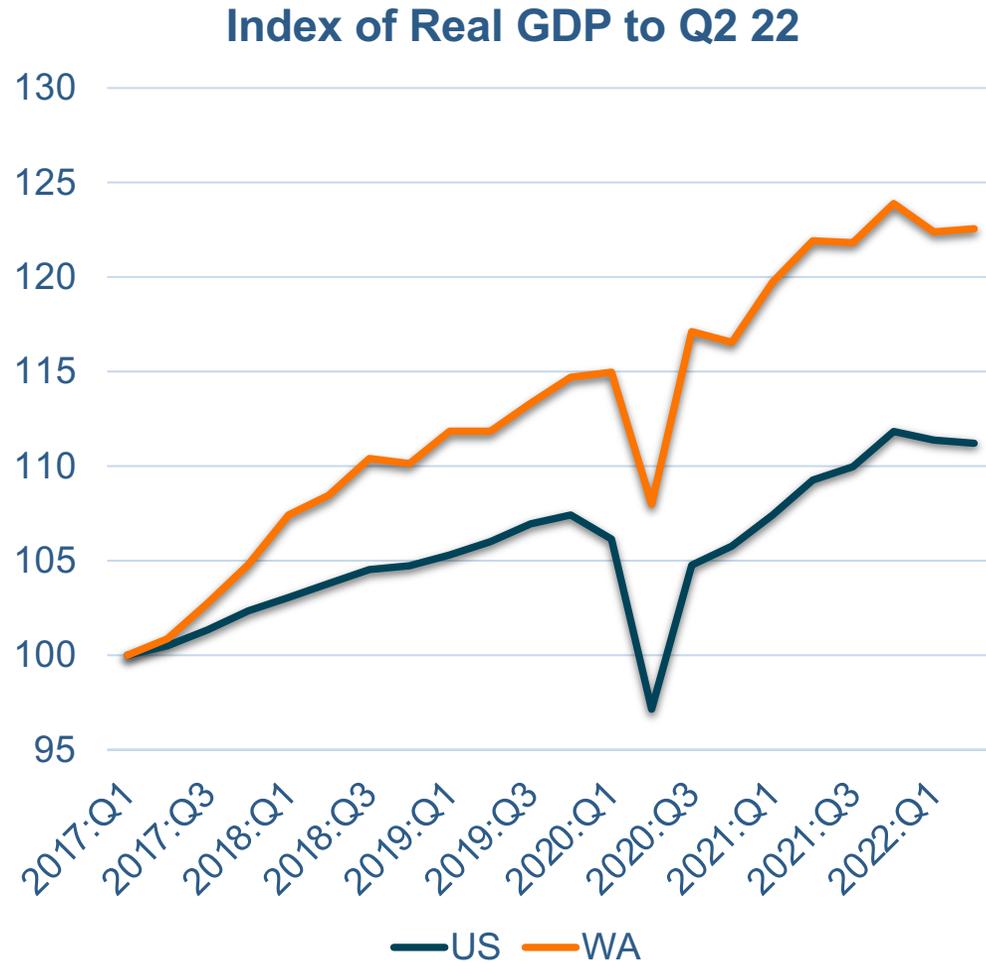


	2019	2020	2021	2022
Gross domestic product	2.58	1.18	5.75	0.13
Final Demand	2.56	1.18	5.54	0.69
Personal consumption	1.45	0.39	4.74	1.09
Durable goods	0.40	1.40	0.59	0.11
Nondurable goods	0.32	0.81	1.04	-0.41
Services	0.74	-1.82	3.11	1.39
Fixed investment	0.42	0.51	0.67	-0.33
Structures	0.20	-0.50	-0.14	-0.29
Equipment	-0.18	0.06	0.28	0.33
Intellectual property	0.33	0.22	0.56	0.45
Residential	0.08	0.74	-0.02	-0.82
Change inventories	-0.38	0.79	0.93	-0.82
Net exports	0.40	-0.79	-0.72	0.27
Exports	0.11	-0.83	0.70	0.87
Imports	0.29	0.03	-1.41	-0.60
Government	0.69	0.29	0.12	-0.09

State vs National Trends



State GDP by Sector



	Q2 22	LQ	Gr 19-22	RGR
All industry total	578520		6.8%	3.3%
Information	130774	2.91	35.9%	14.0%
Retail trade	47242	1.54	-7.4%	-1.4%
Durable Manu	41665	1.09	-3.9%	-10.7%
Construction	17050	0.97	-10.4%	0.1%
Real estate	68954	0.97	10.9%	6.7%
Government	63327	0.97	-0.7%	-0.5%
Professional	48327	0.93	24.5%	8.9%
Accommodation food	13984	0.90	6.2%	5.4%
Other services	9394	0.89	-1.3%	1.0%
Wholesale trade	28211	0.84	4.4%	0.1%
Administrative	16544	0.84	19.3%	2.4%
Health care	34520	0.78	1.6%	-3.4%
Logistics	11399	0.73	-16.2%	-12.0%
Arts, entertainment	4261	0.71	4.1%	3.3%
Management	9102	0.60	12.5%	-6.5%
Nondurable Manu	14745	0.54	-6.0%	0.8%
Finance	20089	0.50	12.1%	3.6%
Educational	2834	0.44	-0.9%	2.3%

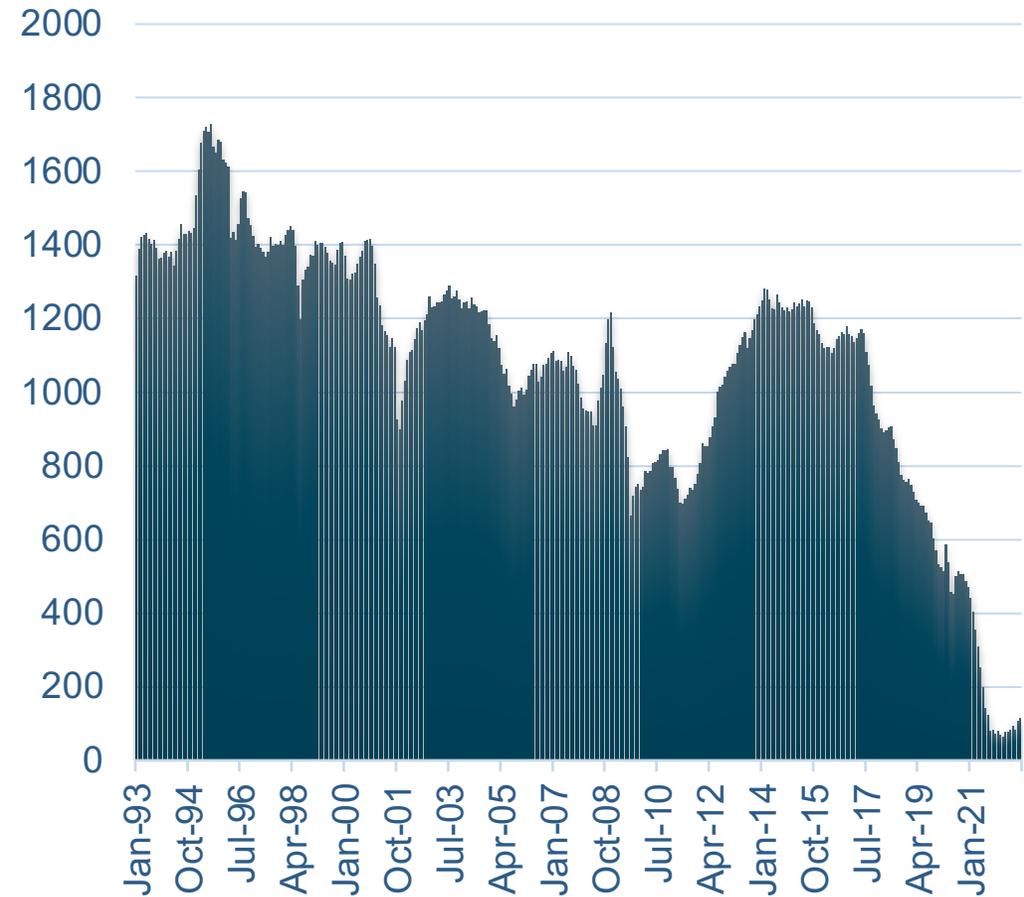
Still Pent-Up Consumer Demand



New Auto Sales SAAR (Mil Units)



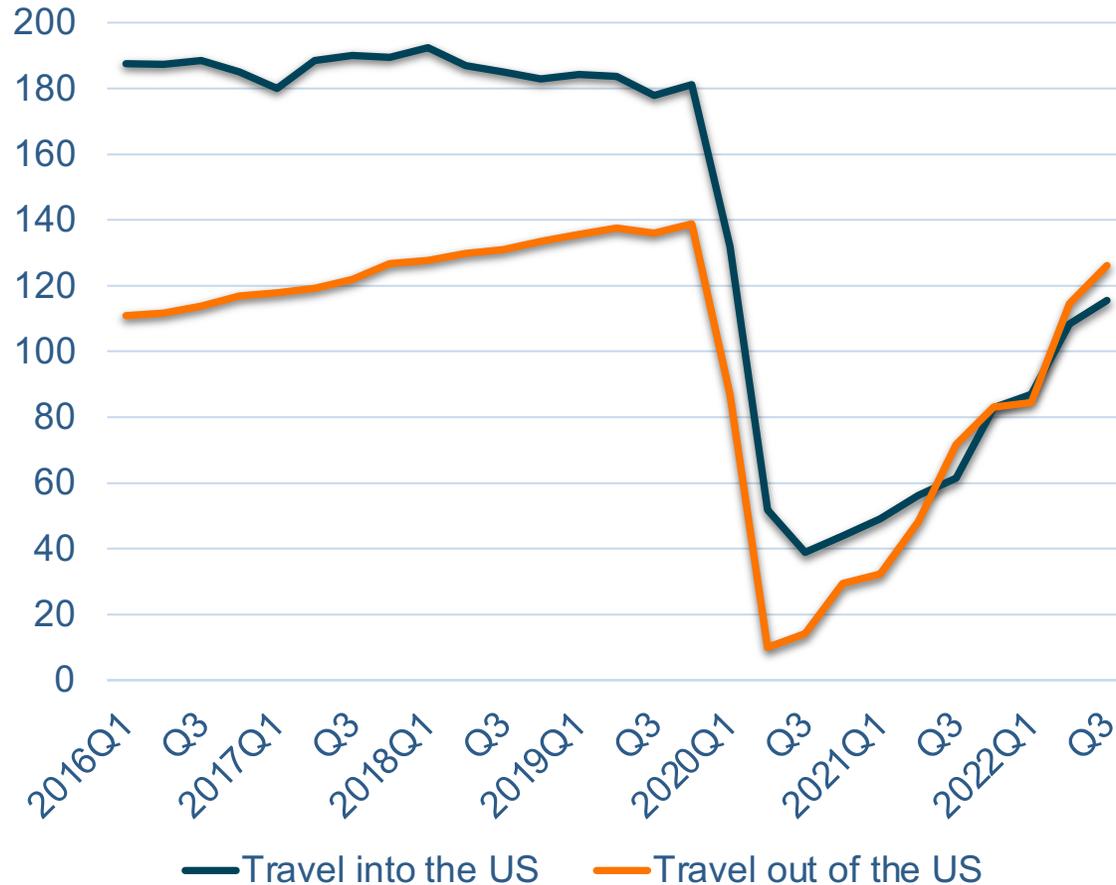
Inventories of Autos for Sale US



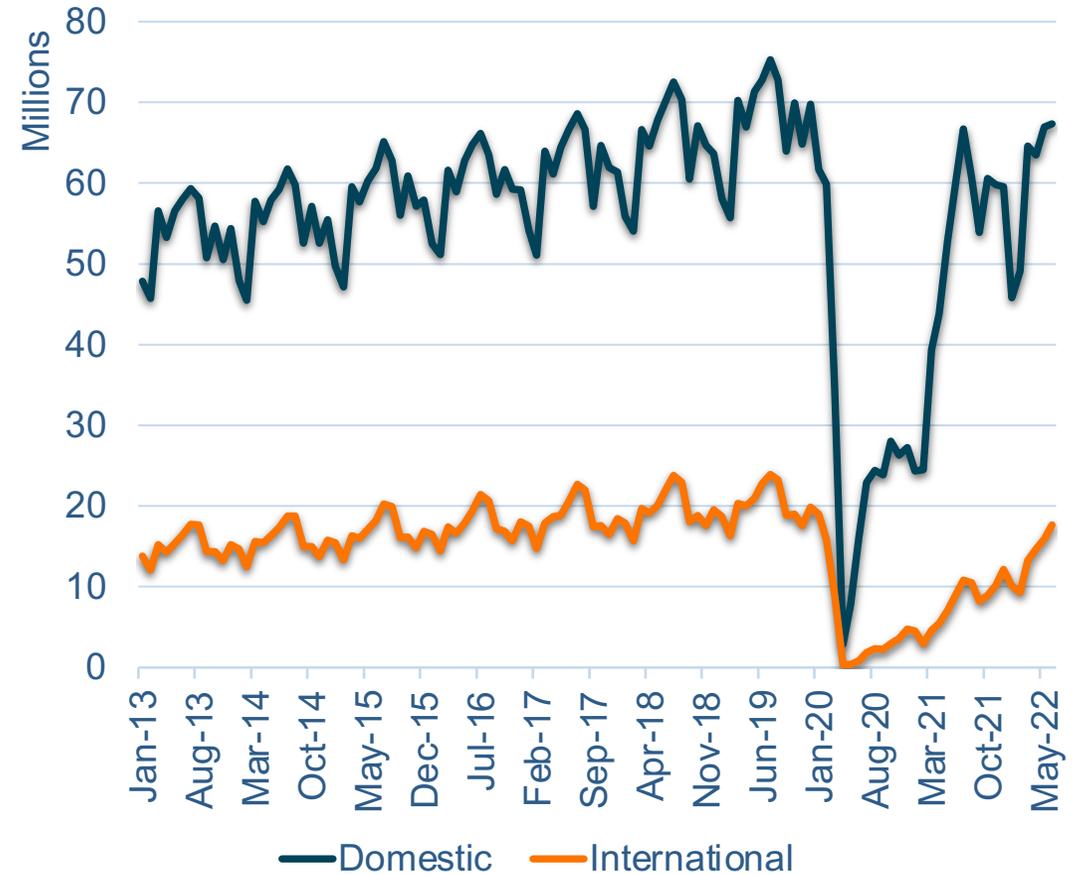
On the road again..



Travel Trade Balance
(\$Bil, Real, NIPA)



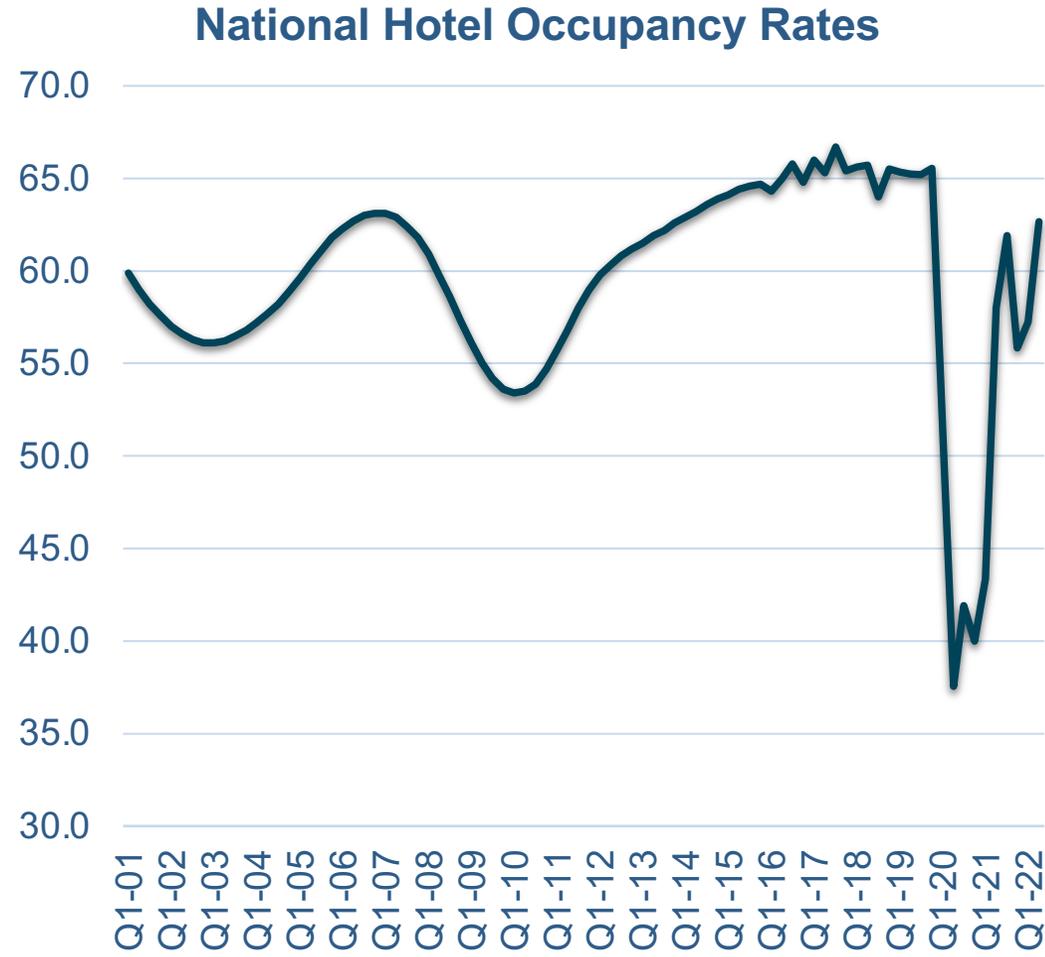
Enplanements



Hotels...



Hotel Occupancy

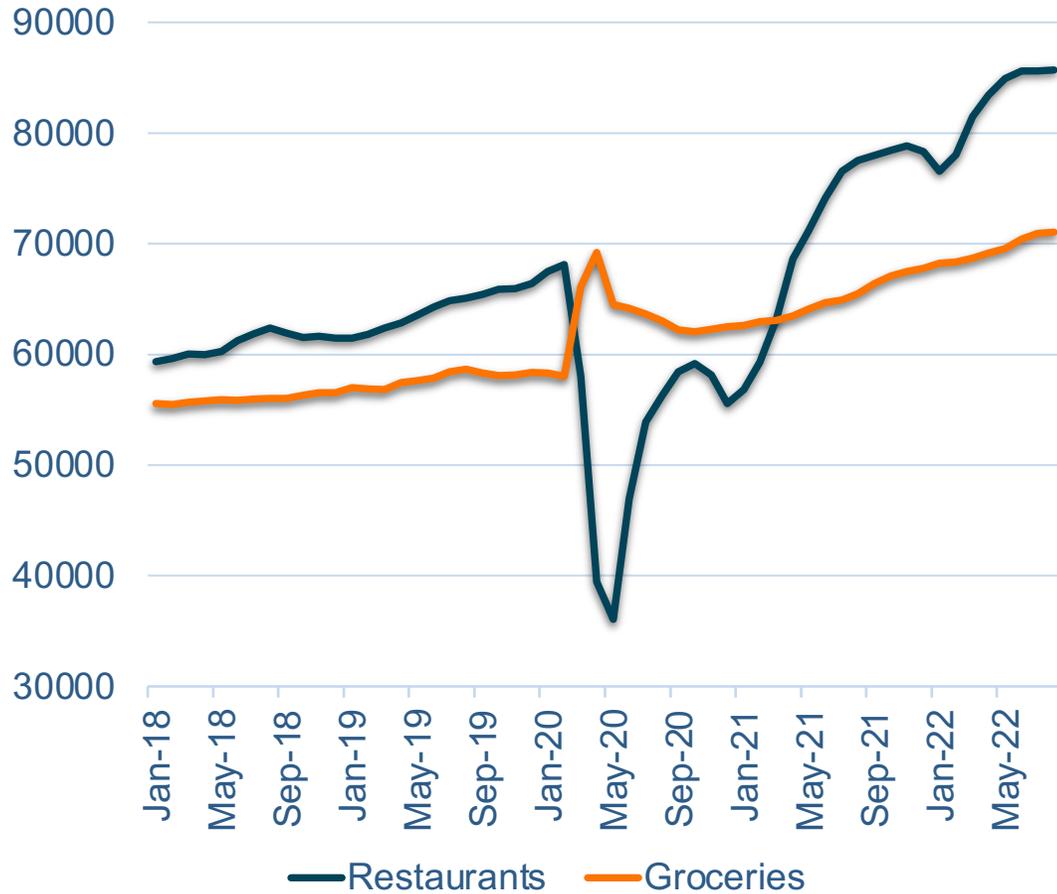


	Occupancy		Rev Par	
	Q3-22	3 Yr Ch	Q3-22	3 Yr Ch
United States	67.4	2.3	95.6	15.5%
Las Vegas	60.8	17.5	87.0	44.8%
Reno	67.2	2.9	83.6	16.1%
Seattle	75.6	1.8	125.4	14.7%
Oakland (MD)	77.2	0.7	111.5	-4.8%
San Diego	78.4	0.7	134.8	16.2%
Inland Empire	72.1	-0.2	86.8	9.9%
San Jose	73.2	-0.2	127.8	-9.2%
San Francisco (MD)	80.7	-1.5	193.8	10.9%
Portland	70.1	-1.8	102.8	9.0%
Orange County (MD)	75.8	-2.9	115.0	8.0%
Sacramento	69.2	-5.3	100.0	3.8%
Los Angeles (MD)	75.1	-5.3	134.3	5.0%
Tucson	53.9	-14.7	58.3	-23.4%
Phoenix	54.5	-16.2	66.2	-28.6%

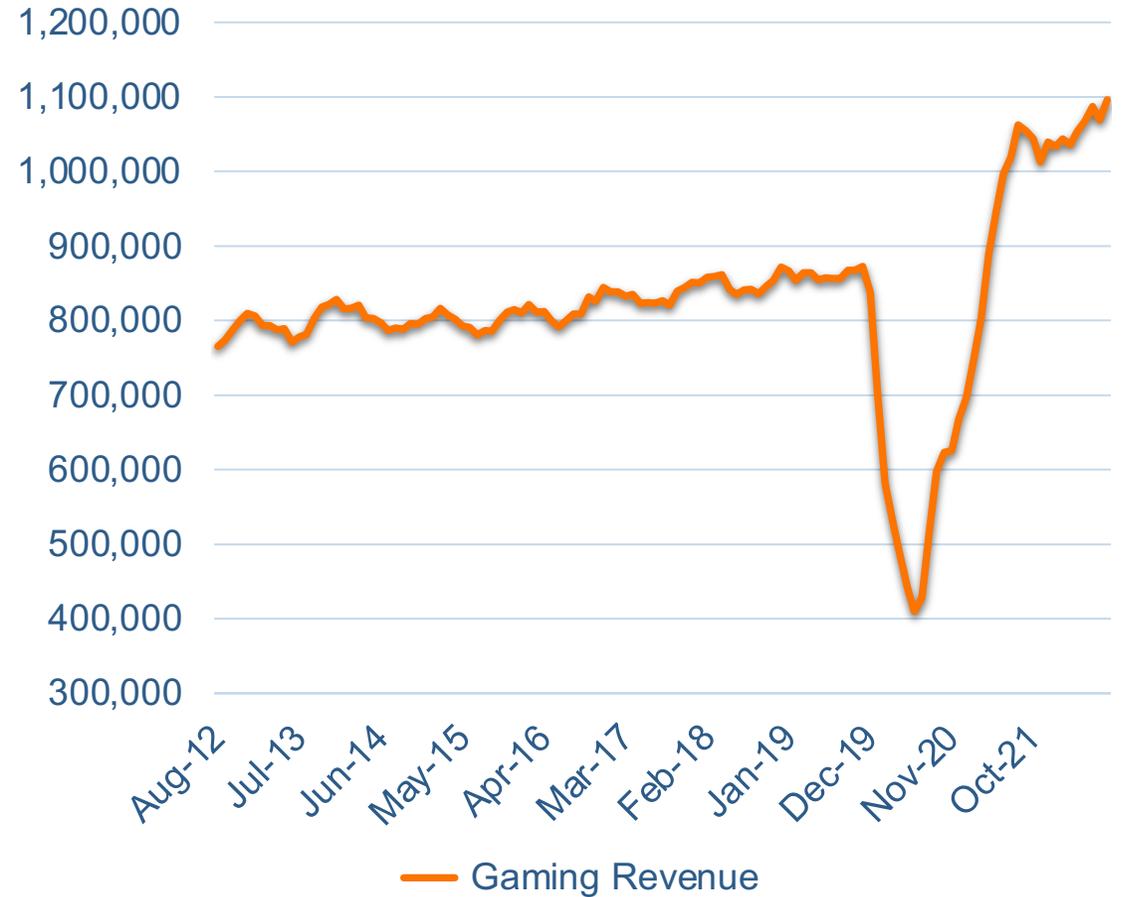
A shift back to consumer services...



Retail Sales on Food



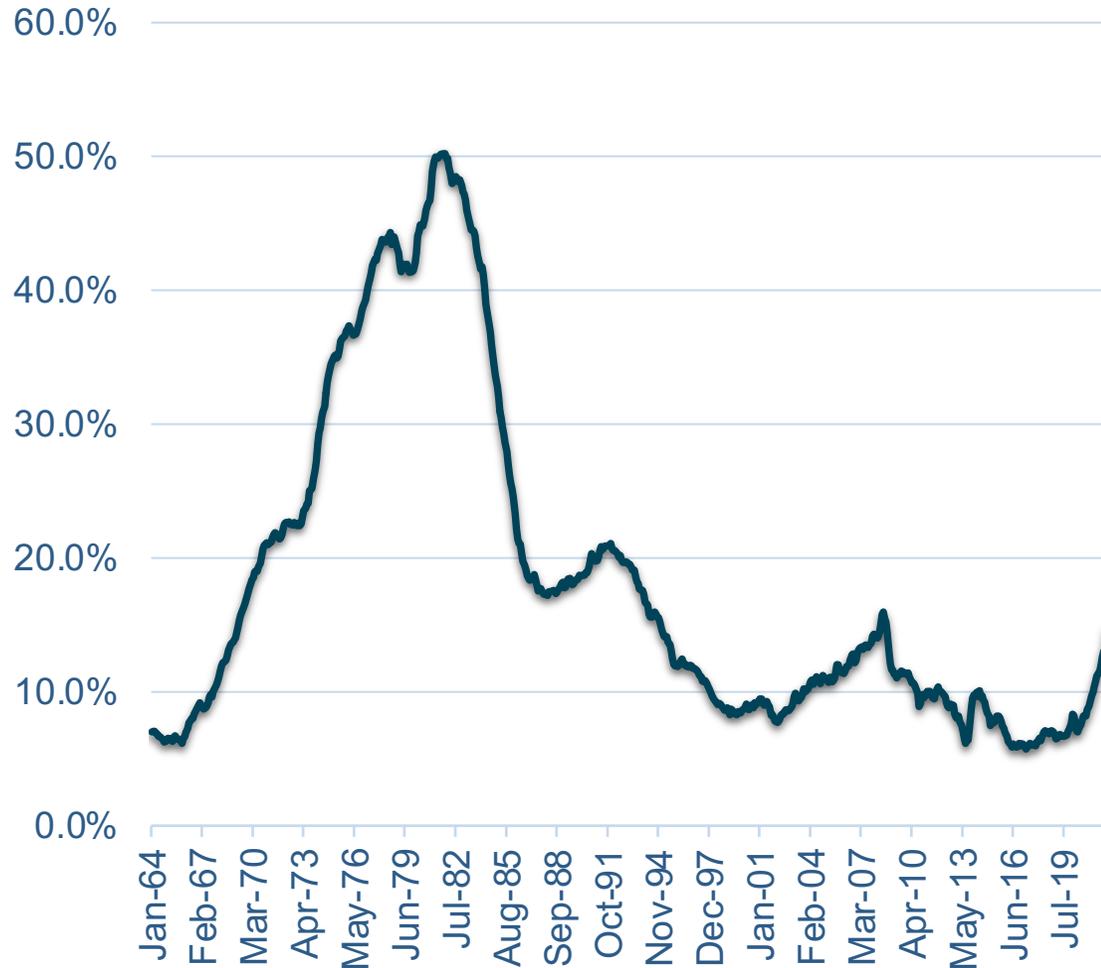
Gross Gaming Revenue – Las Vegas



Can the consumer survive? Context...



5 Year Increase in Consumer Prices



US Real Interest Rate (2 Yr T-Bill – PCE Inflation)



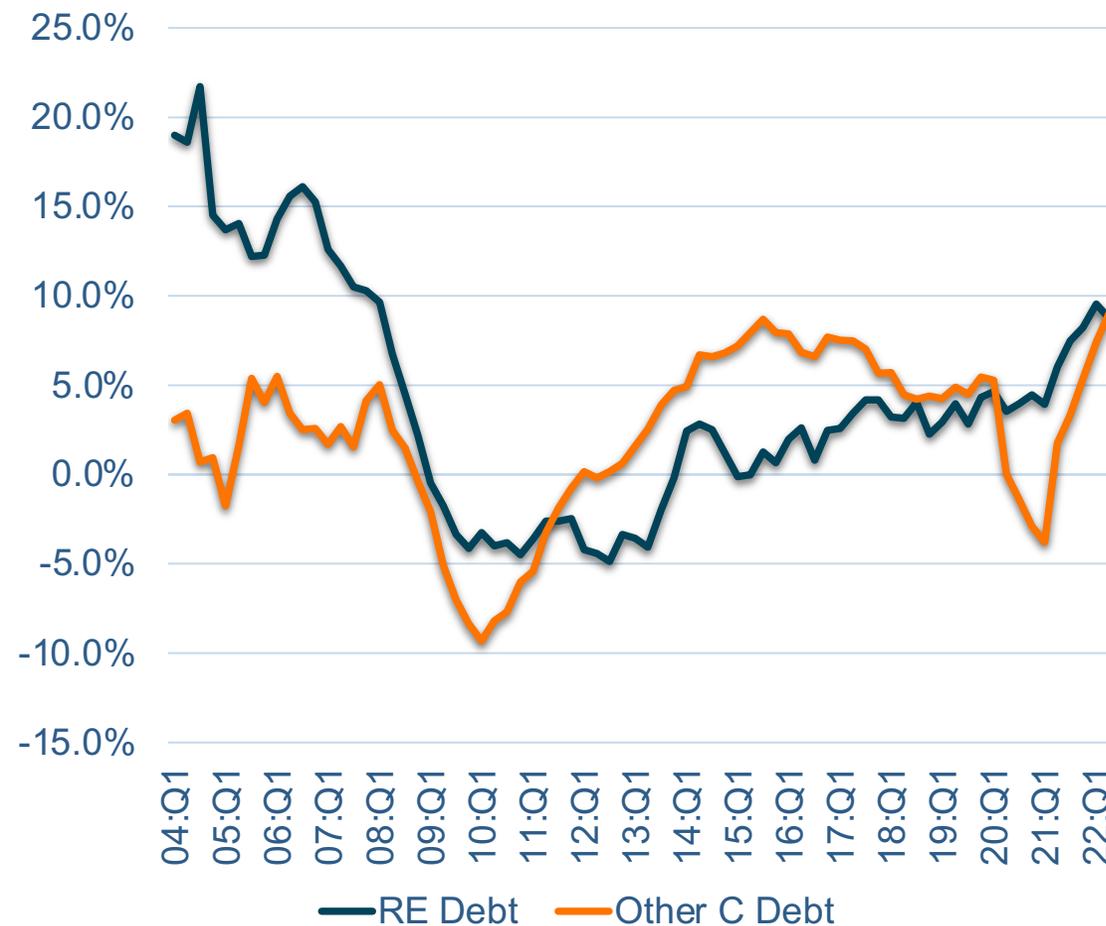


Access to Credit Markets

US Financial Obligations Ratio



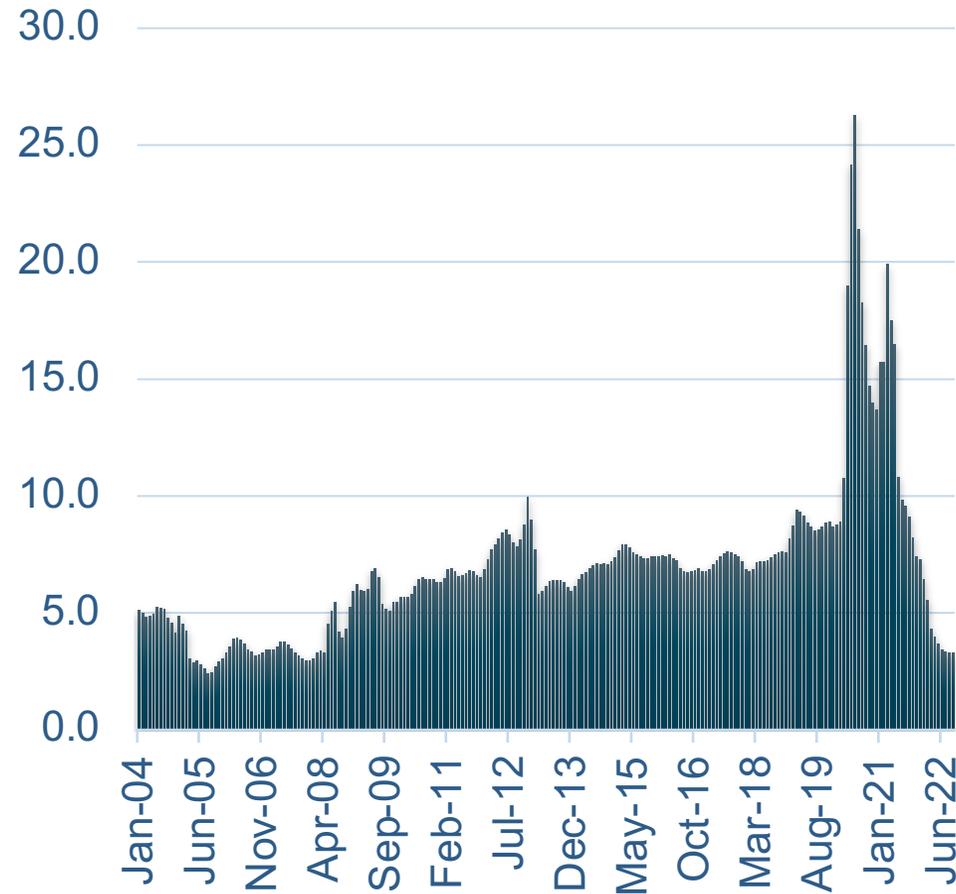
YoY Growth Consumer Credit



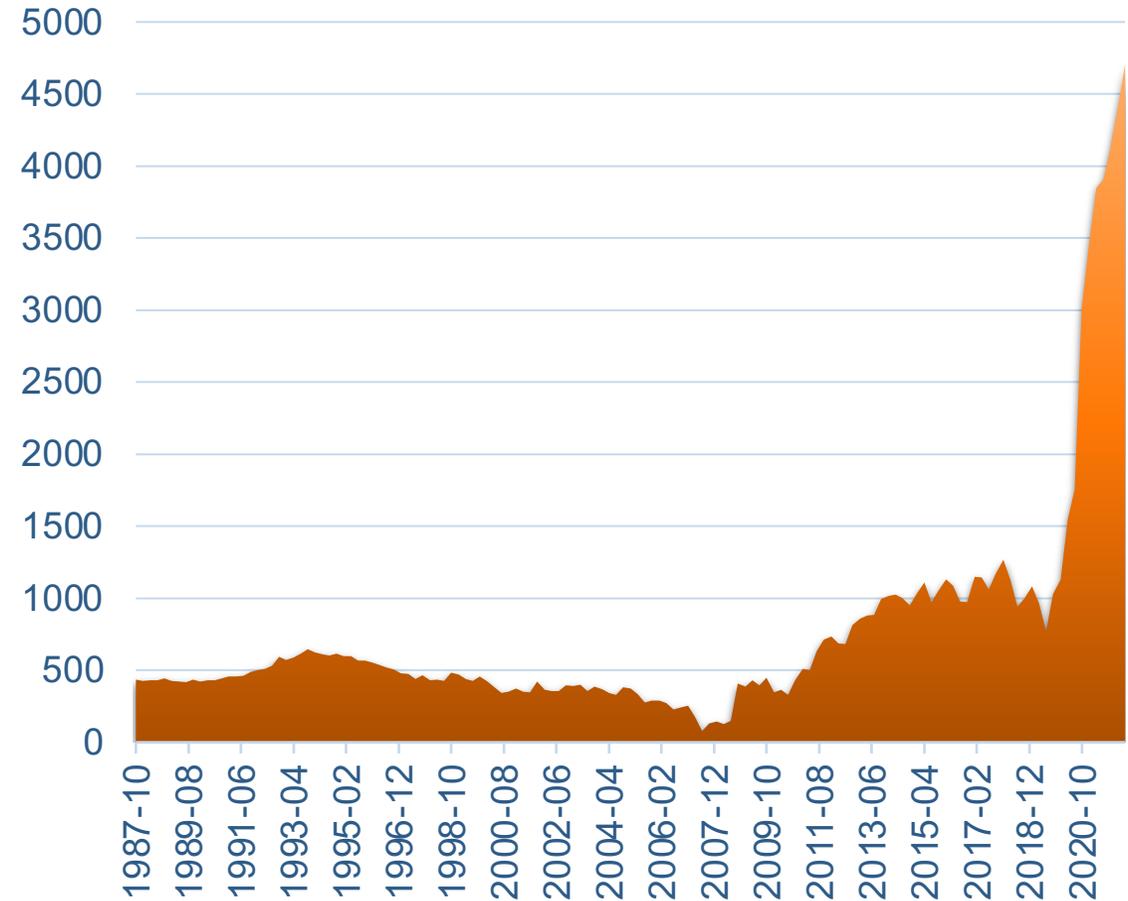
Financial Status?



Household Savings Rate

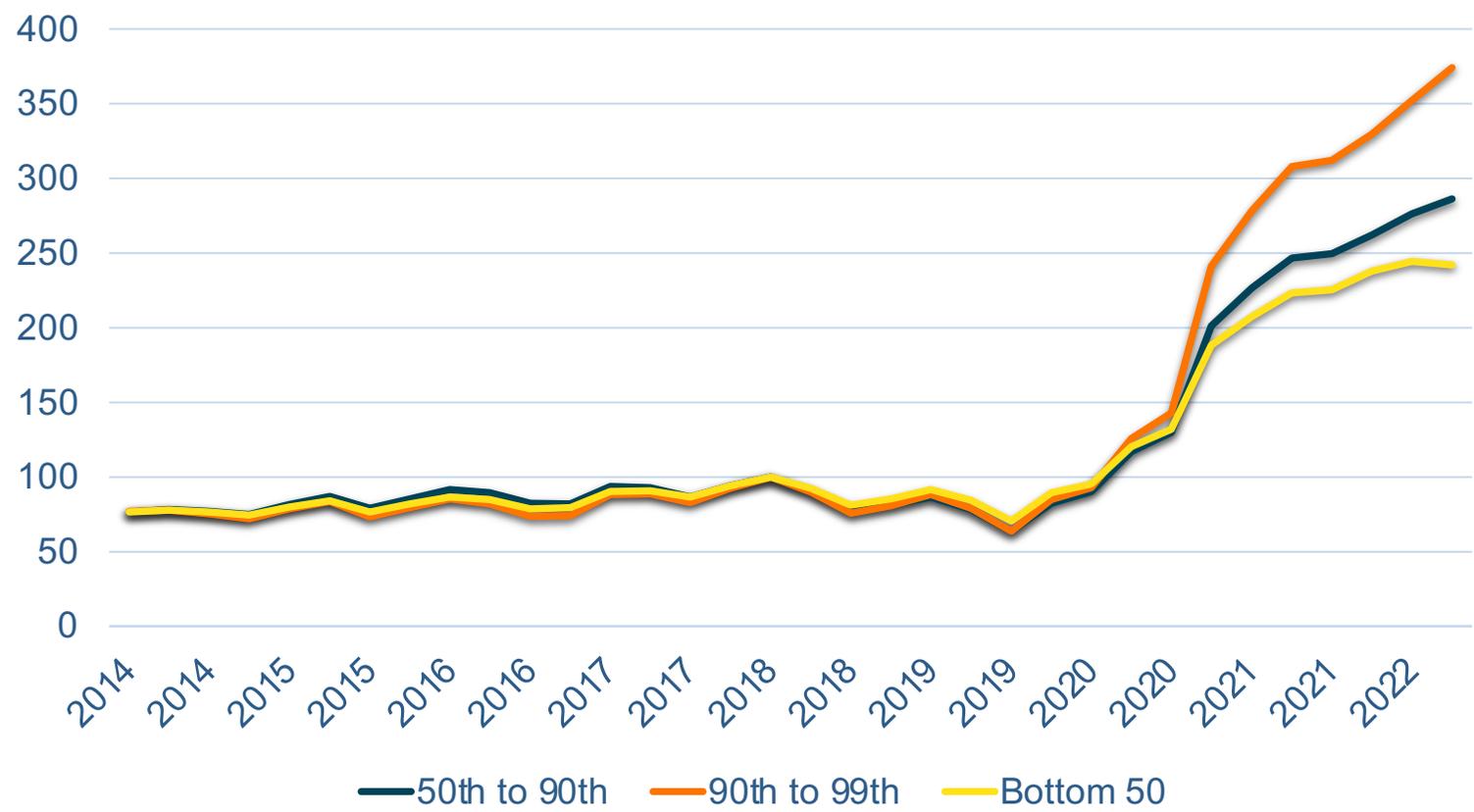


US Household Cash Balances (\$Bil)





Indexed Balance of Checkable Deposits and Currency by Income Level



Contradictory Efforts



Federal Deficit 12 month rolling sum

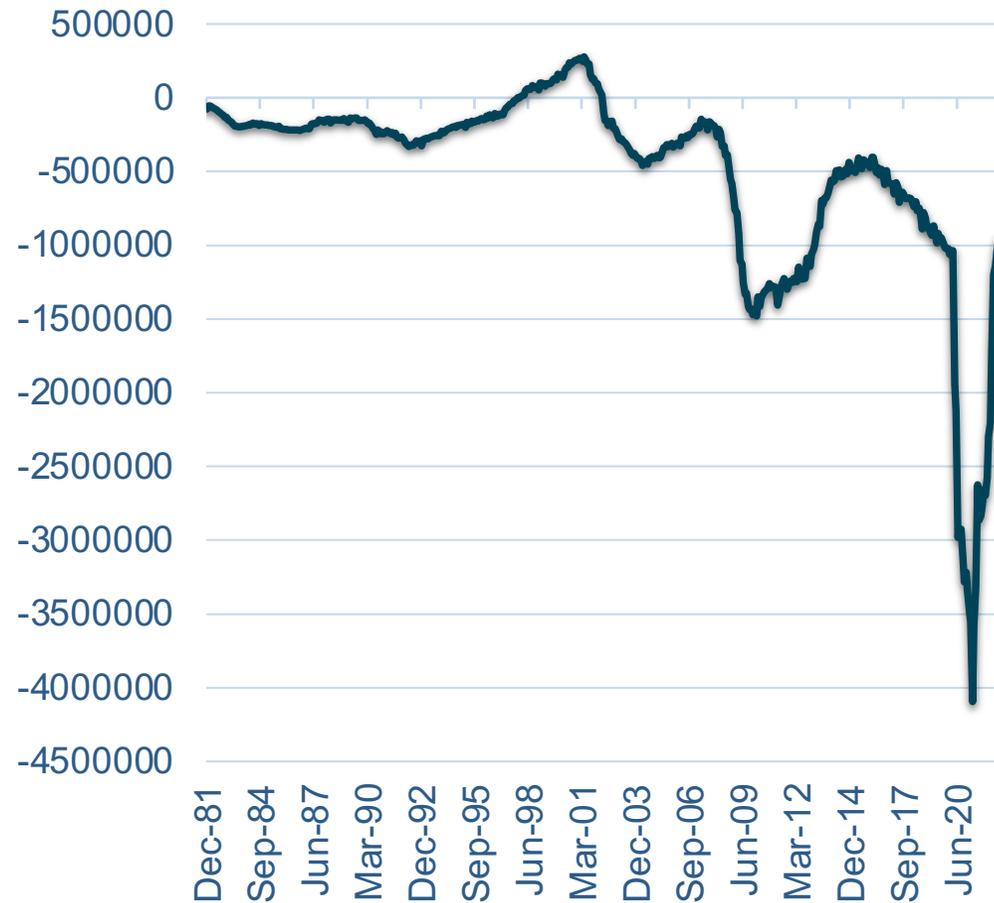
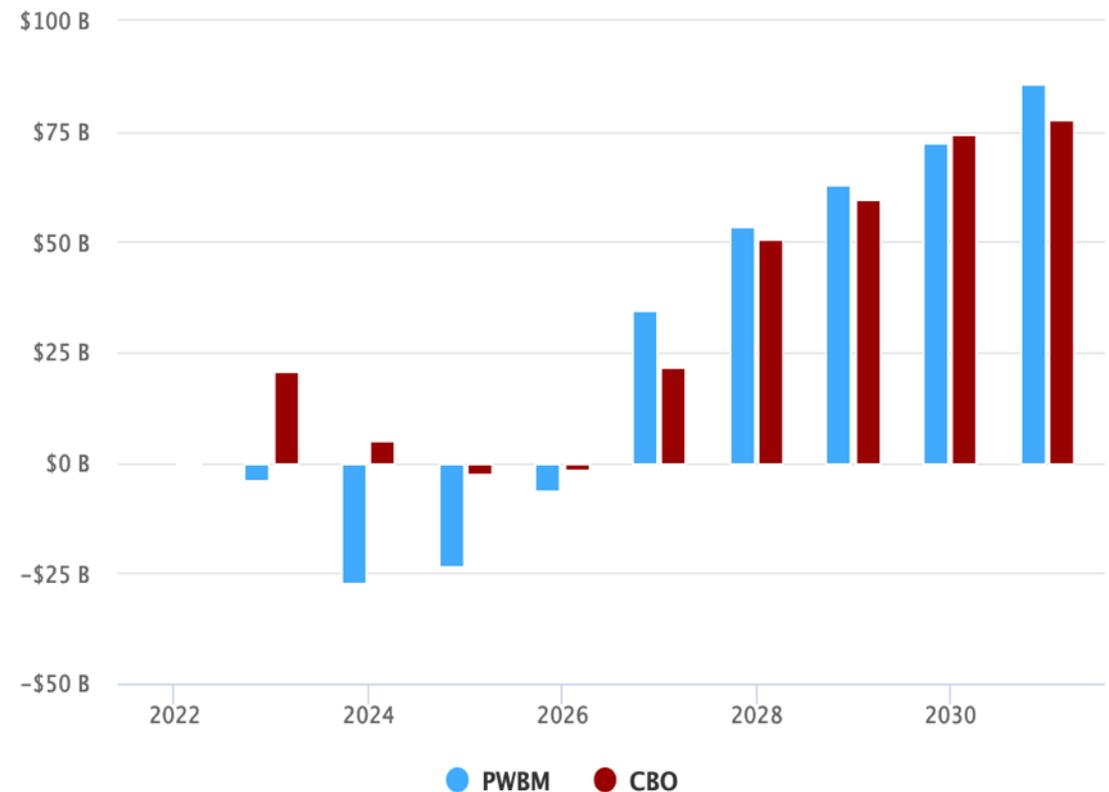


Figure 1. Budgetary Effects of the Inflation Reduction Act of 2022

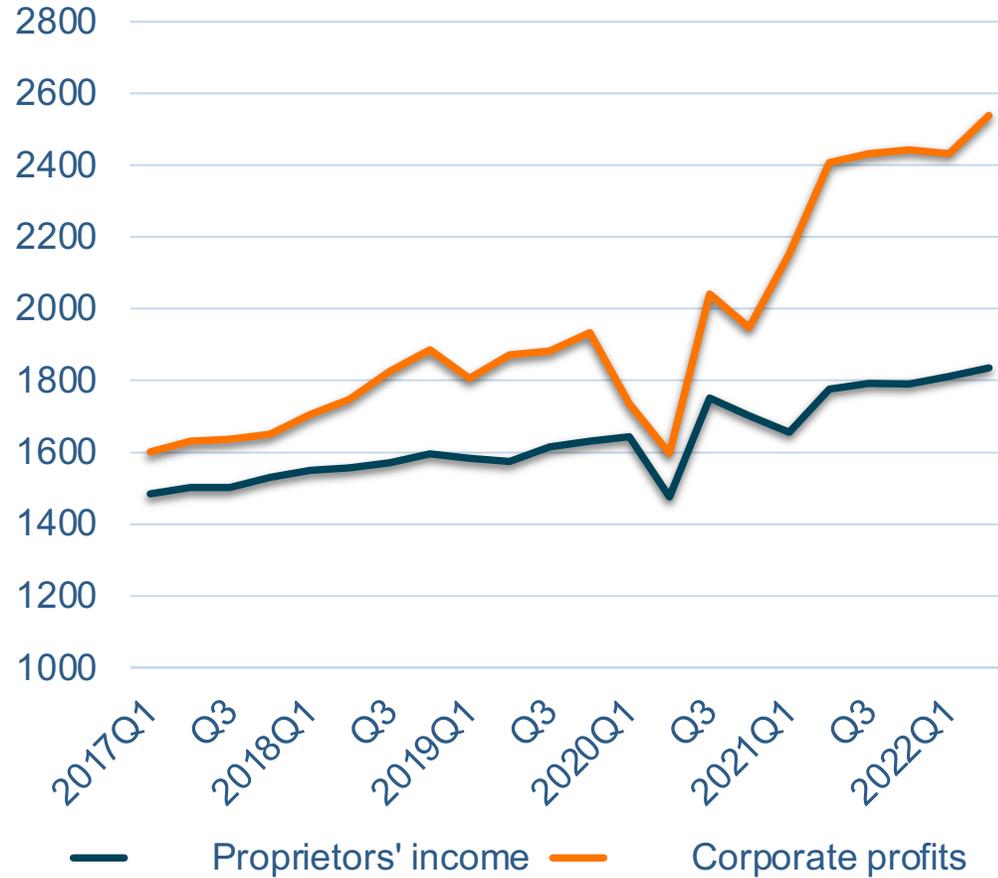
Net deficit reduction (+) or increase (-) from spending and revenues



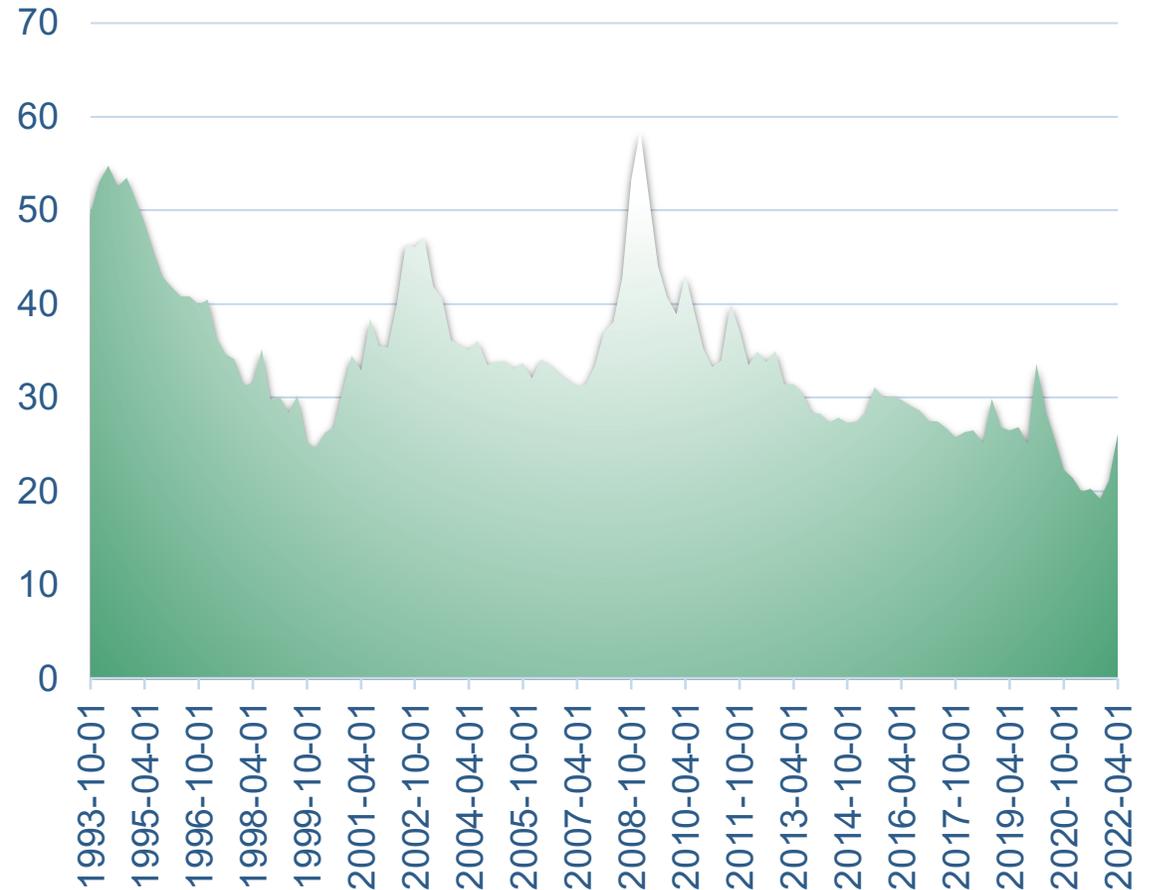
Business is managing as well...



Business Earnings



Non-Financial Corporate Debt to Equity



Business Investment



New Orders IT Equipment



	19	22	
	Q4	Q3	
Private fixed investment	3425.7	3536.9	3.2%
Structures	578.1	422.4	-26.9%
Commercial and health care	174.4	133.5	-23.5%
Manufacturing	62.4	52.9	-15.2%
Power and communication	128.9	80.6	-37.5%
Mining exploration	115.6	98.5	-14.8%
Equipment	1208.7	1291.7	6.9%
Information processing equipment	479.5	583.4	21.7%
Industrial equipment	238.2	257.8	8.2%
Transportation equipment	268.1	249.7	-6.9%
Intellectual property products	1033.5	1267	22.6%
Software	485.2	643.2	32.6%
Research and development	468.2	547.7	17.0%
Entertainment, literary	85.8	94.7	10.4%
Residential	611.7	621.5	1.6%
Structures	595.9	604.3	1.4%
Single family	211.2	234.2	10.9%
Multifamily	47.5	53.3	12.2%

Venture Capital: Washington



Capital Invested and Number of Deals, WA HQ Companies

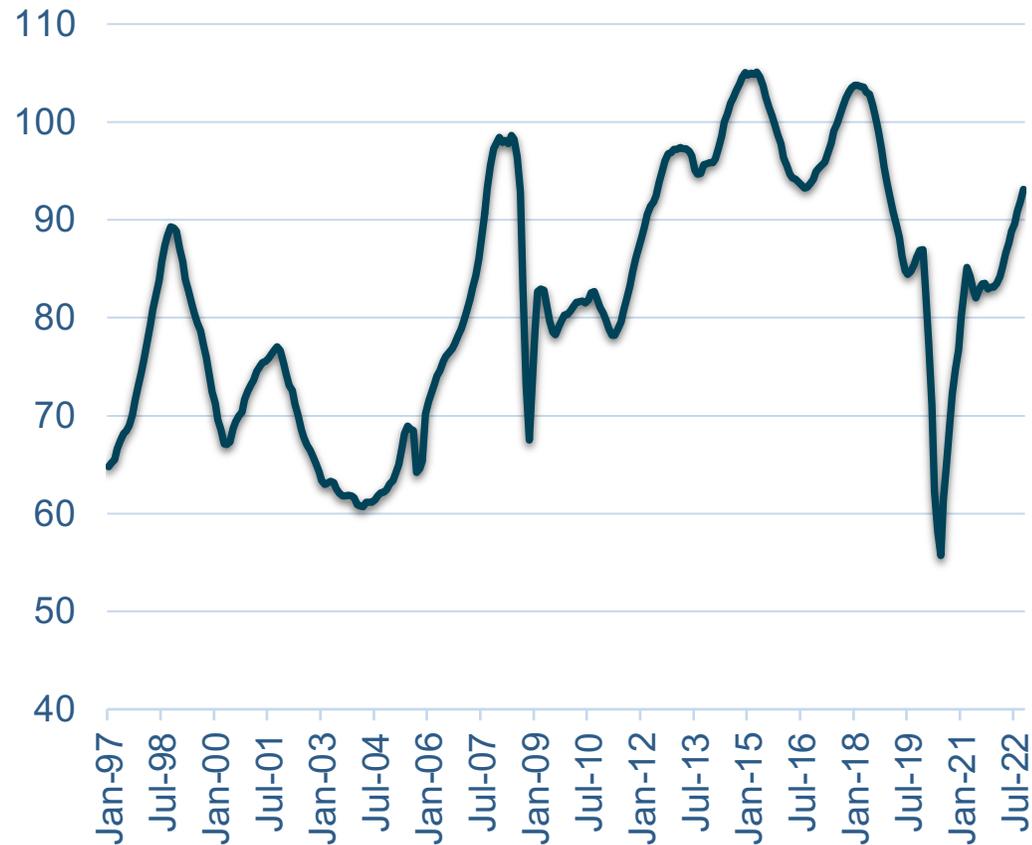


Company Name (WA HQ)	Deal Size (\$, Mil.)	Industry	Location
ClearWire	900.0	Information Technology	Bellevue
TerraPower	830.0	Energy	Bellevue
Allen Institute	500.0	Healthcare	Seattle
Helion Energy	500.0	Energy	Everett
OfferUp	453.4	Information Technology	Bellevue
Sana Biotech	435.0	Healthcare	Seattle
Convoy	400.0	Information Technology	Seattle
Group14 Tech	400.0	Materials and Resources	Woodinville
Sana Biotech	380.9	Healthcare	Seattle
Summit Power	350.0	Energy	Seattle

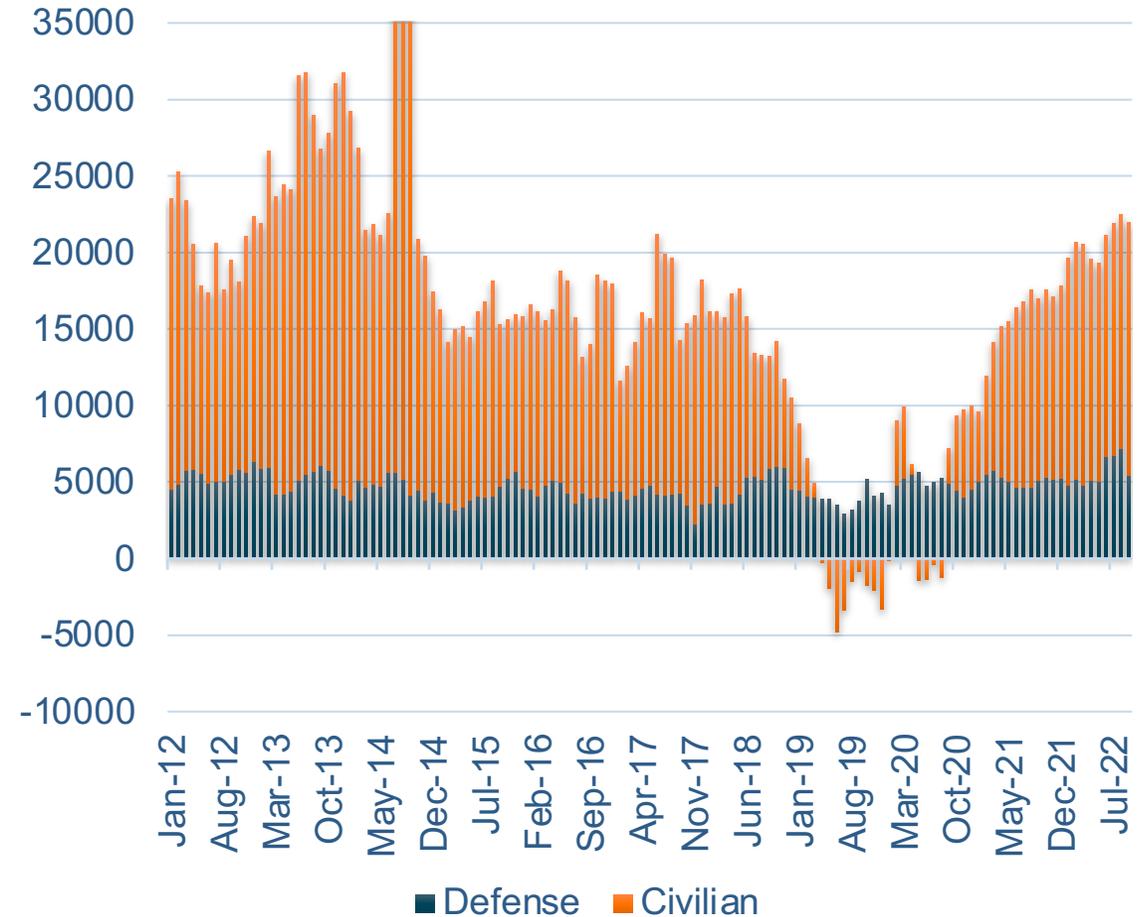
Aircraft Manufacturing



US Production: Aircraft and Parts (Index)



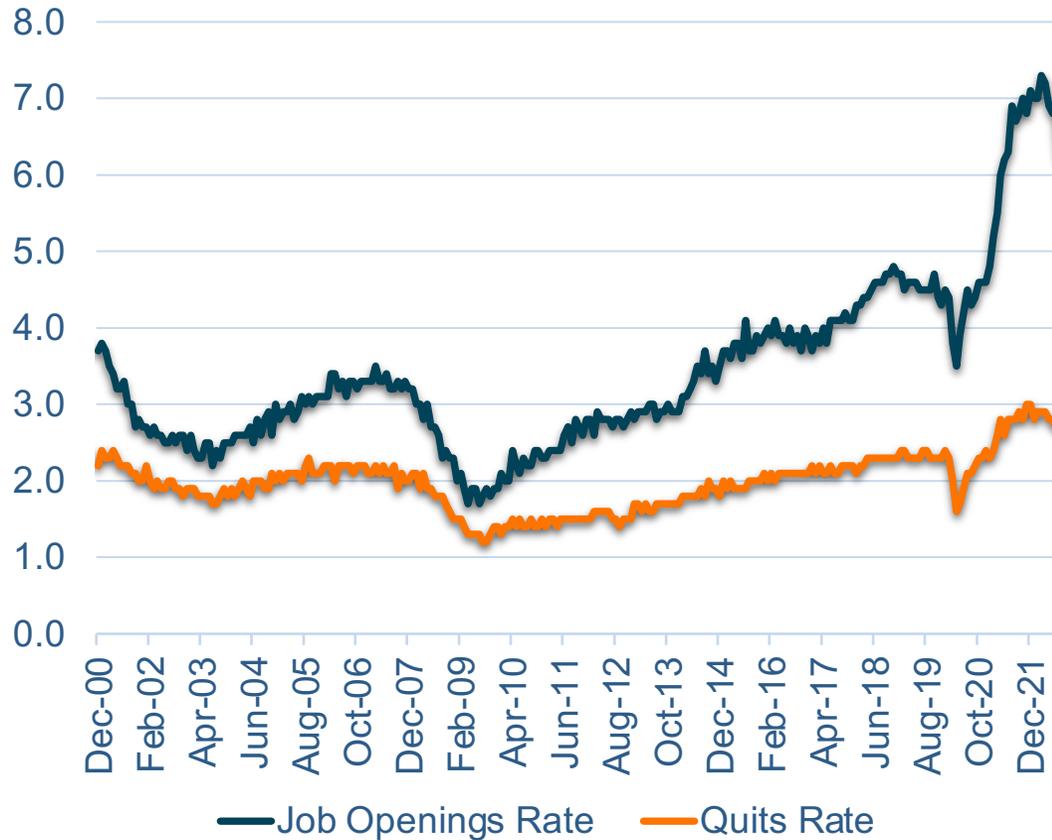
New Orders



Business's real issue...



US Employment Demand and Turnover

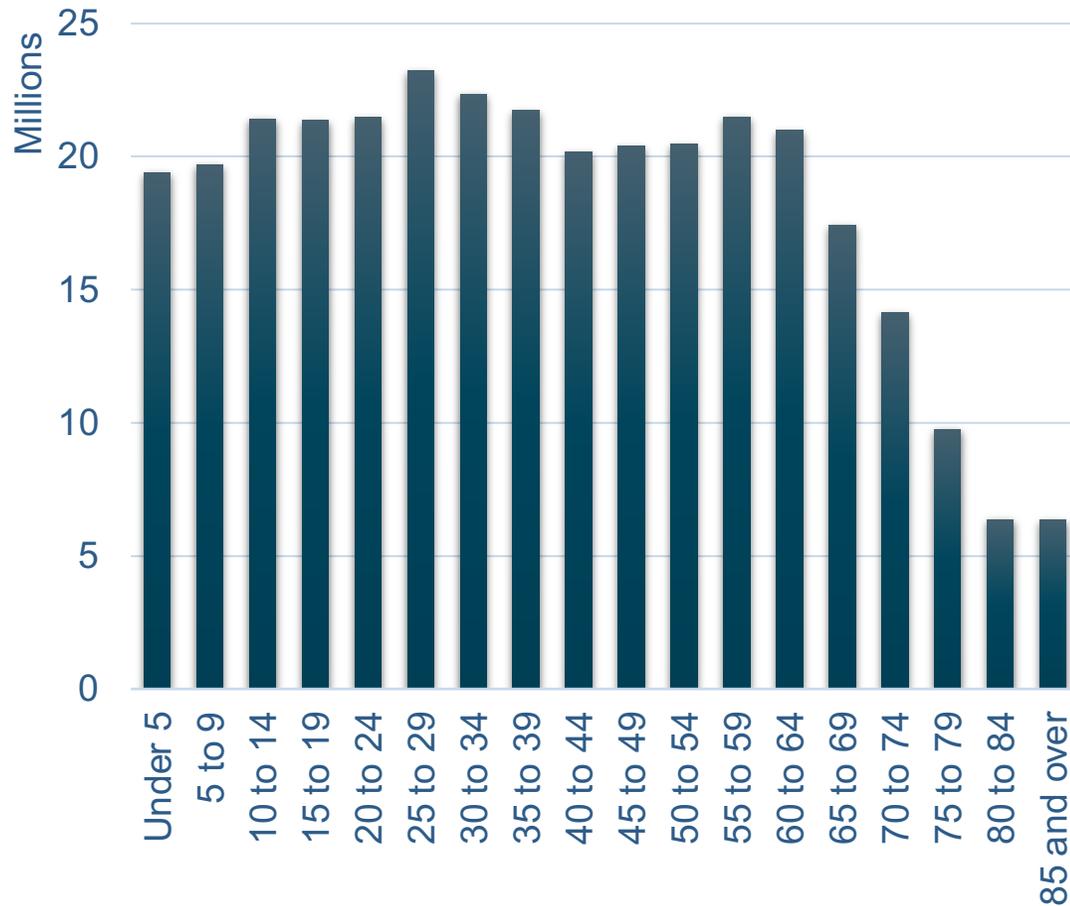


<u>Job Openings Rate by Sector</u>	<u>Jul-19</u>	<u>Jul-22</u>
Total private	4.2	7.7
Health care	2.8	9.3
Leisure hospitality	6.7	9.3
Professional	5.4	9.0
Logistics	3.9	8.0
Other services	3.7	7.5
Financial activities	2.6	7.0
Information	3.9	7.0
Retail trade	4.9	6.5
Manufacturing	2.5	6.2
Education	2.6	6.0
Mining and logging	3.7	5.7
Government	1.5	5.2
Wholesale trade	2.8	4.9
Local education	1.6	4.7
Construction	5.1	4.7

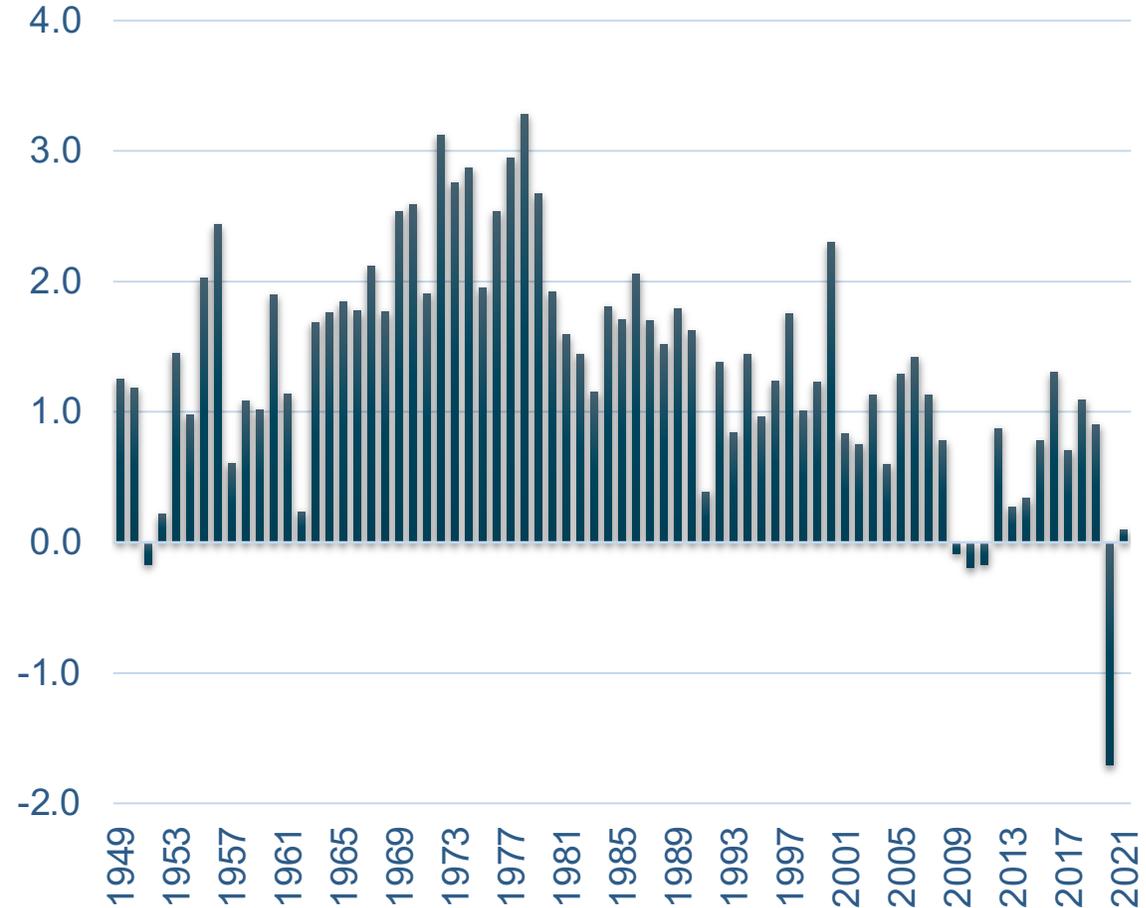
Where are the workers?



US Population by Age



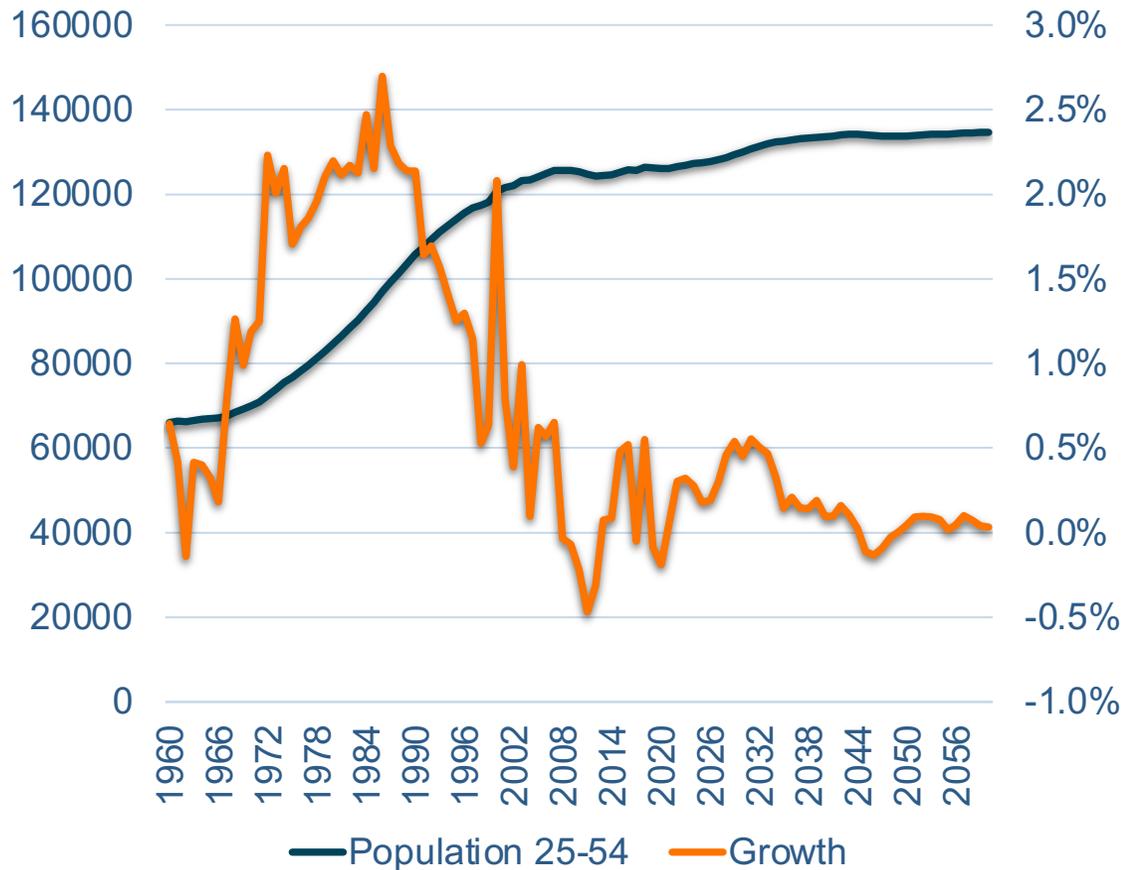
YoY Growth US Labor Force



The Era of Labor Shortages is Here



Prime Working Years Population Growth (Census)



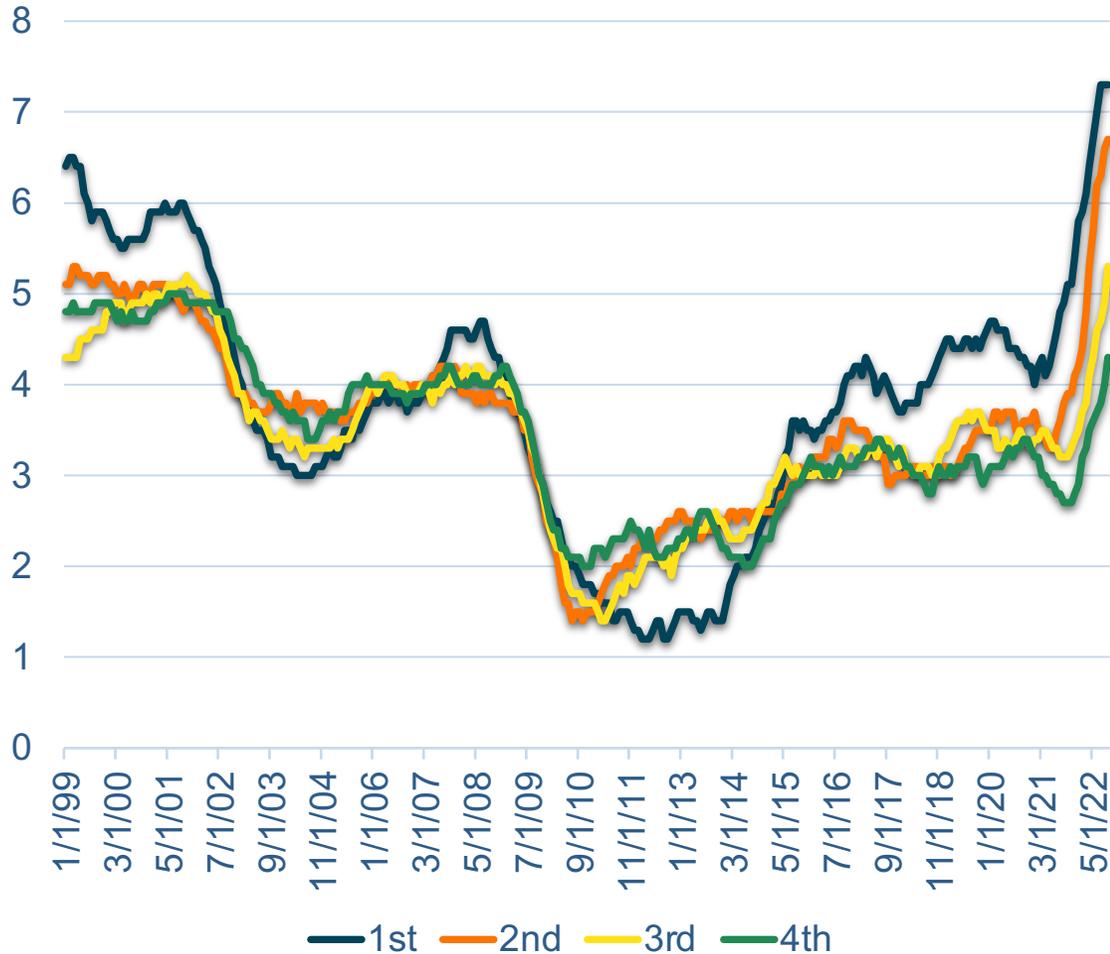
US Labor Force Growth (5 Year Avg)



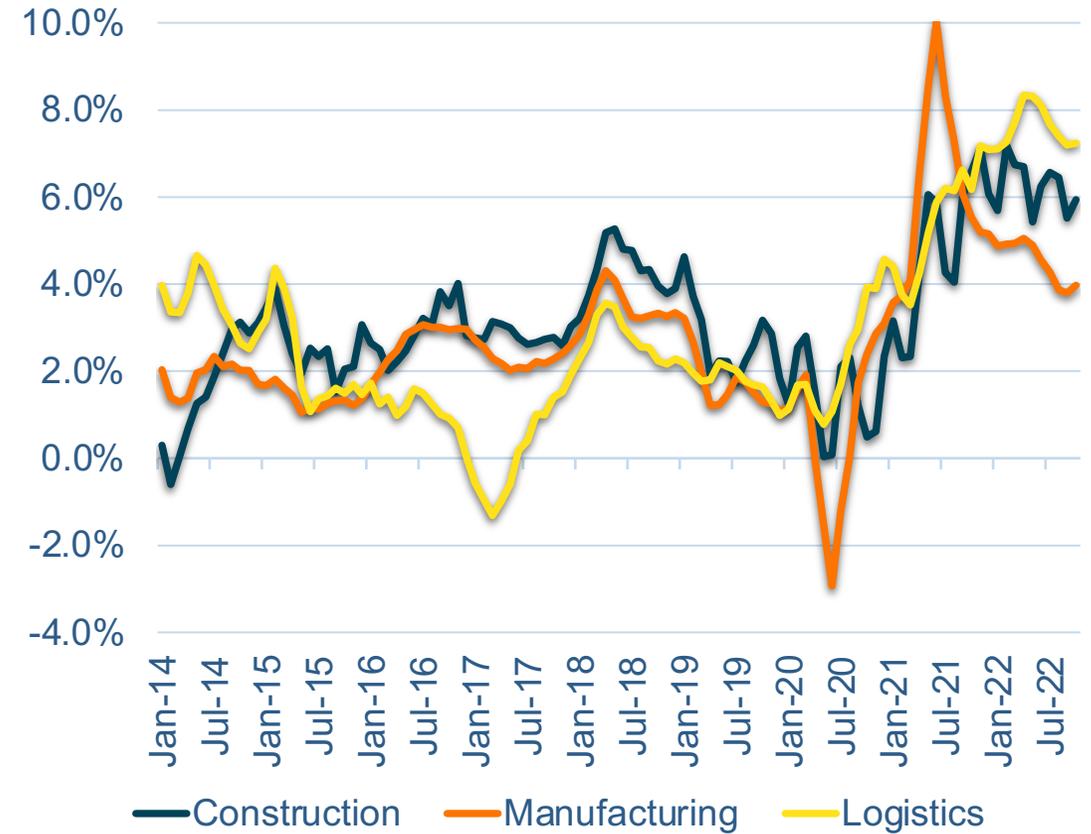
Silver Lining?



Growth in Worker Earnings by Quartile



YoY Growth Weekly Earnings for Non-Supervisory Workers



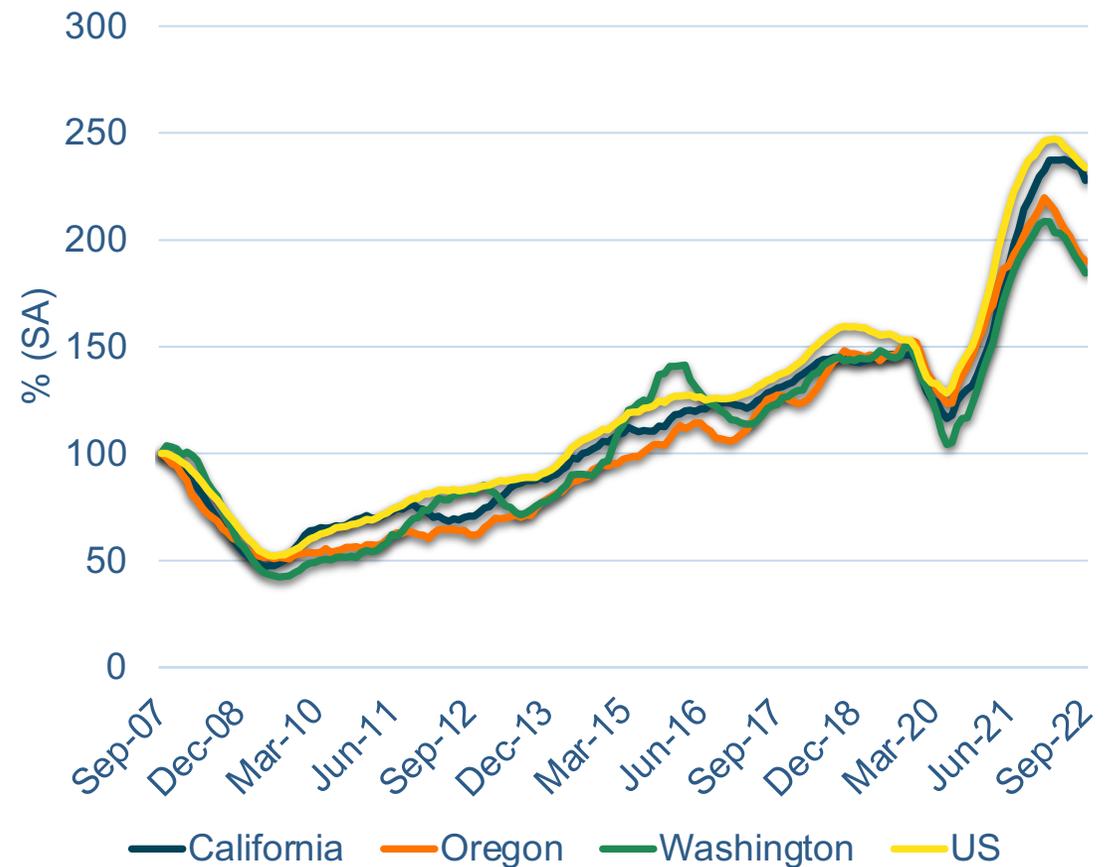
Regional Outcomes



Payroll Job Gains 14 to 22

		Payrolls	Gr 14-22	Gr 19-22
1	Idaho	825.4	26.1%	8.2%
2	Utah	1676.3	26.0%	7.3%
3	Florida	9460.5	20.4%	5.3%
4	Arizona	3088.7	20.0%	4.6%
5	Nevada	1462.0	19.7%	3.0%
6	Texas	13539.1	16.3%	5.3%
7	Colorado	2874.2	16.2%	2.6%
8	North Carolina	4804.3	15.8%	4.6%
9	Georgia	4821.8	15.8%	4.2%
10	Washington	3522.5	14.8%	1.3%
11	Tennessee	3247.0	14.6%	3.8%
12	South Carolina	2238.7	14.5%	1.9%
13	Oregon	1974.7	14.0%	0.8%
14	California	17650.9	13.0%	1.1%
15	Montana	506.0	11.2%	4.1%

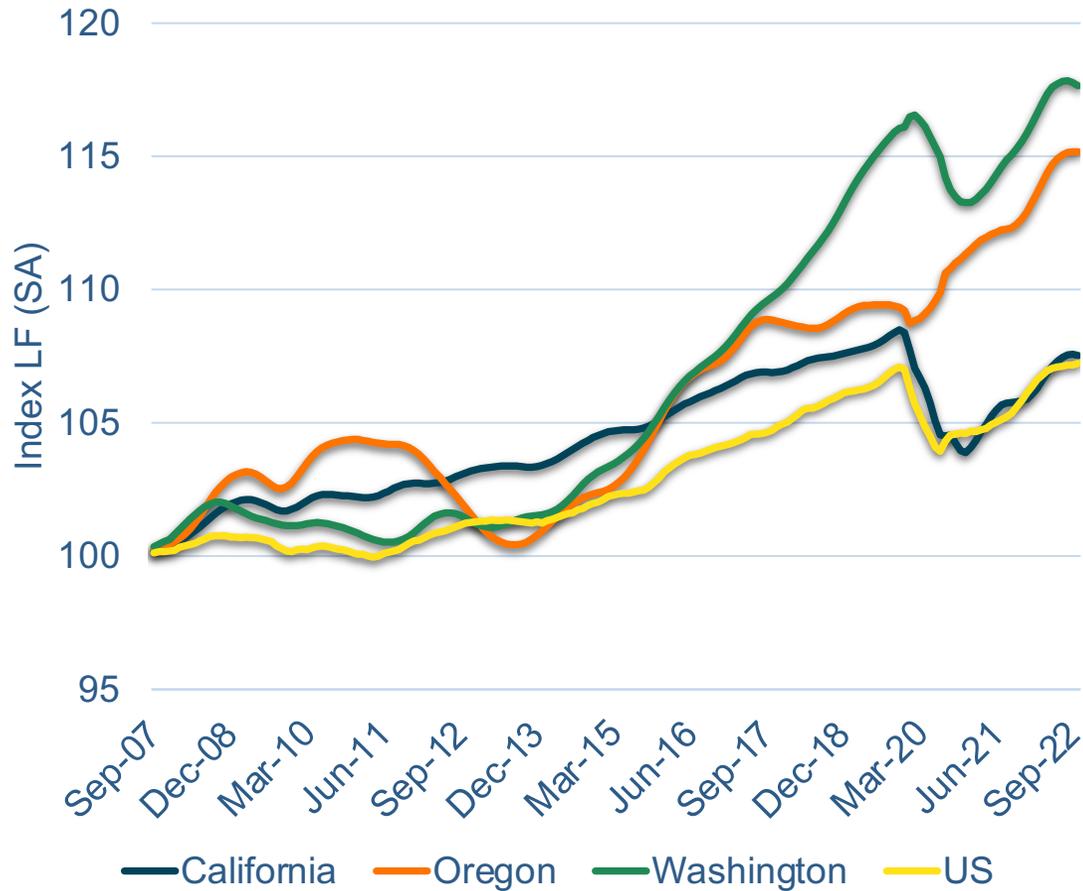
Indexed Job Openings



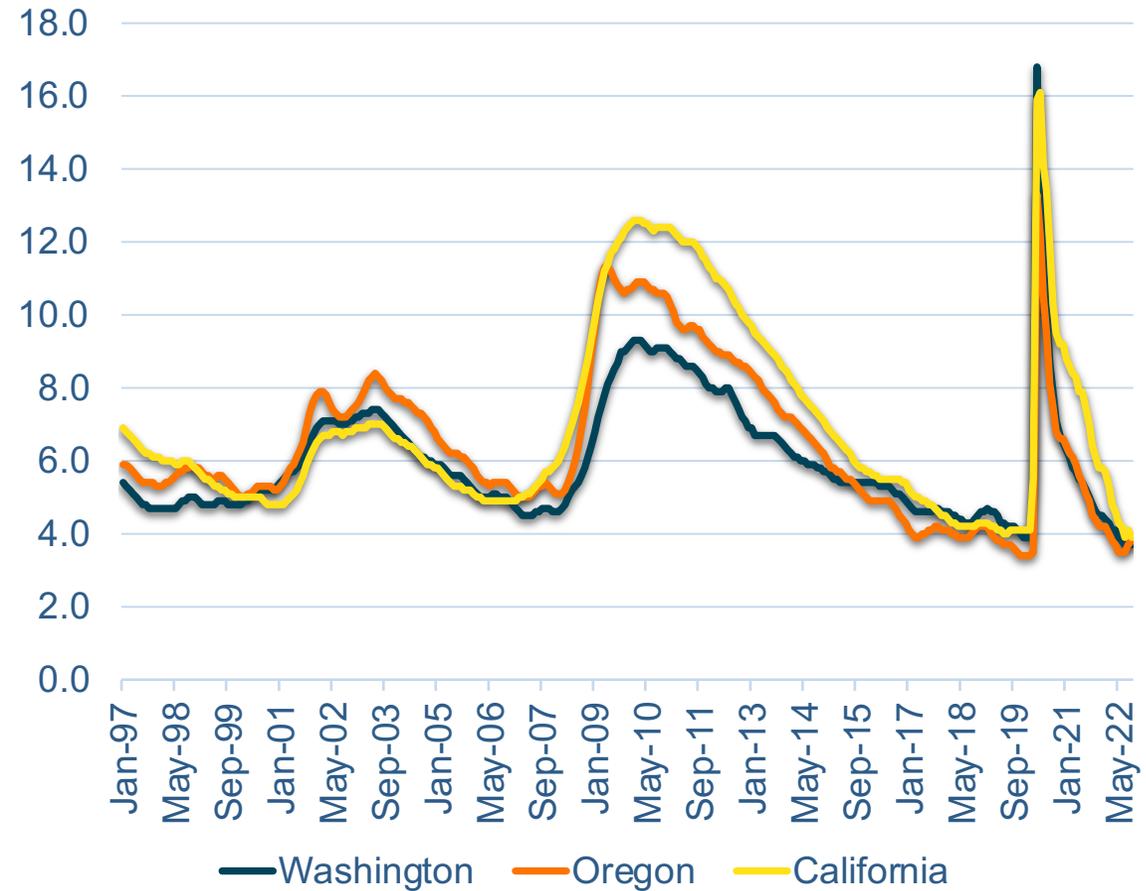
State Labor Markets



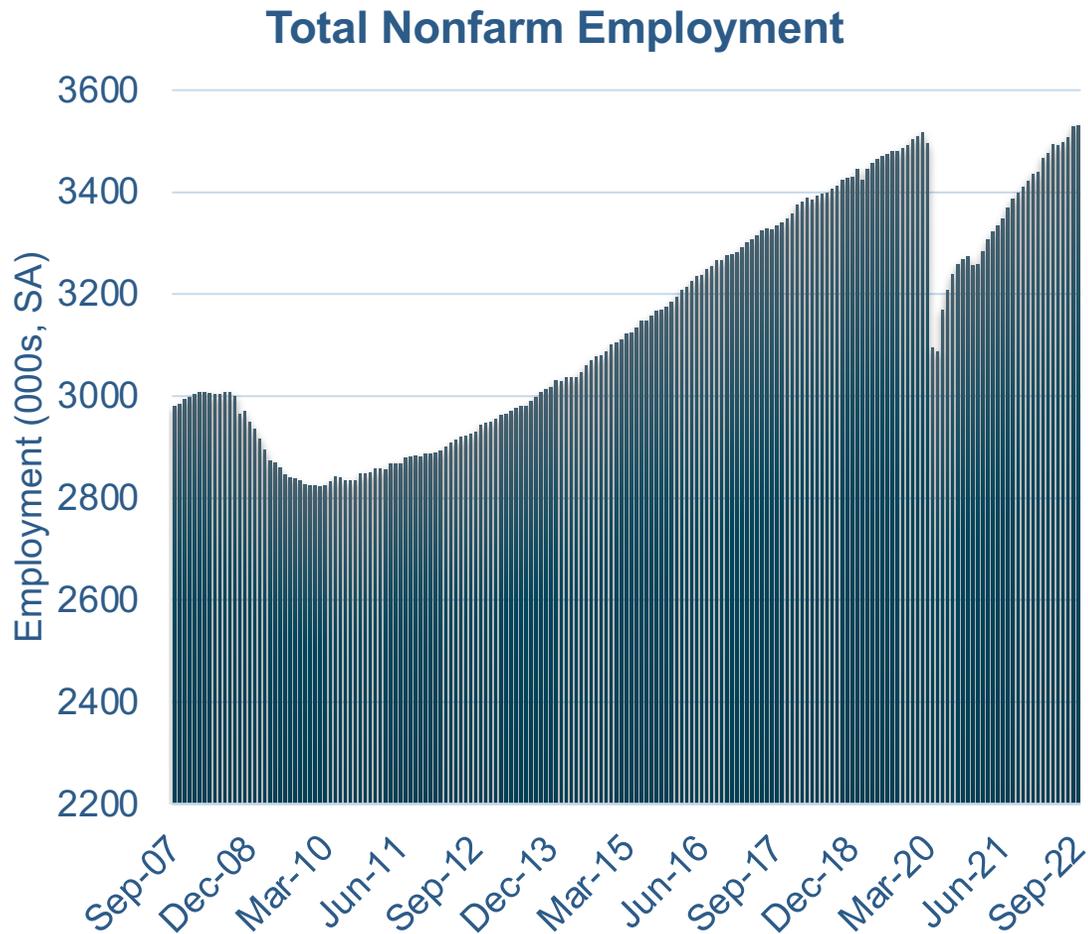
Indexed Labor Force



Unemployment Rate



Employment – Washington



Industry	Sep-22 Emp.	3-YR	
		Dif.	% Growth
Total Nonfarm	3,530.7	50.4	1.4
Information	176.6	30.2	20.6
Prof Sci and Tech	236.9	20.4	9.4
Admin Support	192.6	16.0	9.1
Construction	235.9	14.2	6.4
Transport/Warehouse	119.3	7.0	6.3
Retail Trade	410.0	20.0	5.1
Utilities	5.5	0.2	4.1
Financial Activities	163.9	2.5	1.5
Education/Health	509.5	4.2	0.8
Management	45.0	0.3	0.7
Wholesale Trade	136.5	0.6	0.4
Government	573.5	-14.2	-2.4
Leisure and Hospitality	331.8	-16.1	-4.6
Manufacturing	270.9	-23.3	-7.9

Local Labor Markets

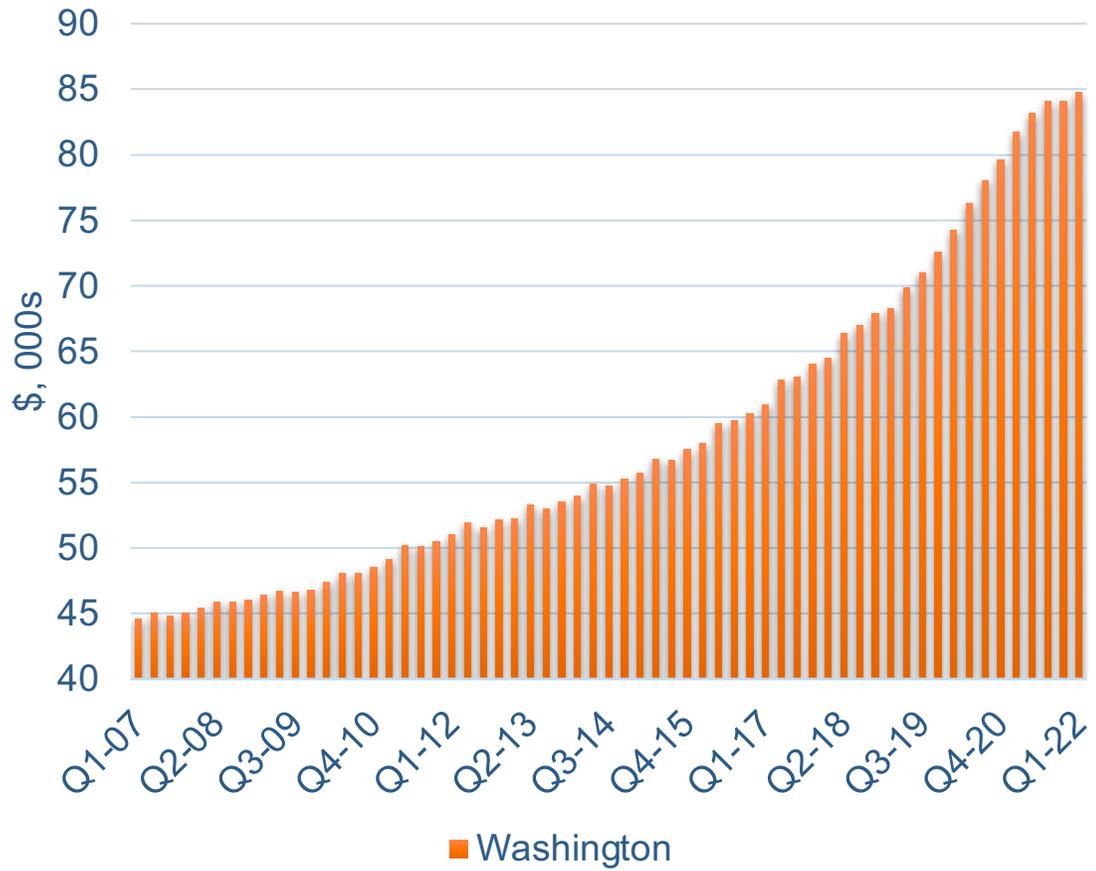


CBSA	Sep-22 Total Nonfarm (000s)	% Growth		Sep-22 Unemp. Rate (%)	Absolute Change (p.p.)	
		3-YR	5-YR		3-YR	5-YR
Washington	3,530.7	1.4	5.9	3.7	-0.5	-1.0
Kennewick	123.1	3.4	9.2	4.8	-0.6	-0.8
Spokane	263.1	2.7	6.8	4.4	-0.9	-1.1
Seattle	1,785.6	1.0	5.6	2.7	0.1	-1.1
Yakima	88.1	0.7	2.8	6.0	-0.5	-0.7
Olympia	121.6	0.5	4.0	4.3	-0.6	-0.7
Bellingham	94.1	-1.6	0.5	4.4	-0.7	-0.6
Bremerton	93.4	-2.0	2.7	4.0	-0.5	-0.9
Mount Vernon	50.9	-3.1	0.5	4.7	-0.8	-0.6

Washington Wages



Annual Average Wages

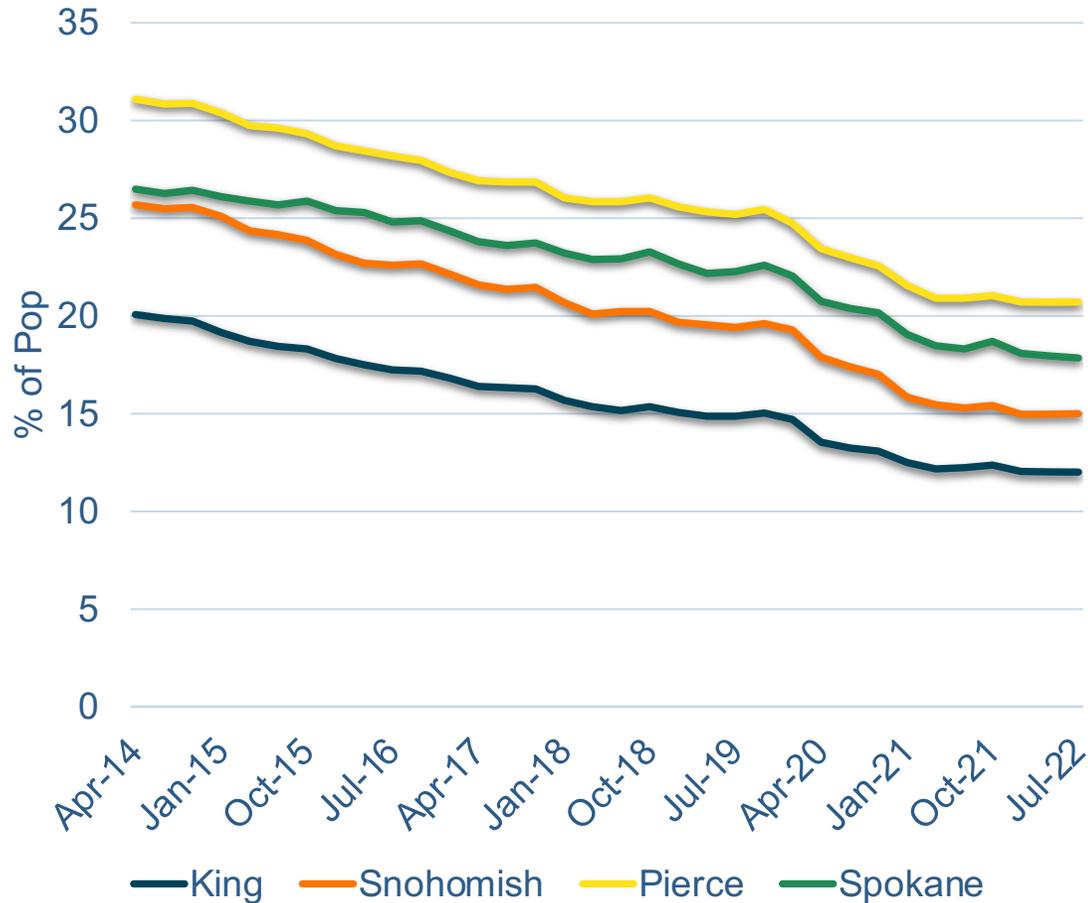


Industry	Washington Avg. Ann. Wages	
	Q1-22	1-Yr % Gr
Total	\$82,306	3.7
Prof/Business	\$142,601	17.5
Admin Svcs.	\$66,332	13.7
Leisure/Hospitality	\$30,655	12.8
Manufacturing	\$93,107	12.8
Mining/NR	\$37,574	8.6
Finance	\$120,001	5.4
Public Admin	\$82,744	4.3
Education/Health	\$61,298	3.2
Construction	\$69,799	1.9
Other Services	\$49,151	-1.1
Information	\$250,973	-6.1
Logistics	\$65,366	-9.8

Household Finances - WA Counties



Subprime Credit Pop.



Weekly Earnings (September)

	Sep-22	16-19	19-22
Seattle-Bellevue-Everett	1461	10.0%	1.3%
Olympia-Tumwater	1244	24.6%	26.0%
Portland-Vancouver-Hillsboro	1223	9.4%	15.7%
Kennewick-Richland	1181	3.9%	10.4%
Spokane-Spokane Valley	1155	18.4%	20.3%
Tacoma-Lakewood	1152	13.9%	12.8%
Bremerton-Silverdale	1108	4.1%	31.1%
Longview	1029	25.7%	11.7%
Yakima	971	3.3%	18.3%
Bellingham	966	10.7%	1.8%
Mount Vernon-Anacortes	935	7.9%	-5.2%
Wenatchee	861	1.7%	23.7%
Walla Walla	835	27.2%	-15.1%

Local LF Dynamics



	Sep-22			Labor Force Growth	
	Labor Force	UR 19	UR 22	3 yr Gr%	10 Yr Gr%
Seattle-Tacoma	2229478	6.0	5.8	2.1%	17.1%
Spokane	287507	3.1	3.3	2.3%	15.7%
Kennewick-Richland	152900	4.5	3.8	2.4%	17.3%
Olympia-Tumwater	145111	4.4	4.0	0.6%	20.4%
Yakima	139224	4.4	3.8	-1.0%	9.8%
Bremerton-Silverdale	128342	4.6	4.4	-0.8%	13.2%
Bellingham	113906	4.1	3.6	-1.2%	13.2%
Wenatchee	68275	4.6	4.0	-2.4%	9.2%
Mount Vernon	62595	3.8	3.3	-2.2%	10.9%
Moses Lake	49634	4.8	4.1	0.2%	6.4%
Longview	48822	4.7	4.2	1.3%	12.3%
Oak Harbor	36427	5.4	4.7	-0.2%	14.0%
Centralia	34811	4.6	4.0	-0.3%	10.7%
Walla Walla	33489	5.3	4.7	2.2%	7.9%
Port Angeles	29439	4.1	3.4	0.9%	5.8%
Aberdeen	28628	5.6	4.7	-1.5%	1.3%
Shelton	24817	5.6	5.4	-1.4%	8.6%

Labor Shortage Solutions

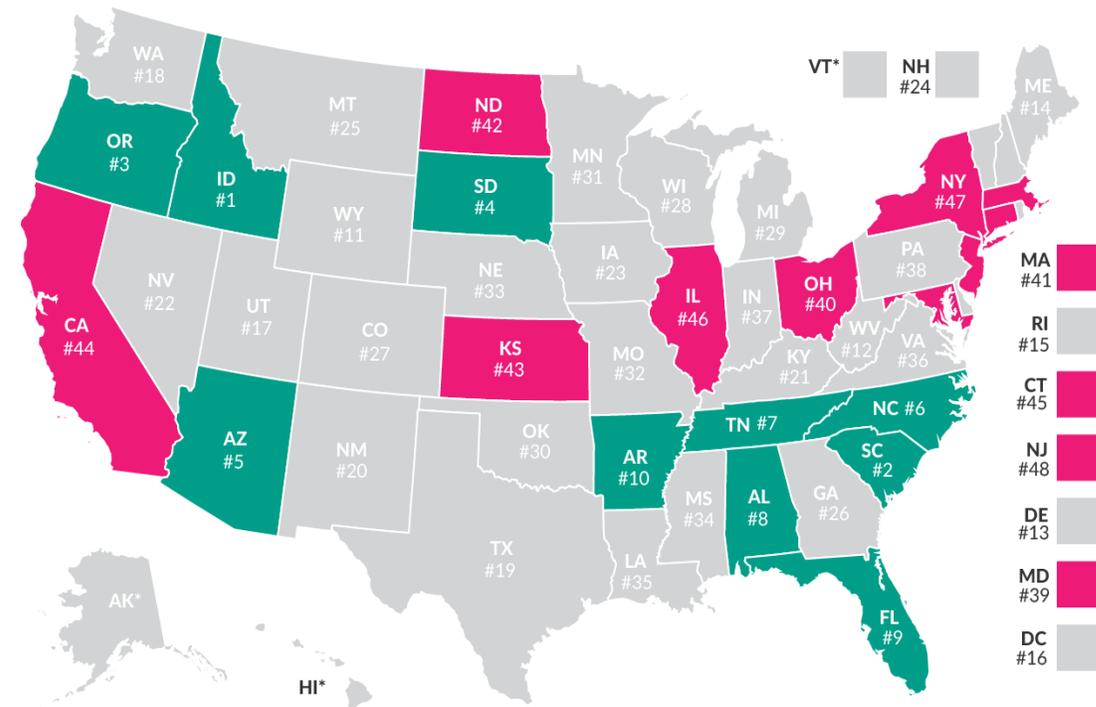


■ Solutions

- Extensive: Increasing labor force through immigration (SR) or birthrates (LR)
- Intensive: Raising participation rates among the existing population
- Productivity enhancements: capital investments / skill training

Where Did Americans Move in 2020?

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



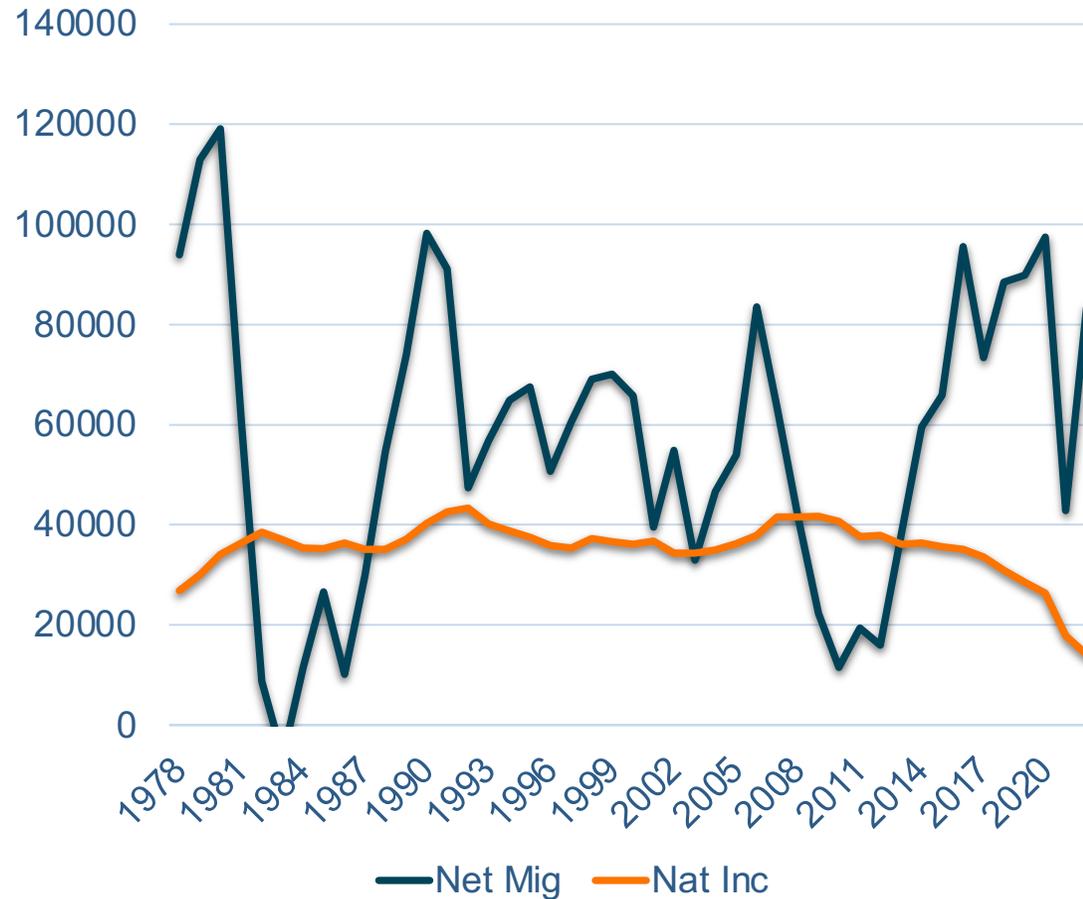
Note: Rankings are determined based on the number of inbound moves as a percentage of total moves in a state. DC is included in state rankings while Vermont is excluded because of its small sample size. Alaska and Hawaii are not included in the study.
Source: United Van Lines, 2020 National Movers Study.

■ Top 10 States for Inbound Migration
■ Top 10 States for Outbound Migration

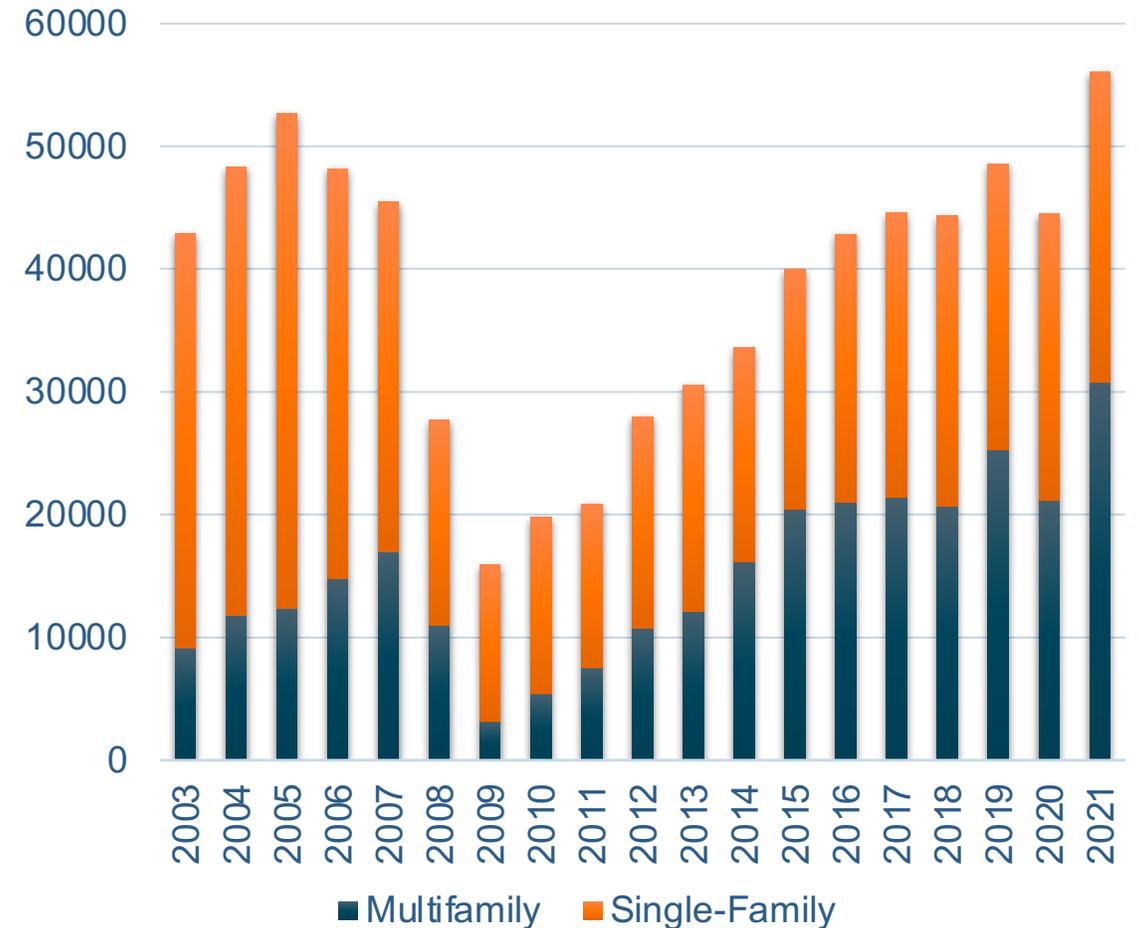
Population and Housing



Components of Population Change



Washington MF and SF Permits



Residential Markets



Existing Home Sales



Case Shiller Home Price Change Monthly



Sticker Shock



**New Home Cost (Annual payment
100% LTV)**



**Case Shiller HPA
July 20 – July 22**

Tampa	64.0%	Los Angeles	37.9%
Phoenix	62.0%	San Francisco	35.1%
Miami	61.4%	New York	34.9%
Dallas	54.2%	Boston	34.6%
Charlotte	49.5%	Portland	33.6%
Las Vegas	49.2%	Cleveland	30.9%
San Diego	49.1%	Detroit	29.4%
Atlanta	45.8%	Chicago	27.4%
Seattle	43.9%	DC	26.0%
Denver	40.3%	Minneapolis	24.6%

New Construction (Smoothed)



Single Family Housing Starts



New Single Family Sales



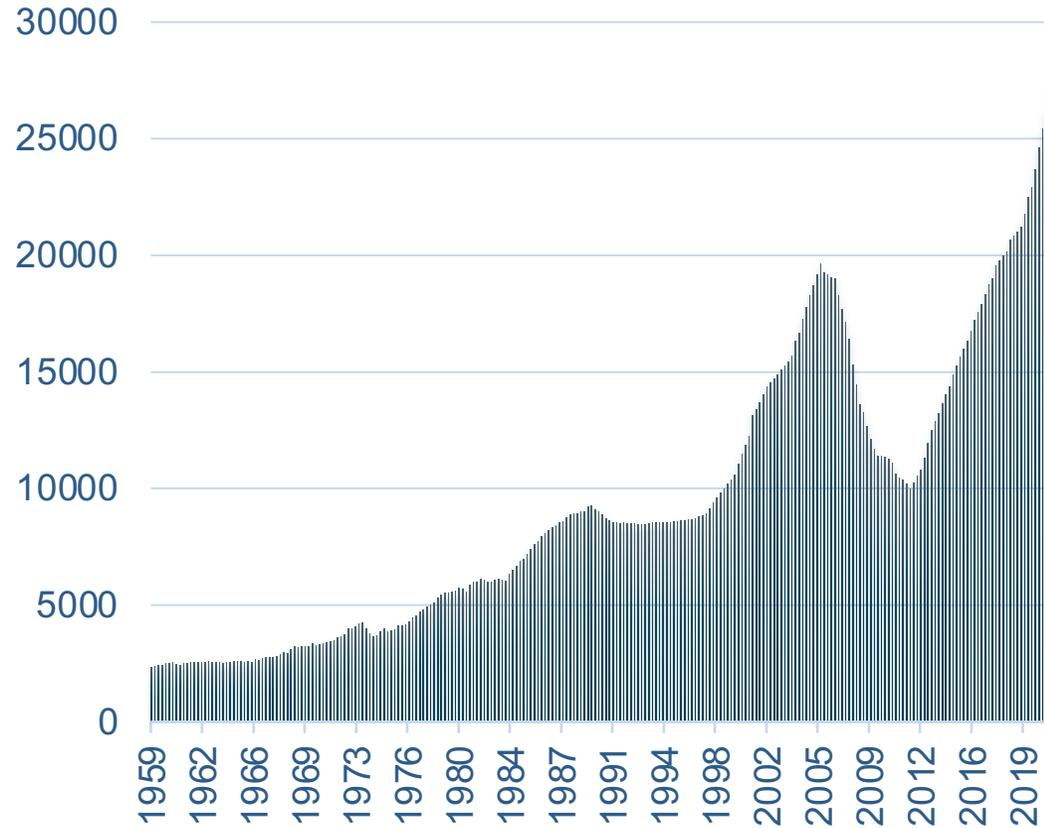
Months Supply New Homes For sale



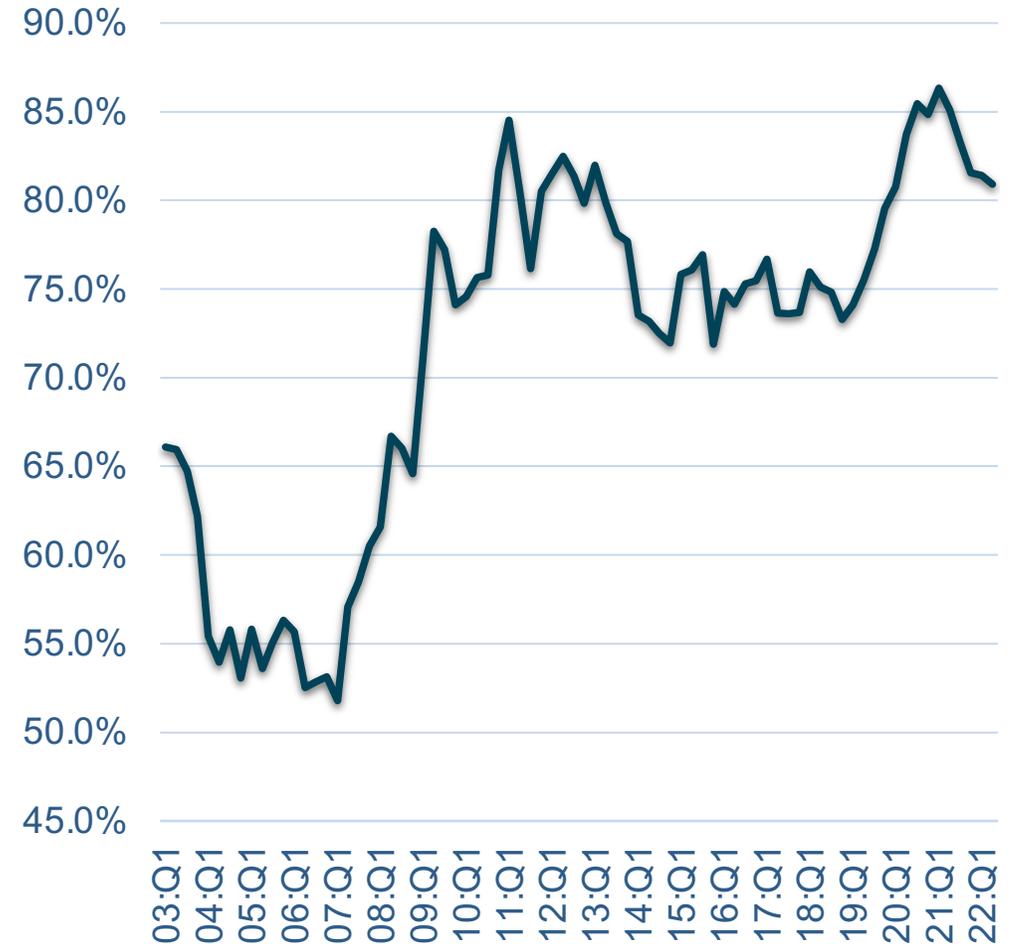
Market Collapse? Not a chance...



Real Equity in US Real Estate (Households, \$Bil 1-4 family)



Share Mortgage Debt > 720 FICO



Tight Inventories



Months Supply of Existing Homes



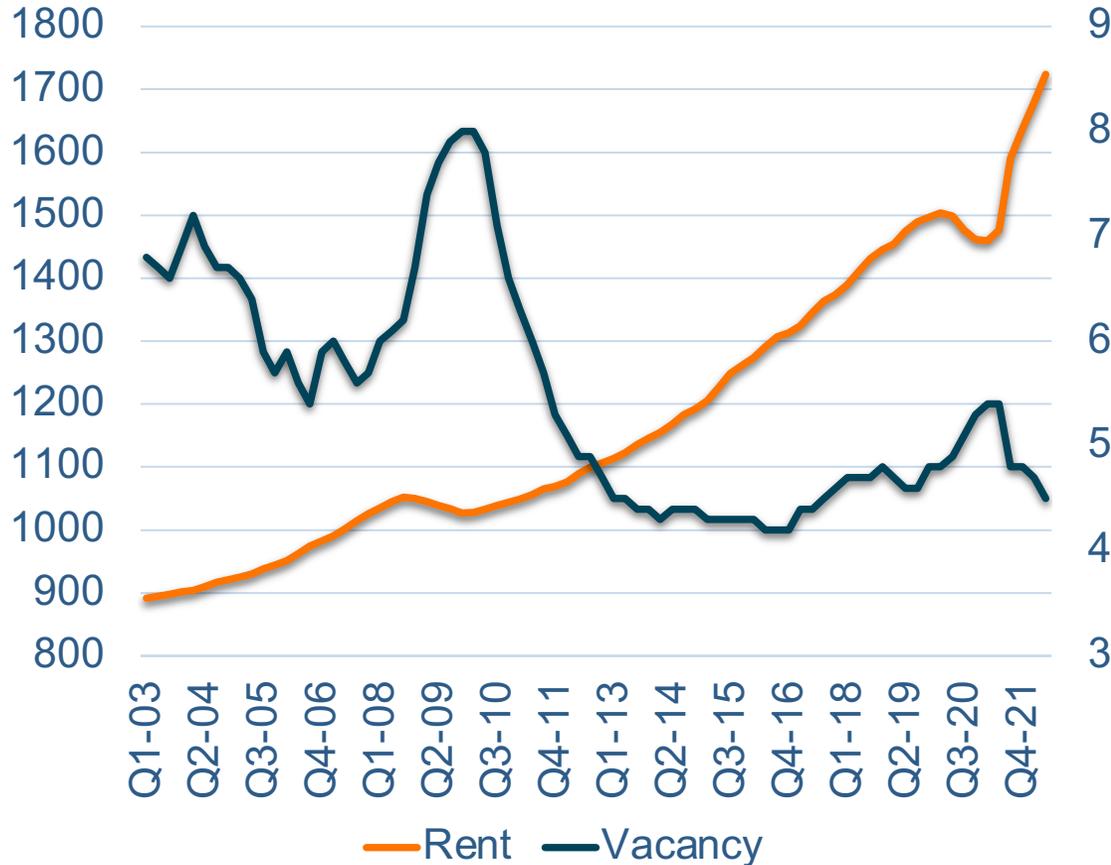
Overall Housing Vacancy

	Northeast	Midwest	South	West
Vacant Year Round 2022	7.6%	7.4%	9.6%	6.6%
For Sale / Rent	2.0%	2.4%	2.7%	2.0%
Vacant Year Round 2012	8.9%	9.9%	12.6%	9.0%
For Sale / Rent	3.3%	4.0%	4.7%	3.5%
Vacant Year Round 2008	8.6%	9.8%	12.3%	8.4%
For Sale / Rent	3.6%	4.9%	5.3%	3.6%

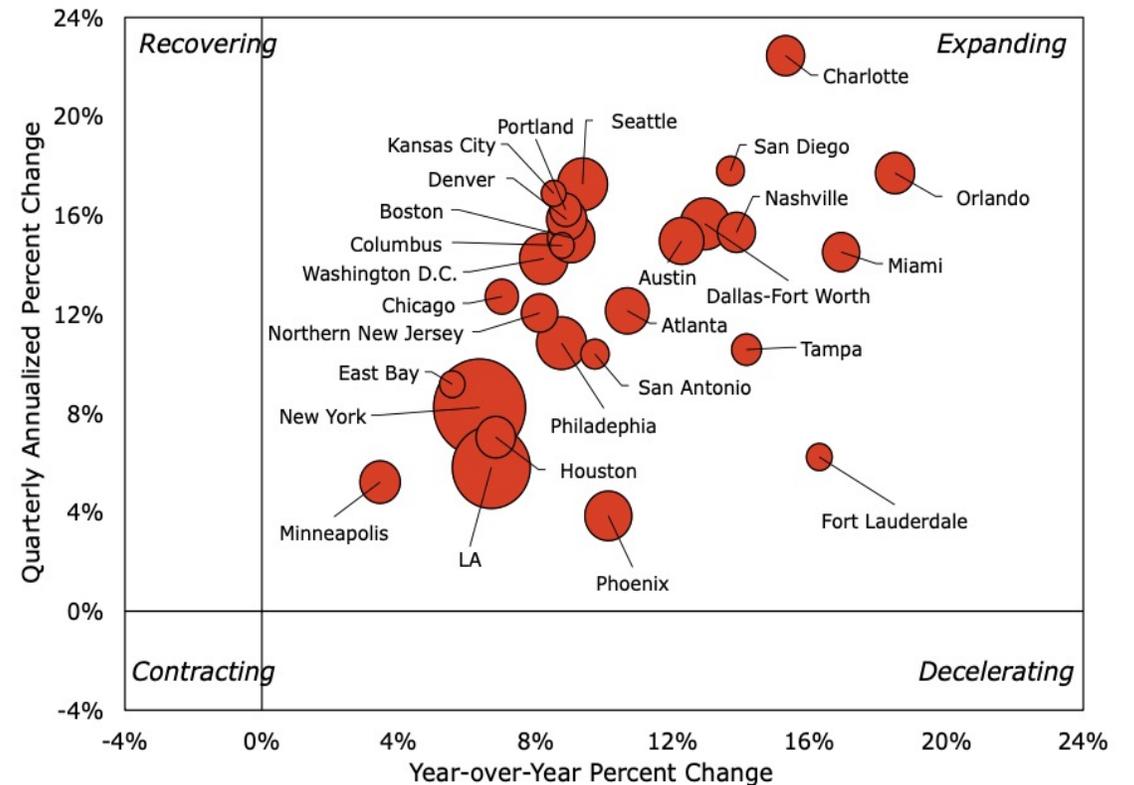
Market Driver: Housing Demand



US Apartment Markets



Apartment Effective Rent Growth: Q2-2022

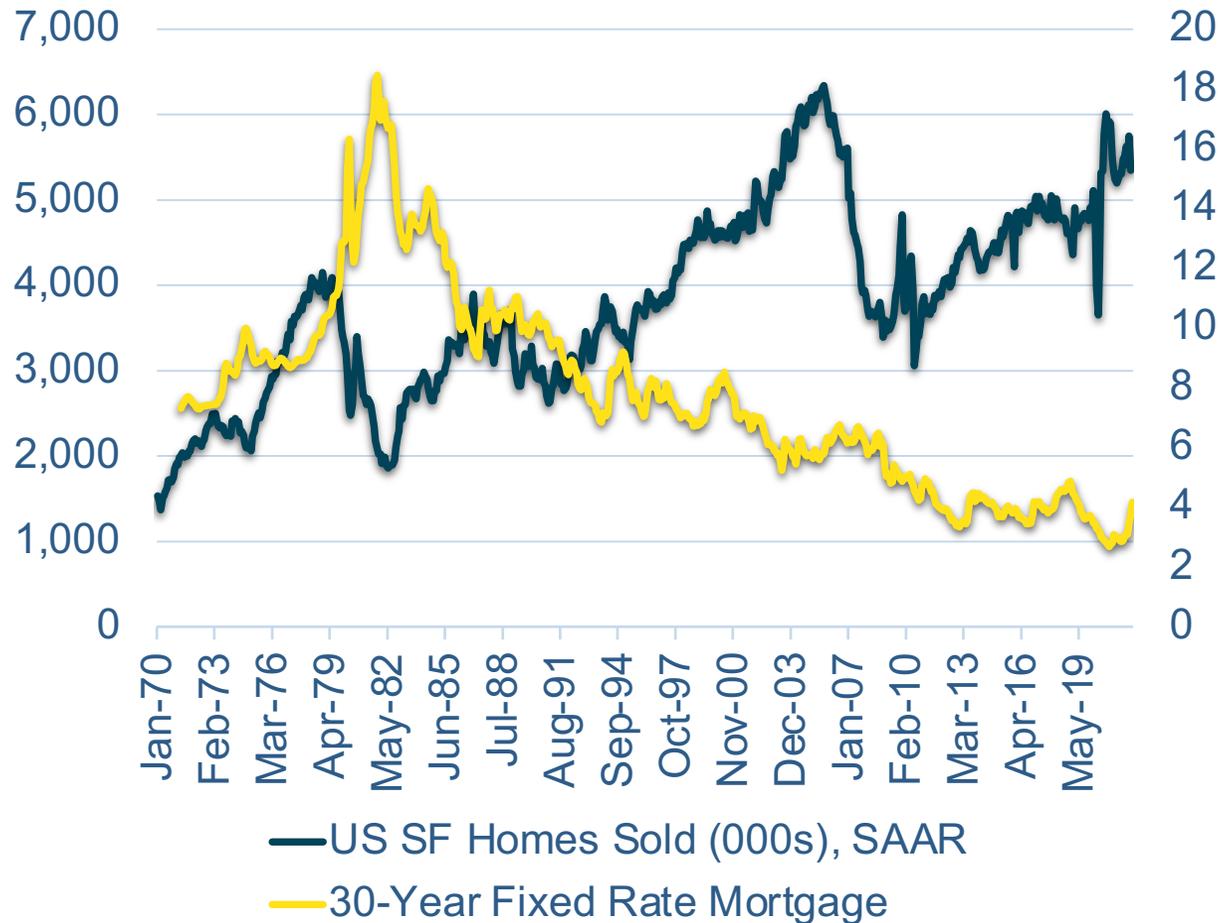


Source: CoStar Inc. and Wells Fargo Economics

The Collapse of Filtering



Home Sales (000s, SAAR) and Rates



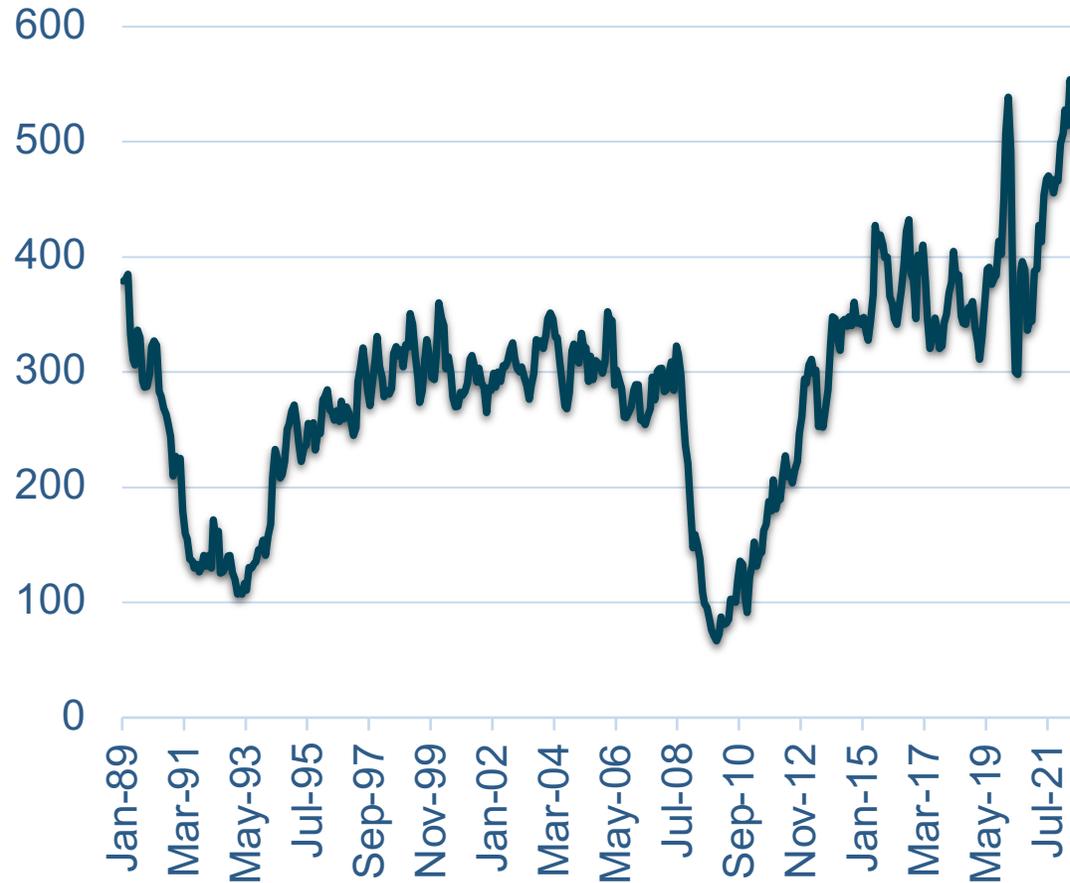
Share Housing Cost Constrained Households

	Owners		Renters	
	2017	2021	2017	2021
United States	20.7%	21.0%	40.4%	41.9%
Miami	31.7%	34.0%	53.0%	54.0%
Las Vegas	23.3%	25.4%	40.5%	49.2%
Los Angeles	33.7%	33.7%	47.9%	49.0%
Denver	19.2%	20.6%	41.0%	43.3%
Philadelphia	20.3%	19.8%	41.9%	42.8%
Dallas	17.8%	21.3%	36.6%	42.5%
Chicago	22.8%	21.7%	40.3%	40.7%
Seattle	21.0%	21.5%	37.7%	39.6%
Indianapolis	13.9%	14.1%	37.4%	36.1%

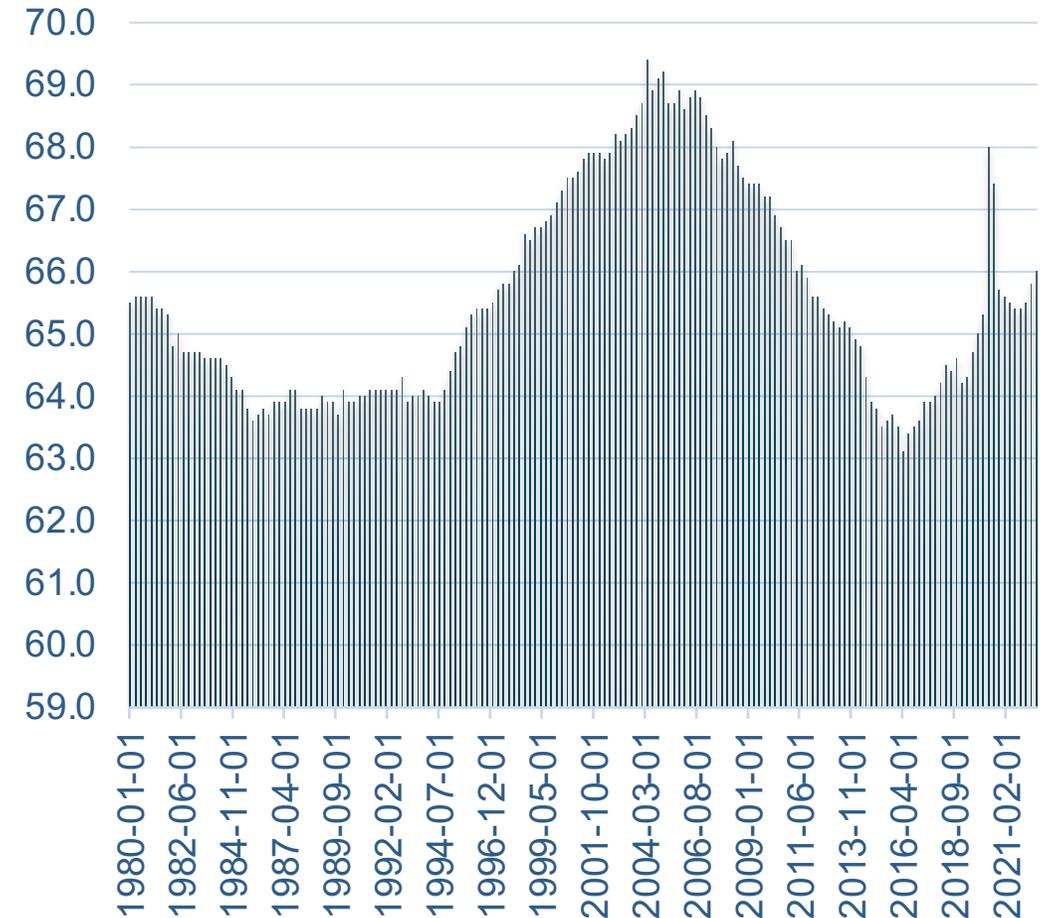
Multi-Family Construction



Starts 5+ Unit Buildings



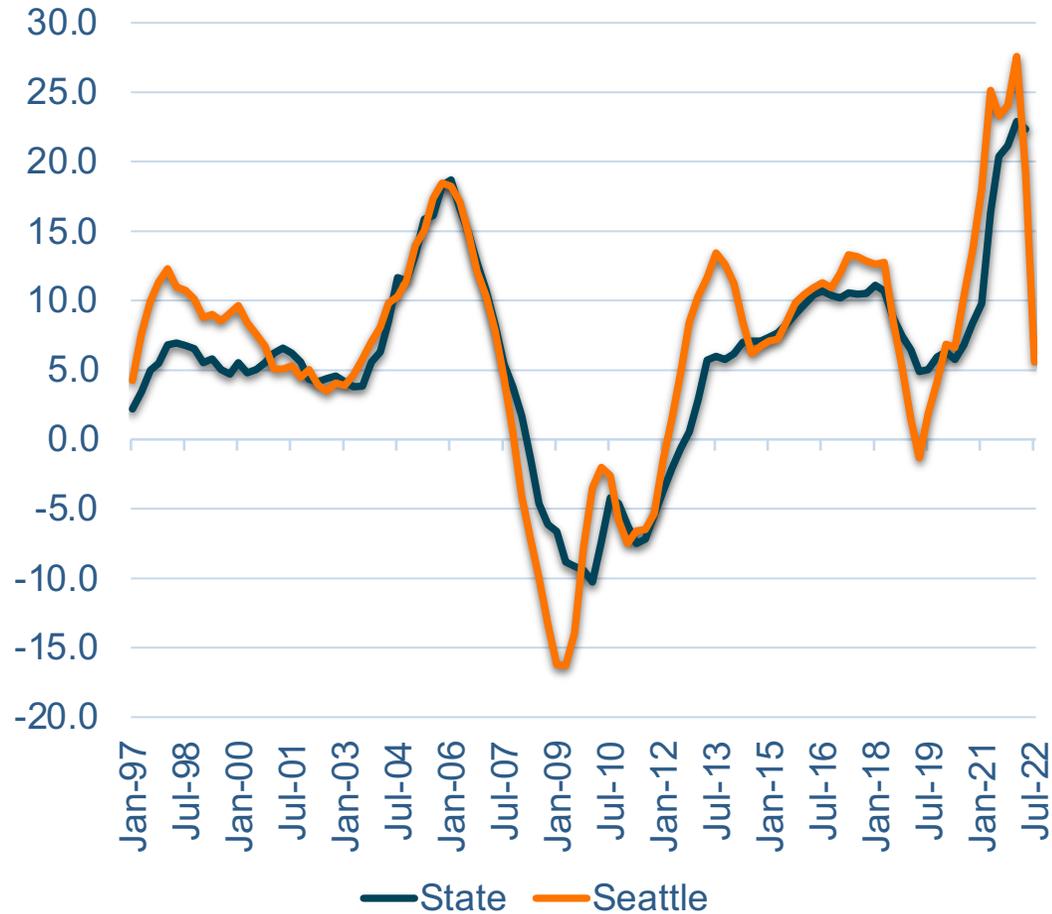
US Homeownership Rate



Local Housing Market



YoY Growth Home Prices

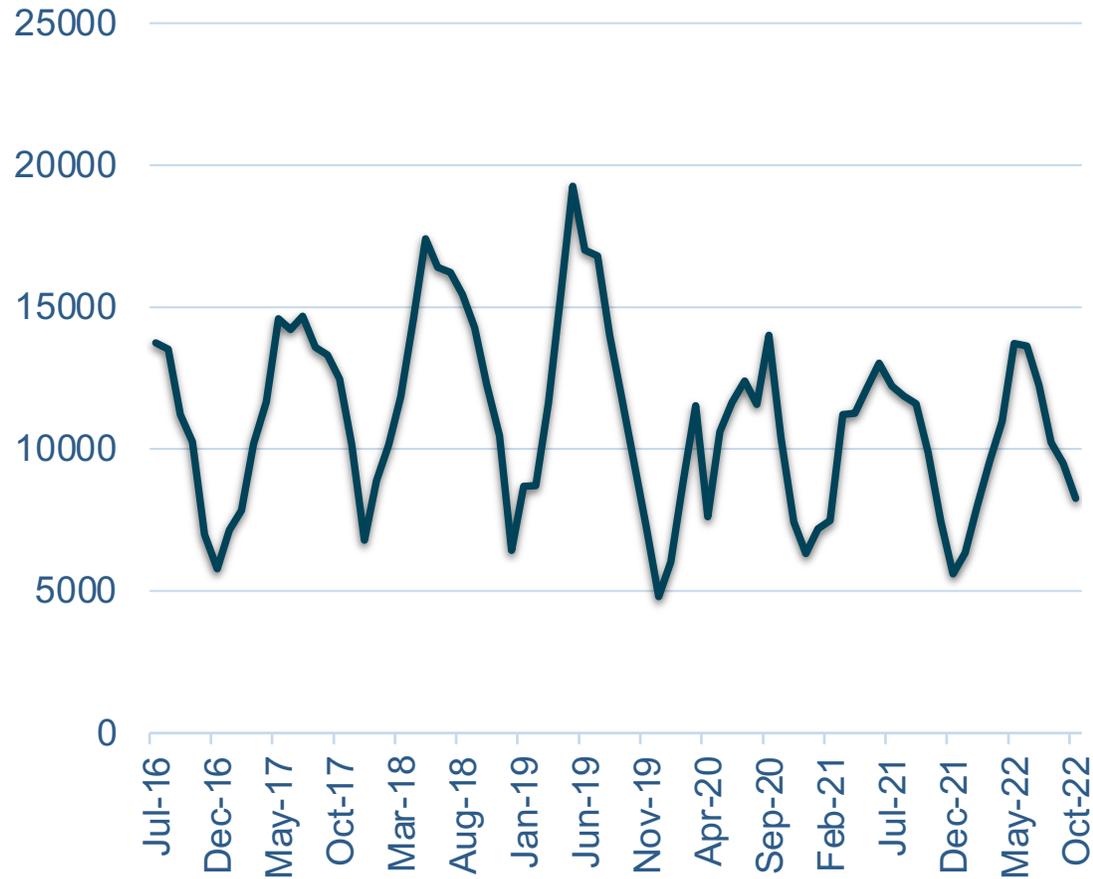


County	Median Prices		Sales	
	Q2-22	1-Yr % Gr	Q2-22	1-Yr % Gr
Spokane	\$425,000	19.7	2,276	-11.3
Snohomish	\$760,000	15.3	3,079	-9.7
Clark	\$530,100	15.2	2,182	-16.2
Pierce	\$550,000	12.2	4,027	-13.9
King	\$962,000	11.9	7,048	-20.2

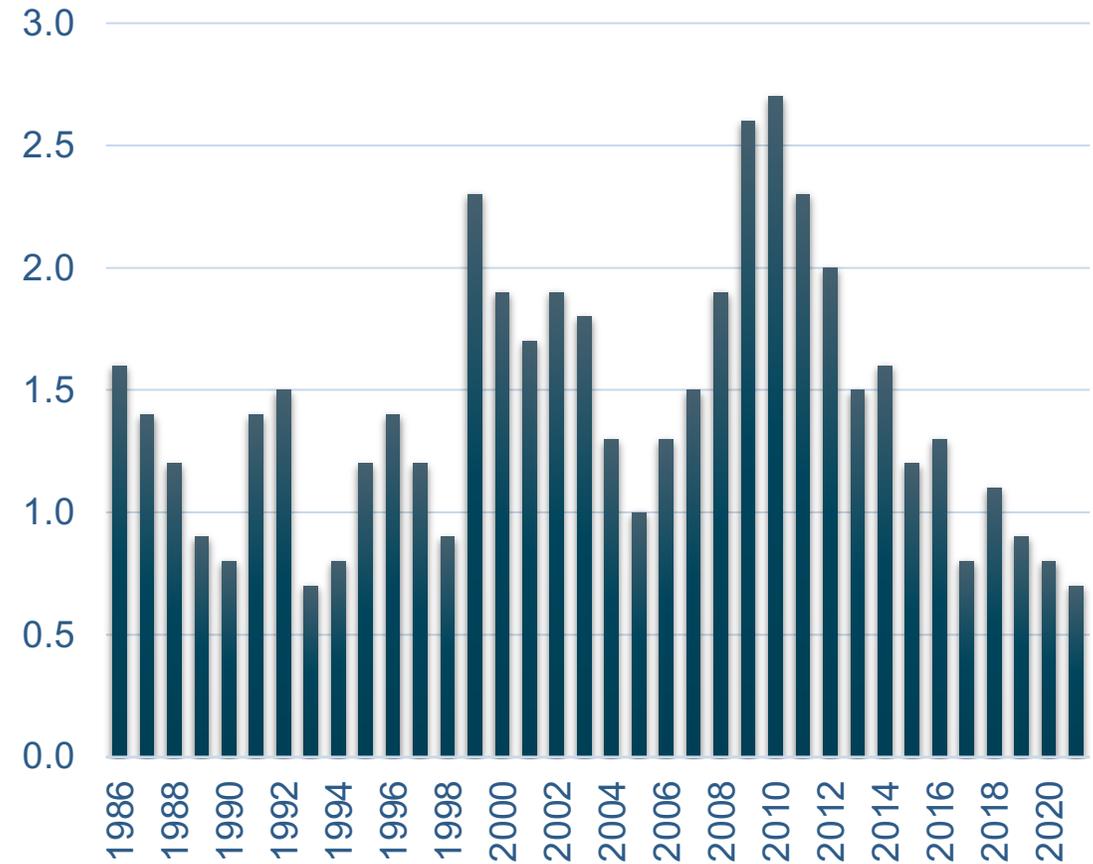
Tight Supply



Active Listings Washington State



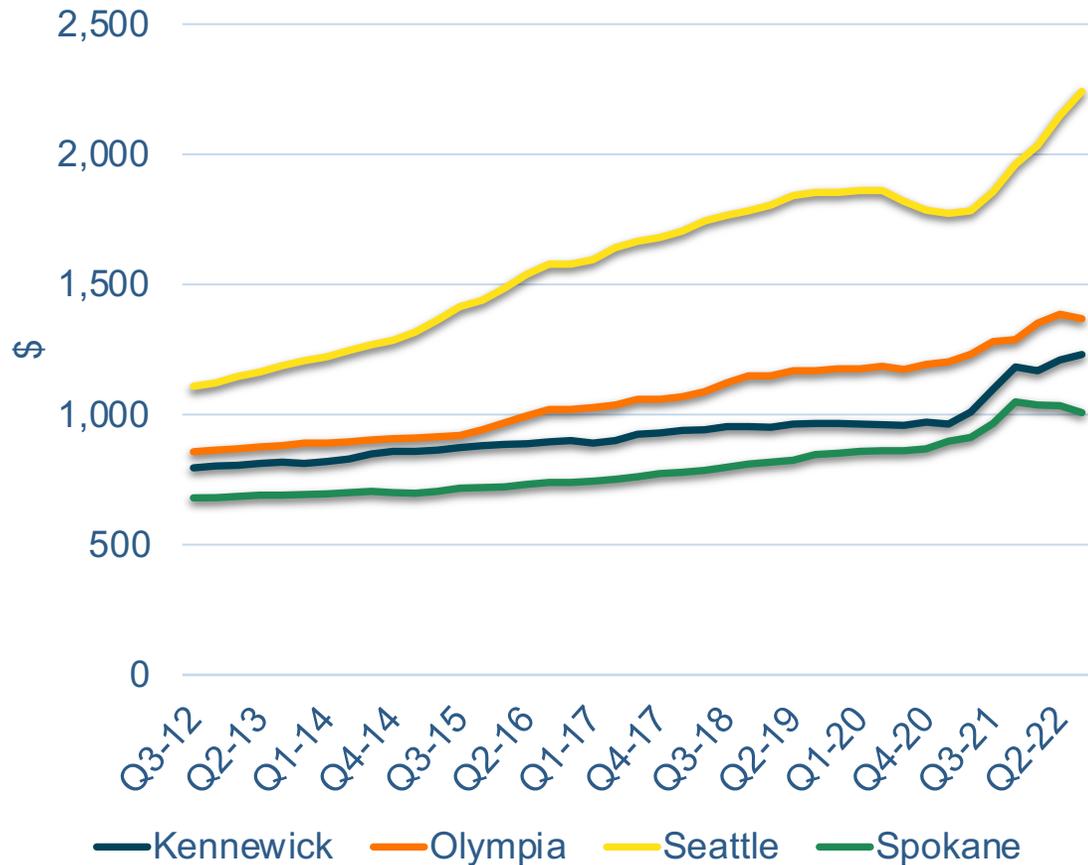
Housing Vacancy Rate Washington State



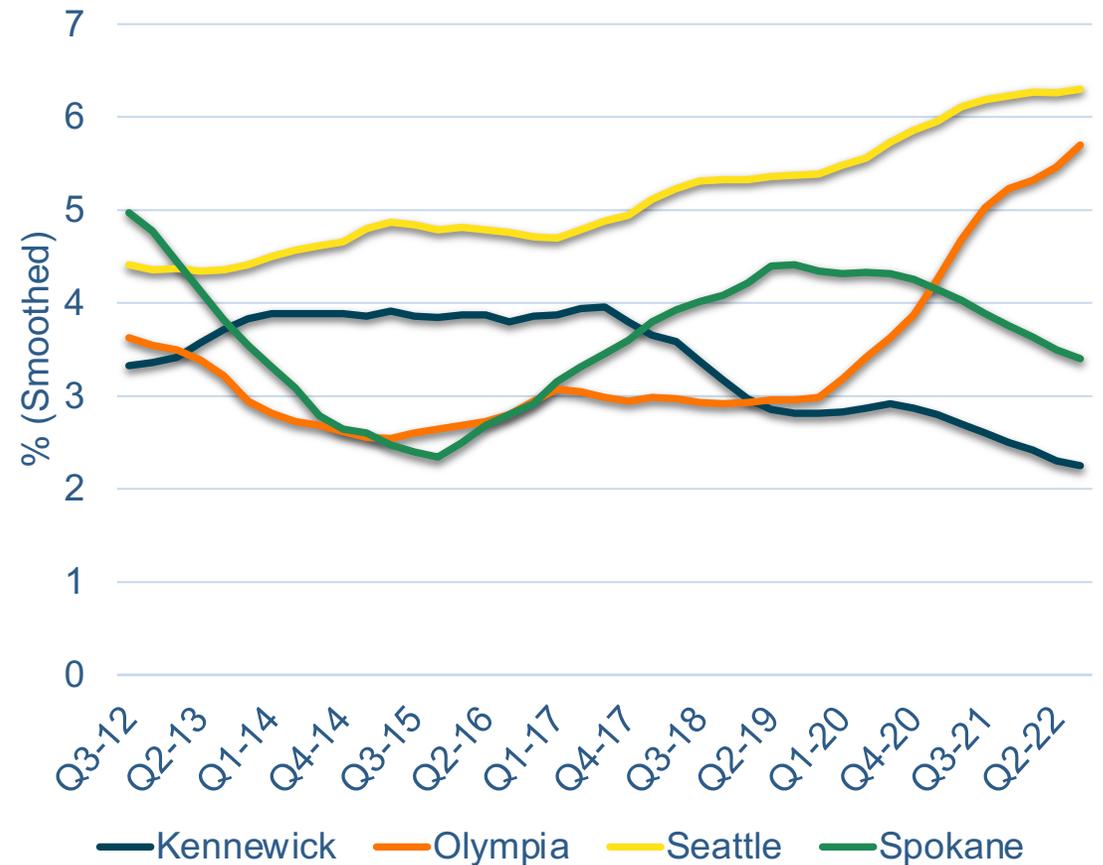
Apartments – Washington CBSAs



Cost of Rent



Vacancy Rates



Housing Market Fundamentals

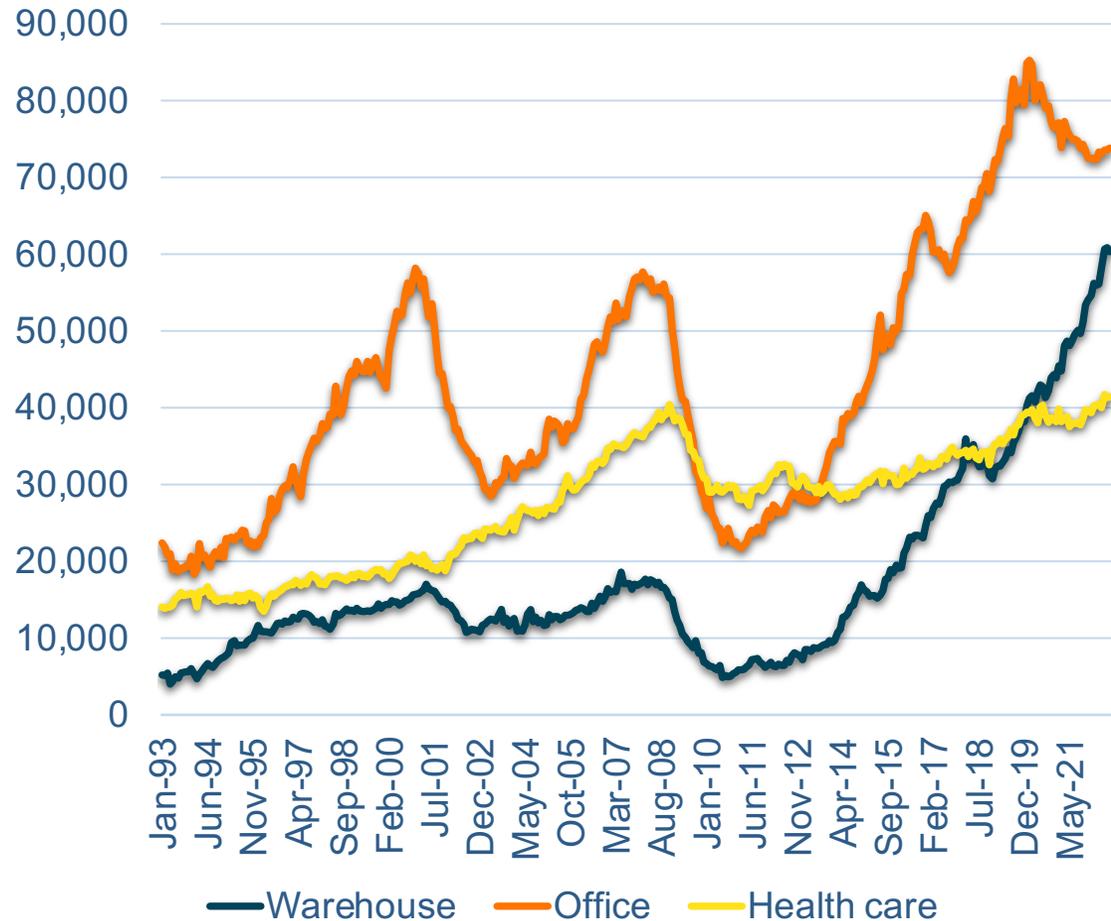


	Stock		Vacancy		Owners		Renters	
	Total housing units	5 Yr Gr	Vac	Ch 5 Yr	% Burdened	5 Yr Ch	% Burdened	5 Yr Ch
United States	142148050	4.7%	10.3%	-2.1%	21.0%	-0.3%	41.9%	1.2%
Washington	3257140	7.6%	7.2%	-1.3%	21.3%	0.0%	40.0%	1.9%
King County	985324	8.3%	6.1%	0.7%	21.2%	1.1%	38.6%	3.1%
Pierce County	365299	7.9%	4.8%	-1.4%	22.6%	0.7%	40.8%	-0.1%
Snohomish County	328346	8.2%	4.9%	-0.8%	20.8%	-0.2%	42.2%	3.8%
Spokane County	227895	8.2%	4.4%	-2.6%	18.0%	-3.6%	42.2%	1.0%
Clark County	201102	13.1%	3.6%	-0.8%	19.4%	-0.8%	43.1%	5.7%
Thurston County	123035	8.6%	4.8%	-1.8%	20.0%	0.9%	44.3%	-2.5%
Kitsap County	114777	4.0%	7.3%	-0.3%	19.5%	-3.0%	44.1%	8.6%
Whatcom County	101865	8.1%	9.5%	-1.3%	28.1%	1.6%	44.7%	-0.2%
Yakima County	91355	5.3%	4.8%	-1.7%	20.5%	0.3%	31.9%	-1.0%
Benton County	81777	10.6%	6.0%	1.2%	15.5%	-6.1%	38.1%	3.2%
Skagit County	56411	7.4%	7.9%	-3.7%	24.7%	-0.4%	45.6%	7.0%
Cowlitz County	45858	5.1%	5.8%	-2.1%	17.3%	-1.9%	35.4%	-5.1%
Island County	42471	3.5%	15.3%	-3.4%	25.5%	3.2%	46.5%	8.8%

Non-Residential Markets



Construction Spending



Date	Change from 2019	Aug-22p
Total Private Construction	40.5%	1425963
Residential	70.6%	912913
Nonresidential	6.4%	513051
Commercial	32.0%	108870
Power	6.3%	98013
Manufacturing	21.2%	96649
Office	0.8%	73784
Health care	16.2%	41386
Communication	4.5%	24332
Total Public Construction	7.0%	355314
Highway and street	4.2%	101969
Education	-4.5%	77633
Transportation	7.1%	40610
Sewage and waste disposal	25.0%	31931
Public Water supply	37.4%	23723

Nonresidential Rents and Vacancies



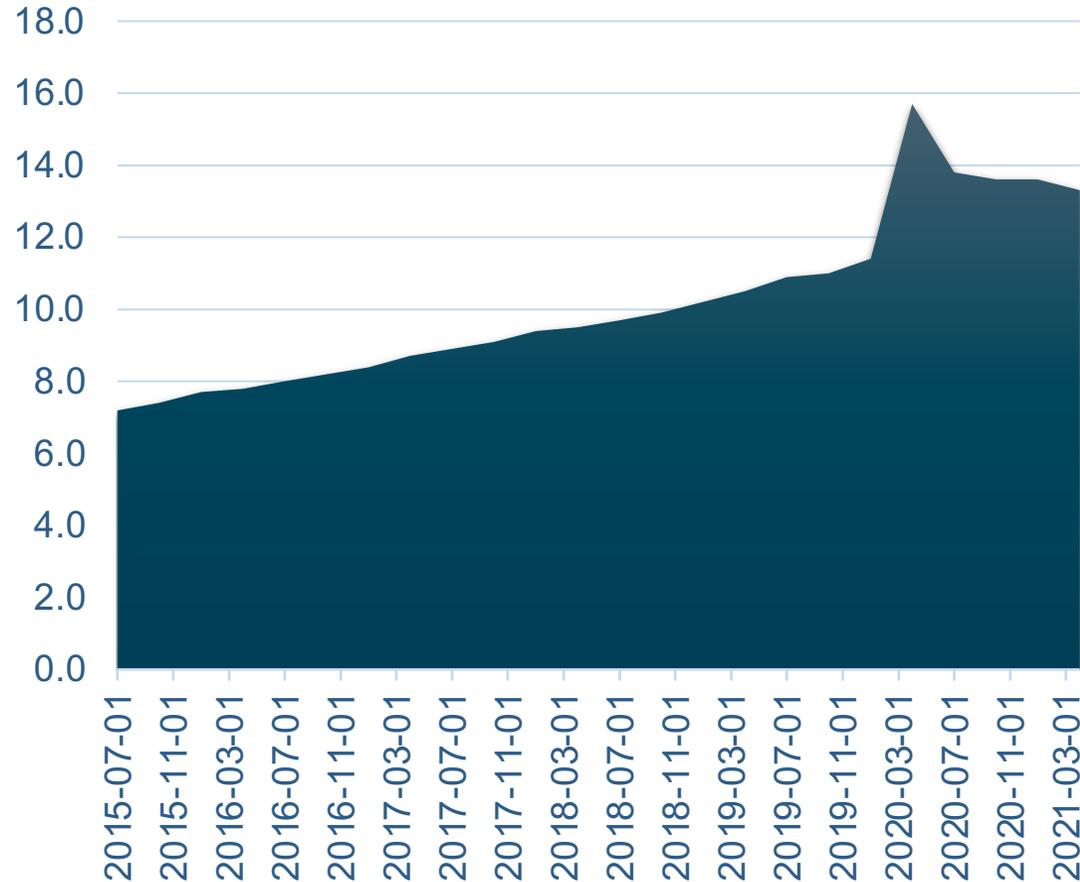
Office	Cost of Rent		Vacancy Rates	
	Q2-22 (\$)	1-Year % Growth	Q2-22 (%)	1-Year Difference
Spokane	18.7	3.6	17.4	-3.9
Seattle	41.9	3.0	14.9	0.9
Bellingham	16.5	2.6	12.3	-1.9
Kennewick	16.6	0.5	19.1	-0.9
Bremerton	17.5	-0.6	20.8	-1.2
Olympia	17.0	-2.0	13.2	-2.3

Retail				
Olympia	18.4	2.3	14.8	-2.0
Bellingham	16.3	2.1	7.2	-2.7
Kennewick	14.1	1.4	15.4	-1.2
Seattle	26.6	0.0	5.4	-0.9
Bremerton	15.3	-0.8	20.9	-2.3
Spokane	16.7	-1.0	10.5	-0.9

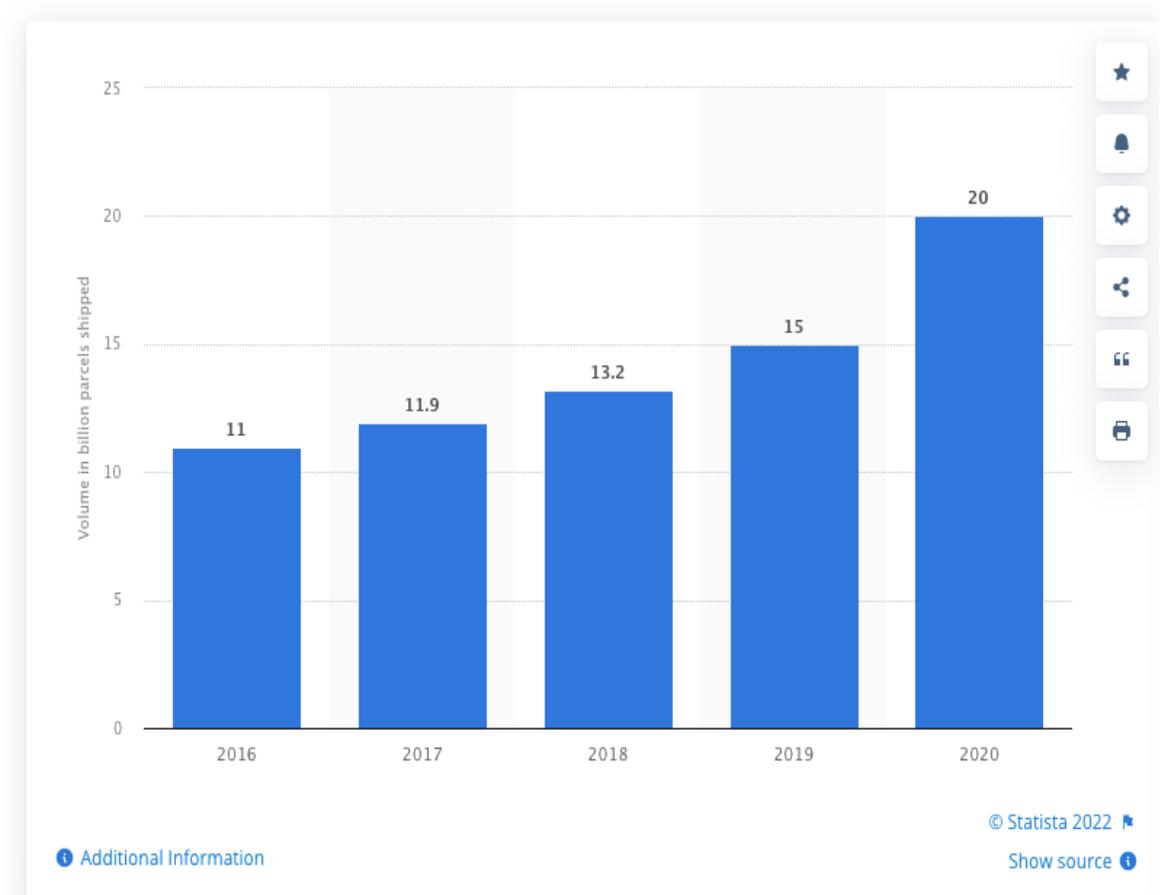
Retail / Industrial Supply Chains



E-Commerce Share of Retail



Pitney Bowes US Package Delivery





US

21.6bn parcels
in 2021



- Up from **20bn** in 2020
- Up **7%** year over year



683
parcels per second



59m
parcels per day

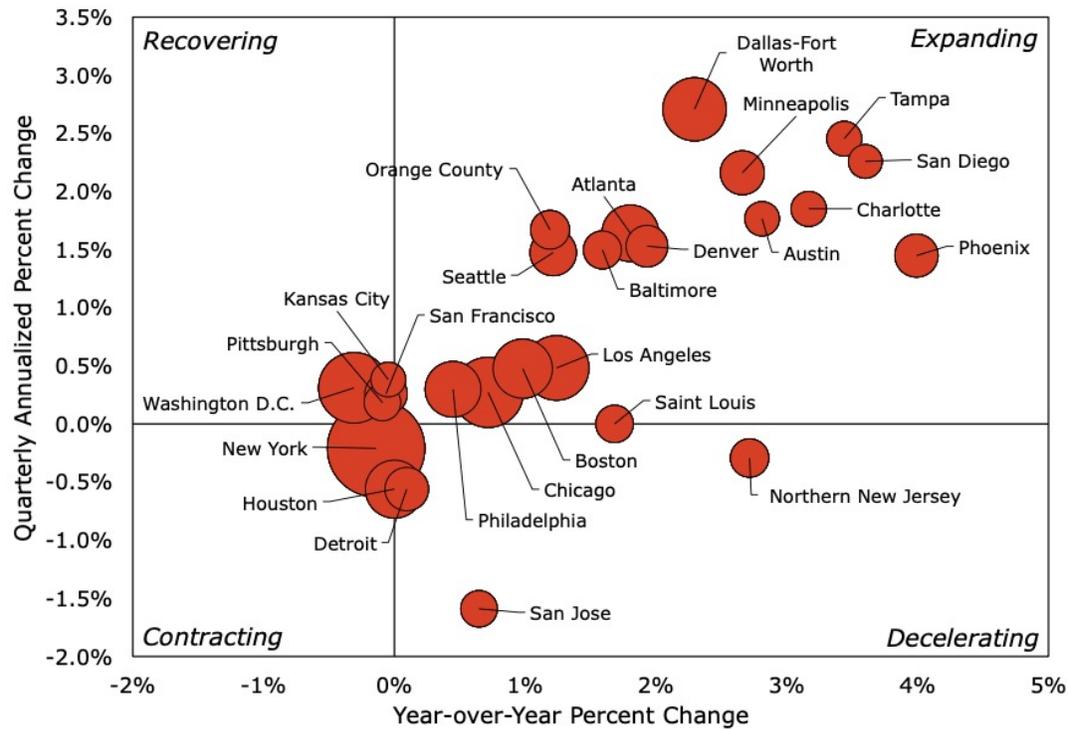


65
parcels per person
166 parcels per household

Work-from-home Trends

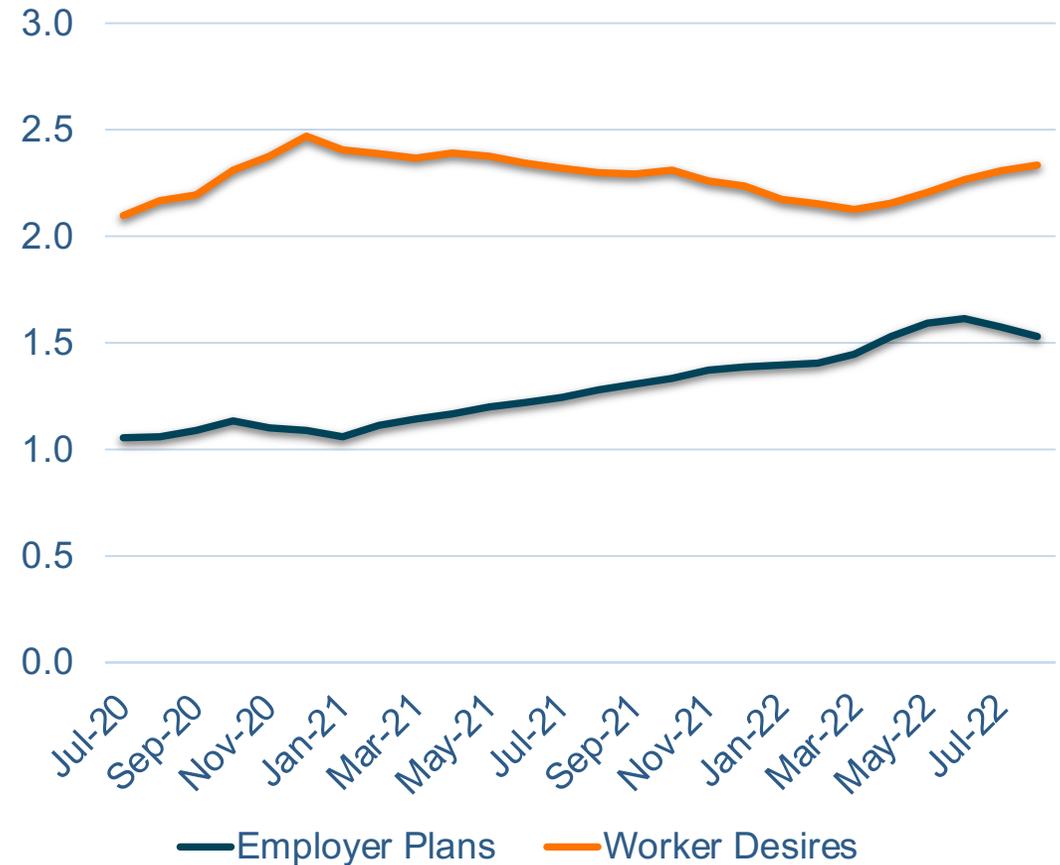


Office Asking Rent Growth: Q2-2022



Source: CoStar Inc. and Wells Fargo Economics

WFH: Employer Plans vs Worker Desires



A bumpy path ahead...



- **The Outlook: Expansion to Continue**

- Wealth and income will drive consumer spending
- Asset values to fall, liquidity drying up
- Construction to go cold
- Underlying asset quality to remain strong
- Inflation will continue to be hot
- Economy is brittle—small shocks can have big consequences

- **Washington State**

- Economy back to growth
- National economic drivers broadly positive for local economy
- Labor shortage issues will remain, albeit less so than for many other places
- Revenues will be less of a problem than expenses for local / state government
- Multifamily can support housing markets

- **Potential Scenarios**

- What will the Fed do? Raise it til they break it?
- Wild cards: Long run fiscal situation, US terms of trade
- Global situation: China is swooning
- Gap between economic reality and political narratives still dangerously wide



Thank You

To request a copy of this presentation, or for more info about Beacon Economics, please scan this QR code:



Chris@BeaconEcon.com | beaconecon.com