



Economic Realities, Social Narratives, and the Outlook for Public Revenues

November 2023

Christopher Thornberg, PhD
Founding Partner, Beacon Economics



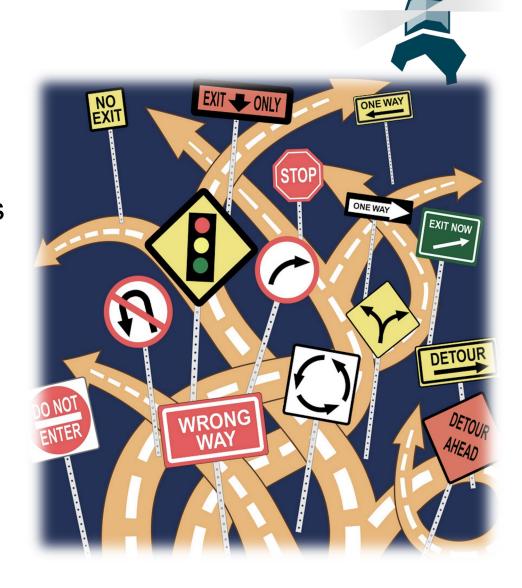
Overview

Part 1: How we got here

- —The curious case of the non-recession
- —Social Narratives vs Economic Realities
- —The issue of labor shortages

Part 2: The Outlook

- —Private strength, public stressors
- —The Fed's quixotic mission
- —A Federal government debt spiral
- —State and Local finances

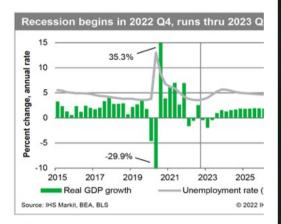


The 2023 US Outlook

US Fed meeting decision today: PIMCO warns

market is underestima

rate hikes



Housing is in a double-dip First American says

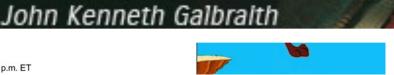
By Thomas Barrabi

By Brad Finkelstein September 18, 2023, 3:29 p.m. EDT 3 Min Read

Larry Summers w

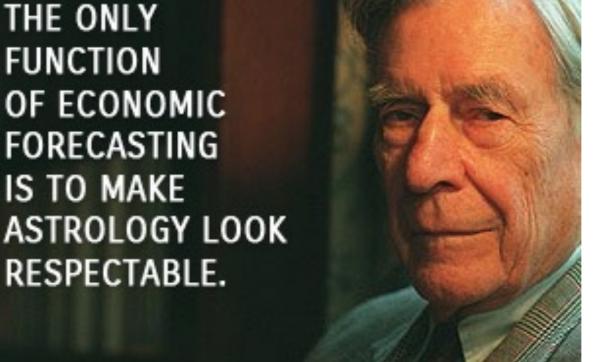
could face 'Wile E

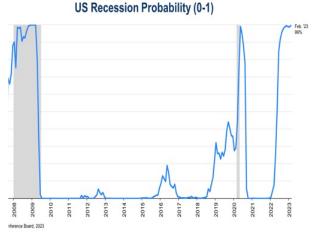
Published March 7, 2023 | Updated March 7, 2023, 12:20 p.m. ET



Opinion: The US economy will likely enter a

roccesion coon





nce of a global recession,

ing market just slid into a fullrrection, says top economist

Mark Zandi

BY LANCE LAMBERT

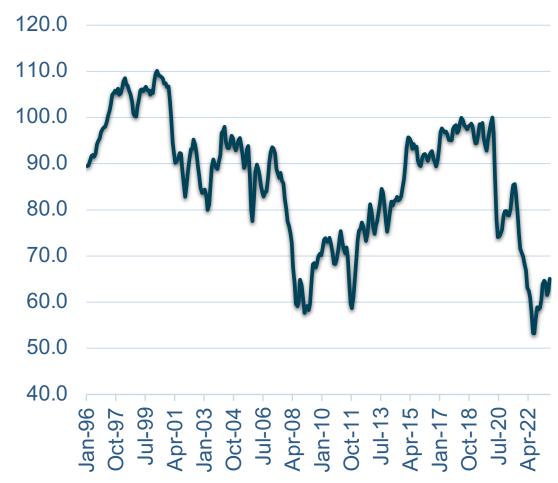
The Big News Stories of 22-23





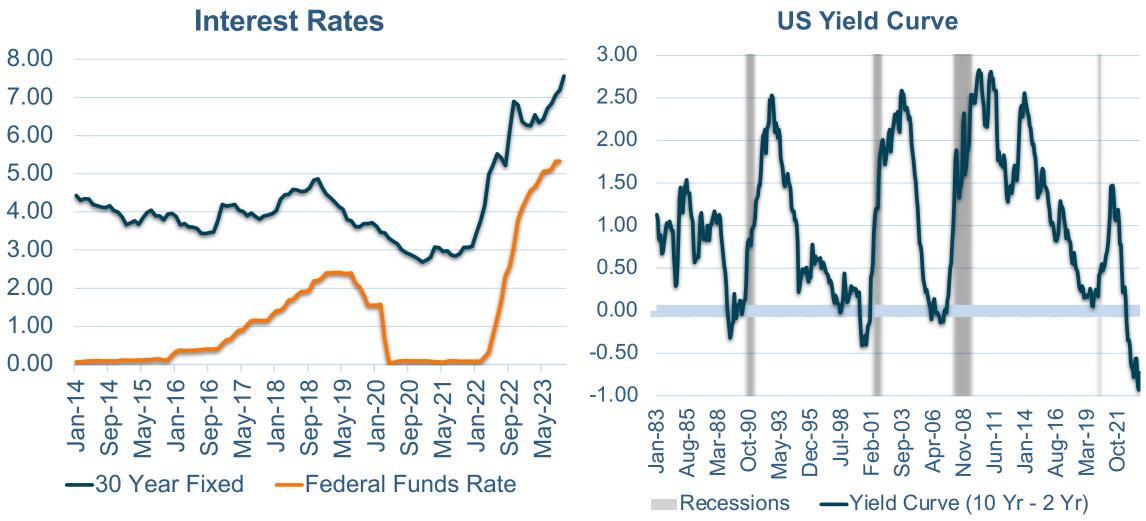


Consumer "Confidence"



The Inverted Yield Curve

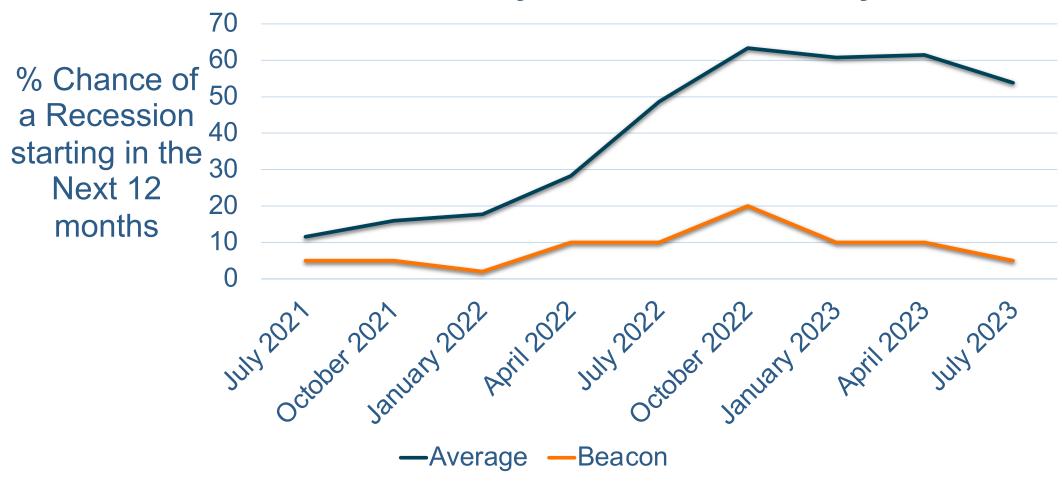




Beacon's Outlook: No Recession



WSJ Economic Survey Recession Probability



GDP Growth: Accelerating

US Real Growth in Final Demand



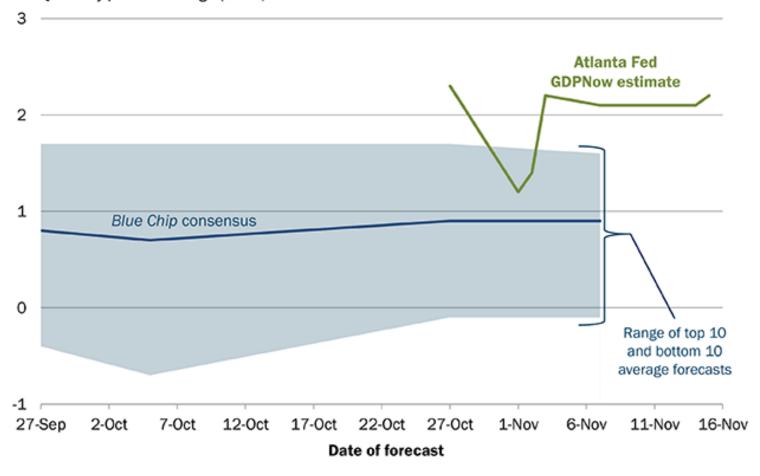
Annual Avg Contributions to Real Growt

	2021	2022	2023
GDP	5.43	0.68	3.07
Final Demand	5.42	0.77	3.19
Personal consumption	4.76	0.78	1.93
Goods	1.48	-0.15	0.78
Services	3.28	0.93	1.15
Fixed investment	0.69	-0.15	0.53
Structures	-0.03	0.03	0.43
Equipment	0.10	0.26	-0.01
IPP	0.60	0.43	0.16
Residential	0.02	-0.87	-0.05
Net exports	-0.82	0.20	0.18
Exports	0.71	0.52	0.12
Imports	-1.53	-0.32	0.07
Government	-0.02	0.13	0.73
Federal	0.05	-0.02	0.26
State and local	-0.06	0.15	0.46



Evolution of Atlanta Fed GDPNow real GDP estimate for 2023: Q4

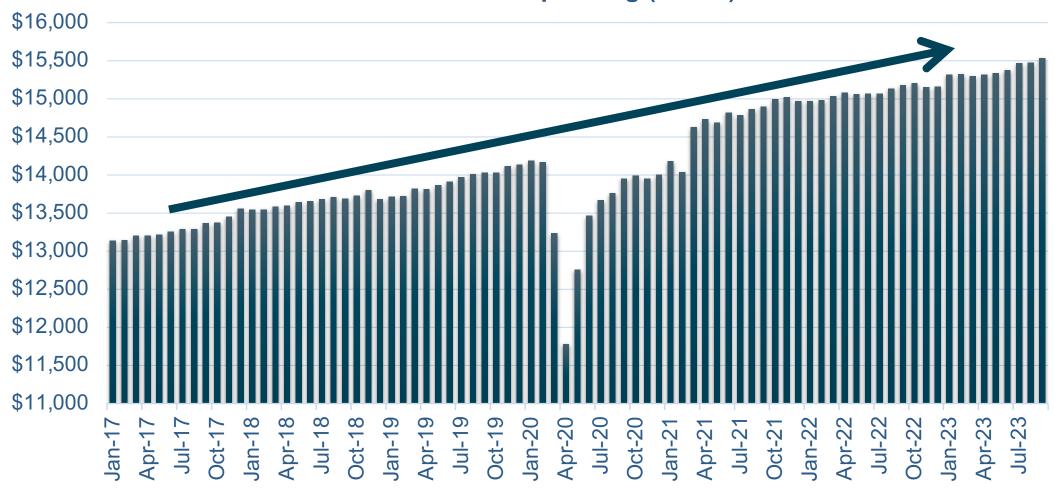
Quarterly percent change (SAAR)



The Mighty American Consumer



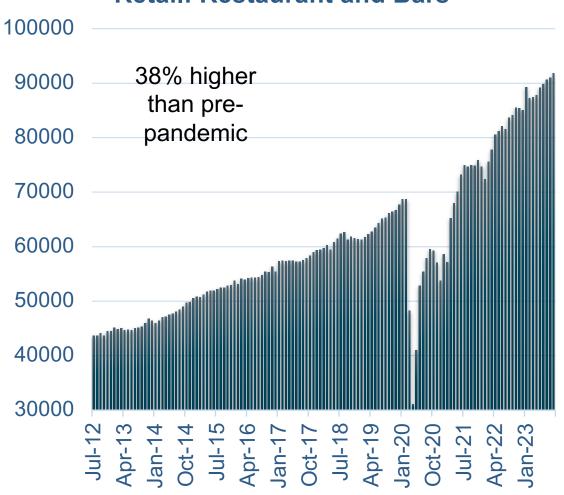
Real Consumer Spending (SAAR)



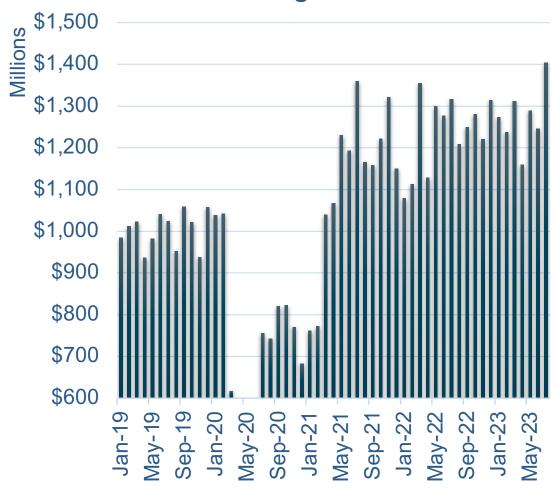
Americans: having fun!







Nevada Gaming Revenues



Travel and Recreation!



Real Spending on Travel



Growth in Real Spending Q3 19- Q3 23

Recreational goods / vehicles	67.5%
Furnishings and Appliances	19.6%
Clothing and footwear	19.2%
Motor vehicles and parts	10.8%
Food services / accommodations	9.7%
Health care	9.5%
Grocery etc	7.0%
Housing and utilities	6.8%
Recreation services	2.6%
Financial services and insurance	2.1%
Transportation services	1.0%
Gasoline other energy goods	-2.6%

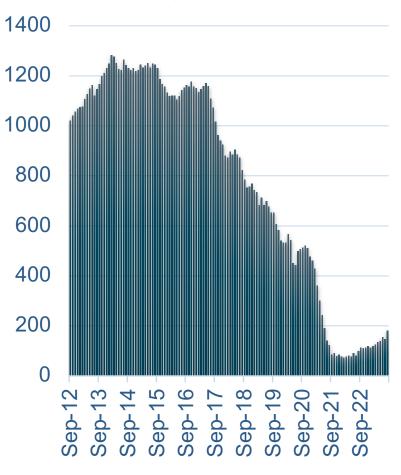
The Auto Sector: Still Catching Up







Domestic Auto Inventories



Price Indexes for New and Used Vehicles



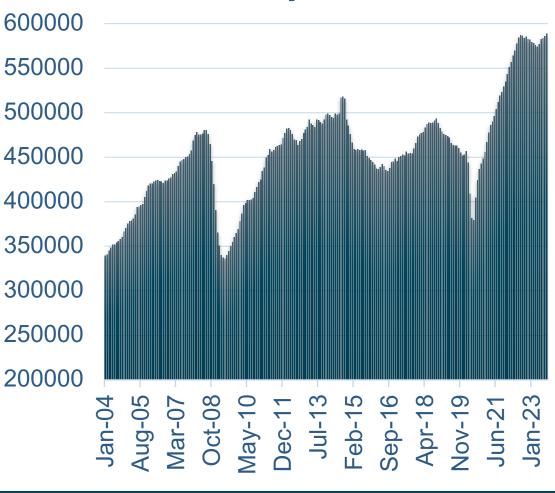
Production Up





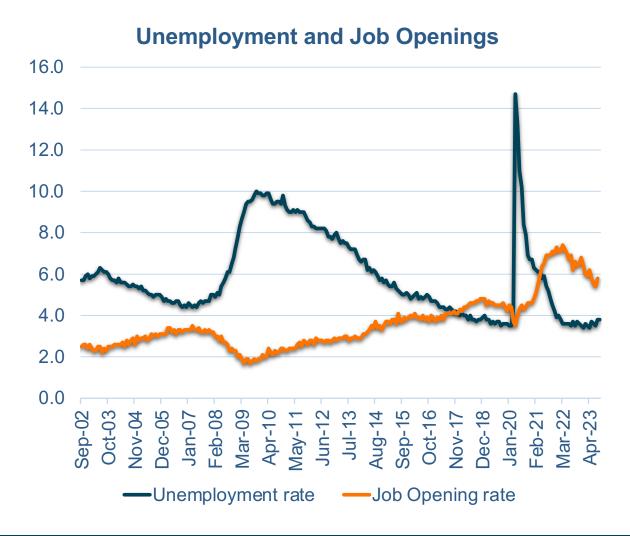


US Factory Orders



Labor Markets Remain Tight, Wages Up

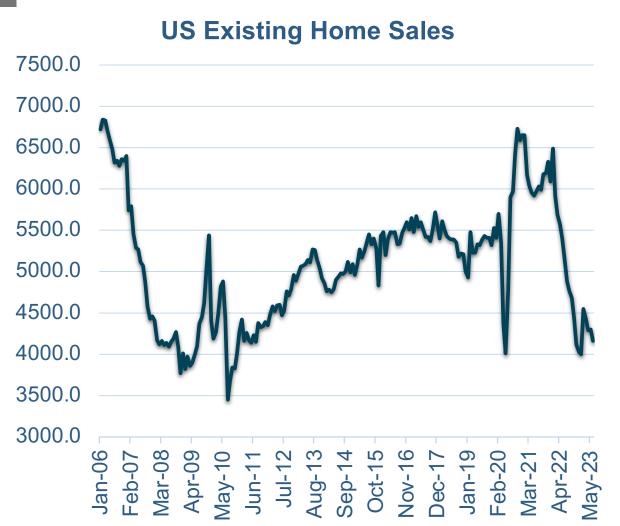


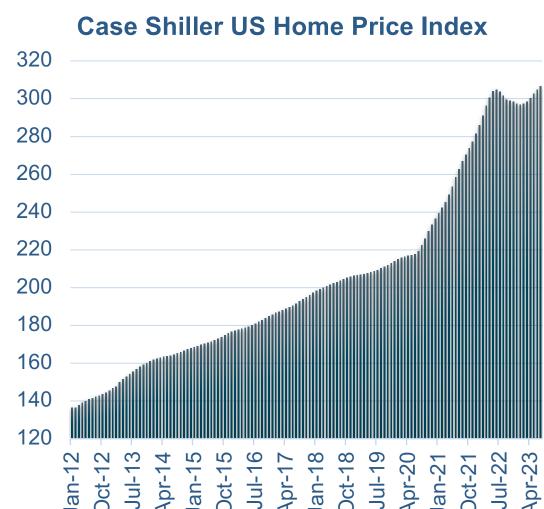




Housing: Sales down, yet home prices are rising...







Non-Residential Construction



Total Spending by Sector (\$Millions)

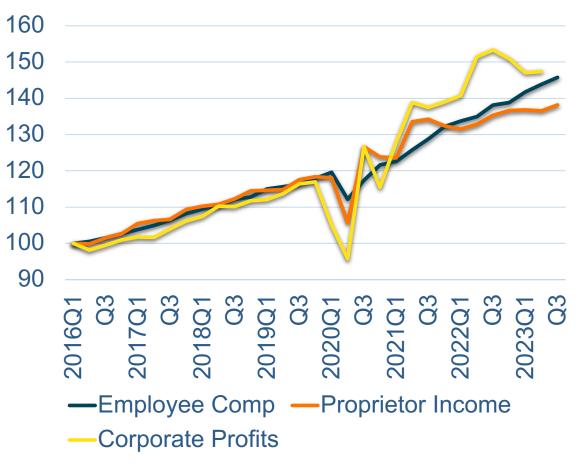


		5 Yr Avg	
	2023*	Gr	
Private			
Manufacturing	198,237	22.5%	
Commercial	127,073	8.9%	
Power	103,488	1.9%	
Office	84,241	4.7%	
Health care	49,136	7.7%	
Communication	24,515	0.2%	
Lodging	24,228	-4.5%	
Educational	22,152	-0.2%	
Transportation	20,136	2.4%	
Public			
Highway and street	130,769	7.4%	
Educational	88,867	2.4%	
Transportation	43,622	4.3%	
Sewage waste	39,201	10.8%	
Water supply	25,841	11.2%	

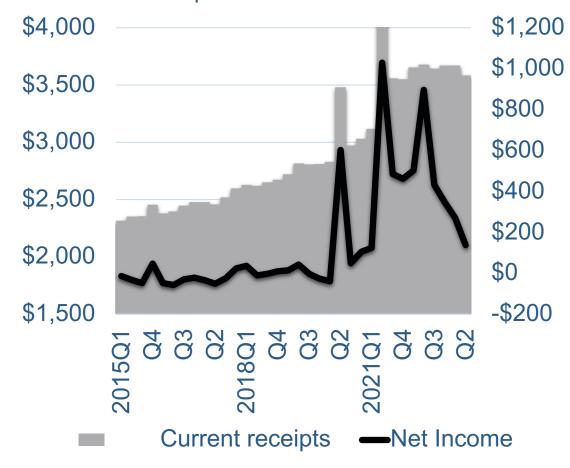
National Income





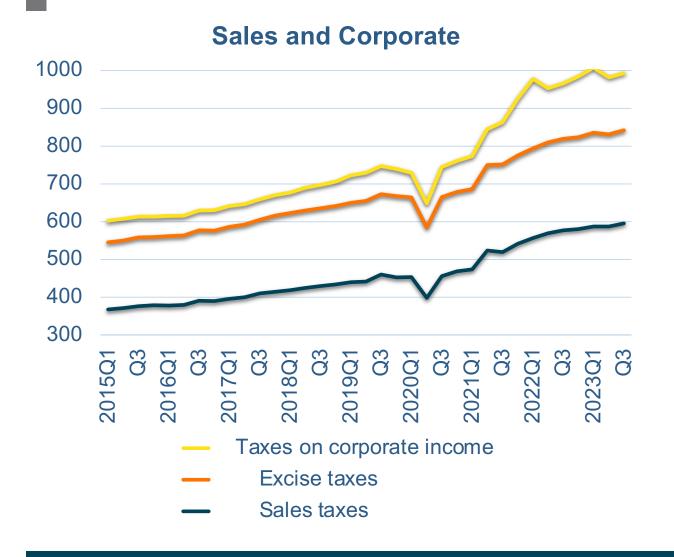


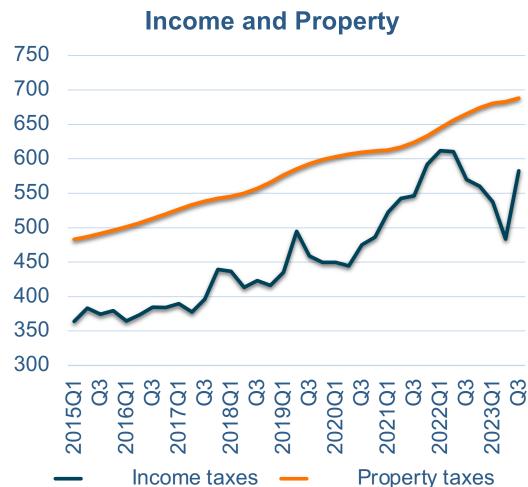
State and Local Gov Finances \$Billions SAAR



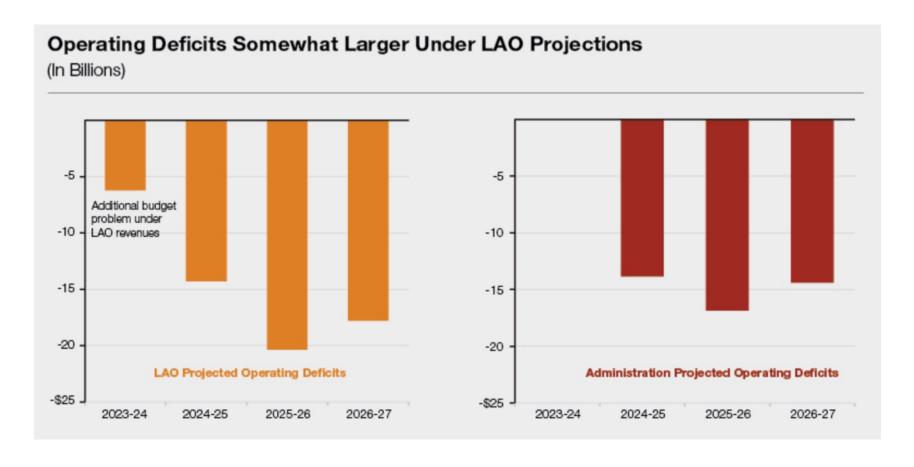
S&L Government Revenues by Source





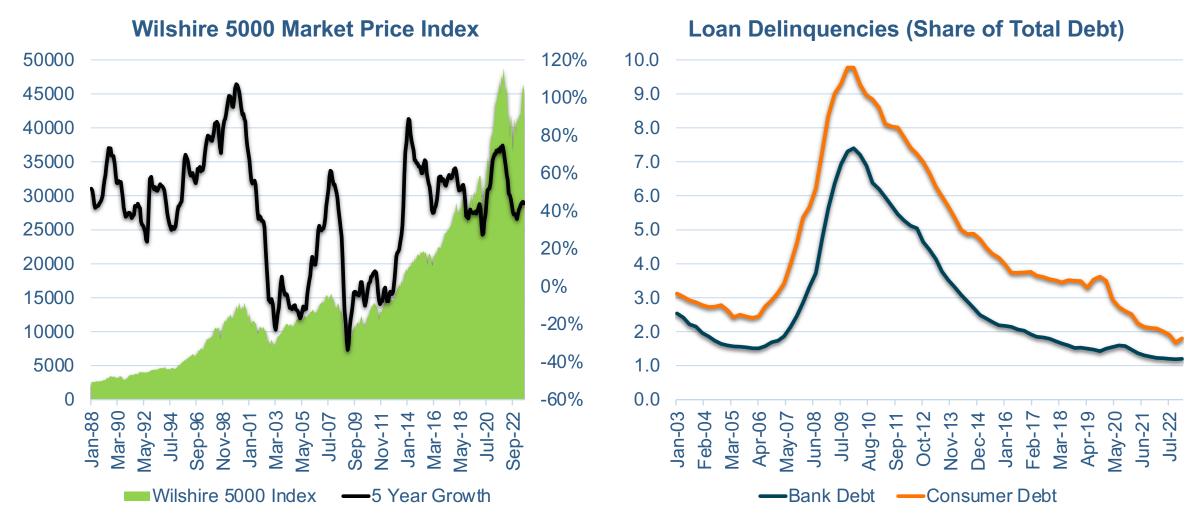






Stock market still bullish, credit markets clean





Beware the Narrative!



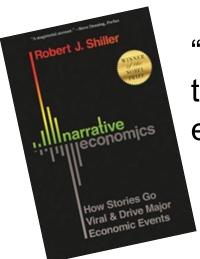
The Positive Value of Bitcoin

Ticketmaster fees are too high

The Unsustainable Federal Deficit



- ✓ Narratives skewing interpretations of economic news
- ✓ Narratives at the root of economic bubbles
- ✓ Narratives driving bad policy choices



"We need to incorporate the contagion of narratives into economic theory. Otherwise, we remain blind to a very real ... mechanism for economic change.."

—R. Shiller, *Narrative Economics*

The New American Narrative



Why many Americans aren't benefiting from robust U.S. economy

We're Measuring the Economy All Wrong

Millennials poorer than previous generations, data show

The official statistics say that the financial crisis is behind us. It's not.

B Brookings Institution

Rising inequality: A major issue of our time

Income and wealth inequality has risen in many countries in recent decades. Rising inequality and related disparities and anxieties have...

1 month ago

Another Recession Is Looming

And unlike in the past, the Federal Reserve has little room to encourage growth by reducing rates.

275 Comments

The Age of Secular Stagnation

SEP. 22, 2014, AT 6:01 AM

The American Middle Class Hasn't Gotten A Raise In 15 Years

🧦 ву Davia Leonnarat

Good morning. Why do Americans say the economy is in rough shape? Because it is.



Miserabilism:

the philosophy of pessimism.

Miserabilism and the Pandemic



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

FINANCE · ECONOMY

What shape will the recovery take? U-shape, check mark, square root symbol, and swoosh are all on the table, say economists

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.

Coronavirus to cause worst economic downturn since Great Depression, IMF forecasts 30-40 Million People in America Could Be Evicted from Their Homes by the End of 2020

Coronavirus: Leading economist warns of 10 years of depression and debt

3 22 May 2020

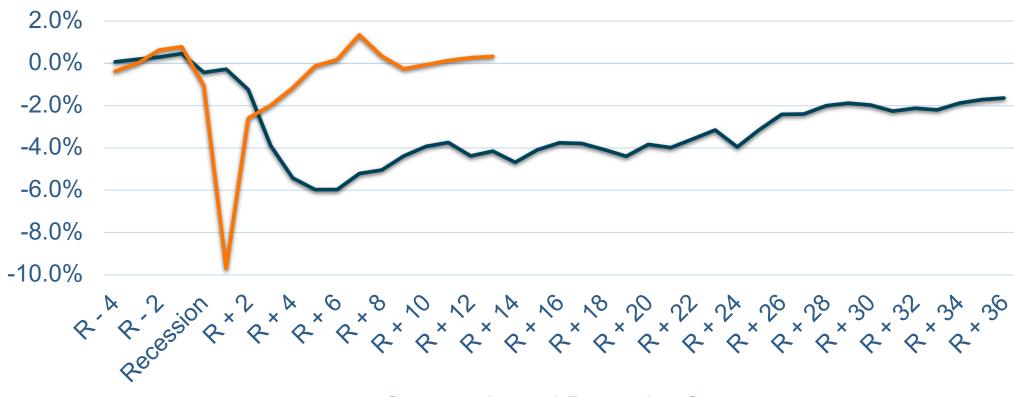
Home prices rose in June, but they'll likely fall in 2021: CoreLogic

'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

The Pandemic Over-reaction



Output Gap (Real GDP - Potential GDP)



Quarters Around Recession Start

—Great Recession —Pandemic



Actual Lost GDP: \$1.2 Trillion

Fiscal Stimulus: \$6 Trillion

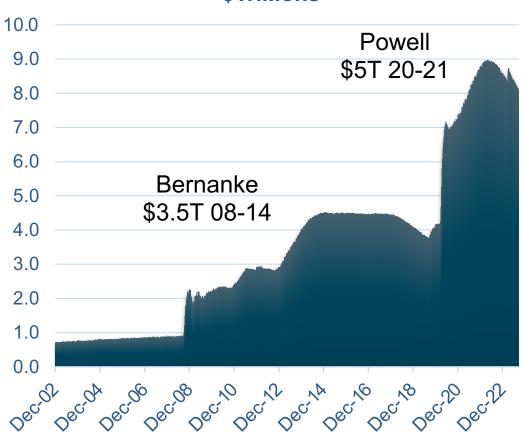
5 to 1 stimulus to loss ratio

\$50,000 in stimulus / household

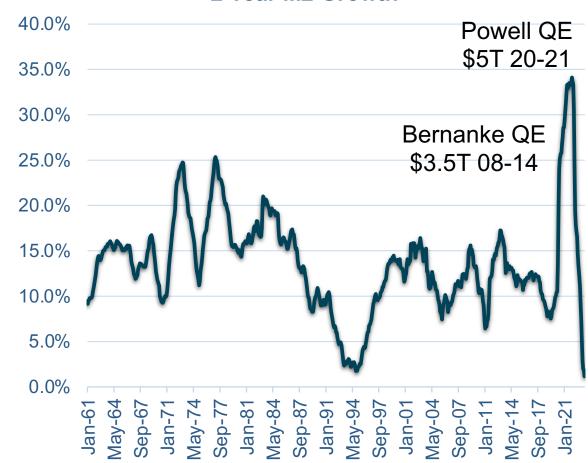
Federal Fiscal (Over)reaction



Federal Reserve Balance Sheet \$Trillions



2 Year M2 Growth



Money Mischief

The Problem with Excess Money

Short term: Money illusion

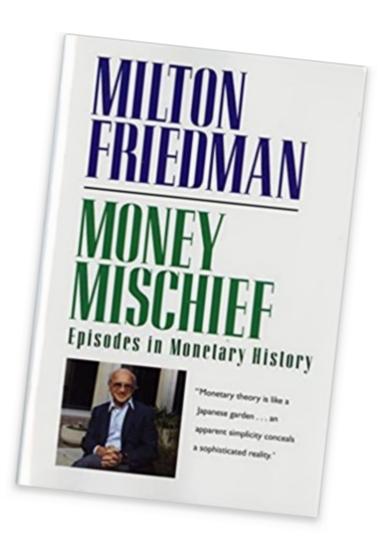
- Falling interest rates, Asset price surge
- Spending and investment binge ensues

Medium term: The Hangover

- Inflation hits, rates rise, asset markets sag
- Spending subsides back to normal
- Recession? No...

Long Run: The Consequences

- Winners and Losers and political strife
- Financial risks increase, less investment
- Economic growth slows, economy is brittle



The narrative on inflation



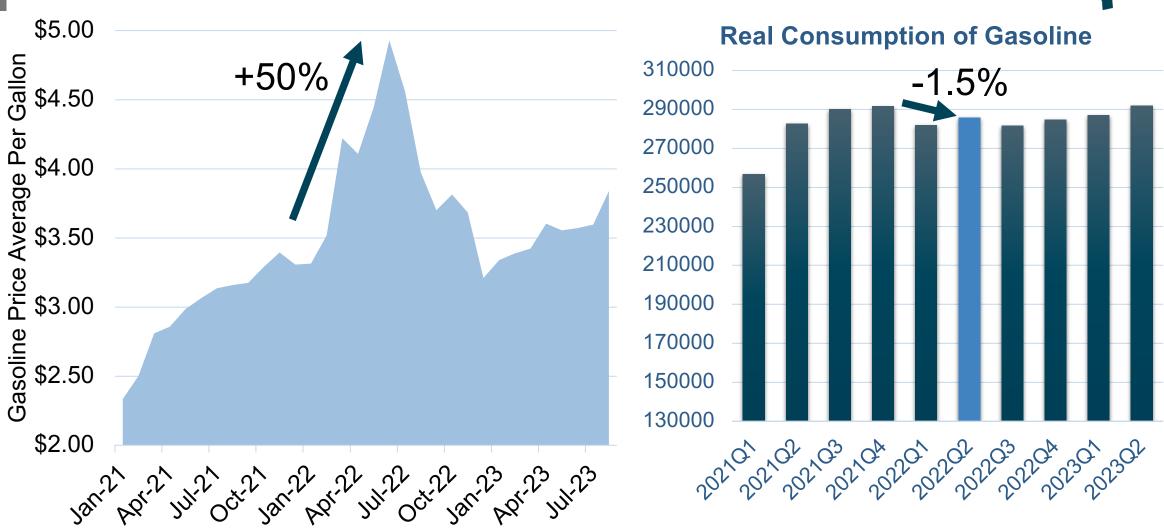
85% of Americans Are Feeling Impact of Inflation in Day-to-Day Lives, Finds New Survey

NEWS PROVIDED BY **L.E.K. Consulting** → 05 Dec. 2022, 09:30 ET

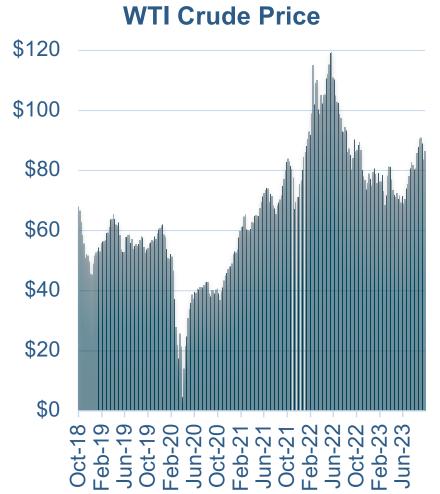
- About 90% of Americans said that inflation has had an impact on their spending over the past year when it comes to food and beverage, including 54% who said the impact has been significant.
- A similar number 88% said inflation has impacted their spending at restaurants.
- About 89% said inflation has had an impact on their motor vehicle spending, such as gasoline including 56% who said it's had a significant impact.
- Eighty-six percent said inflation has impacted their spending on travel over the past year (45% said significantly).

Reality: Inflation is caused by demand





Why little oil price impact?



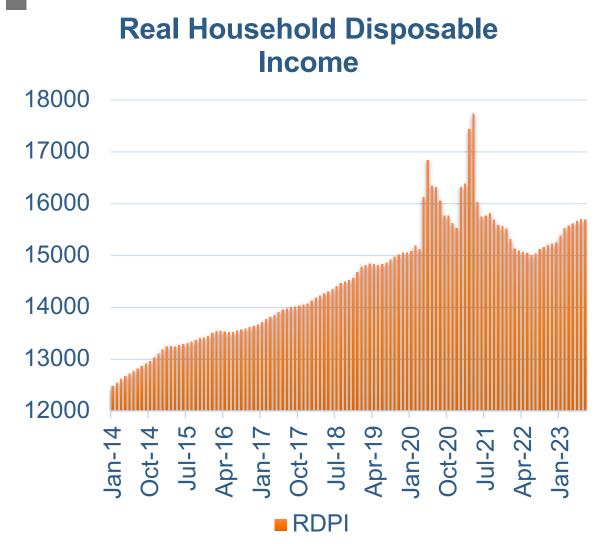




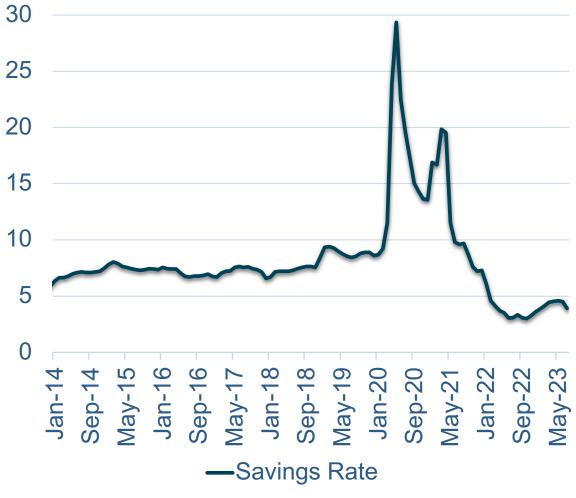




The outlook for consumers?



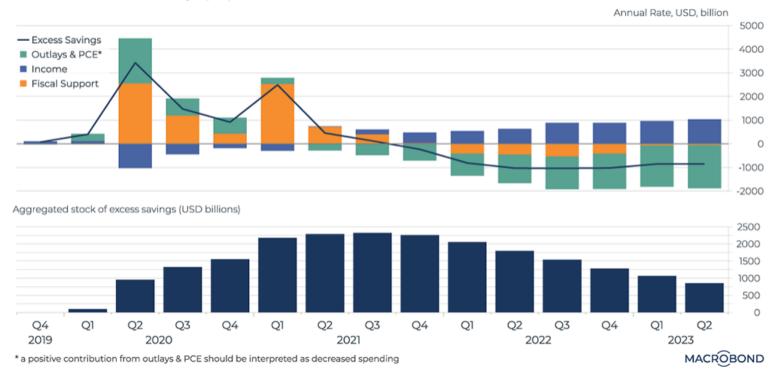
Real Household Income





US consumers' excess savings are depleting

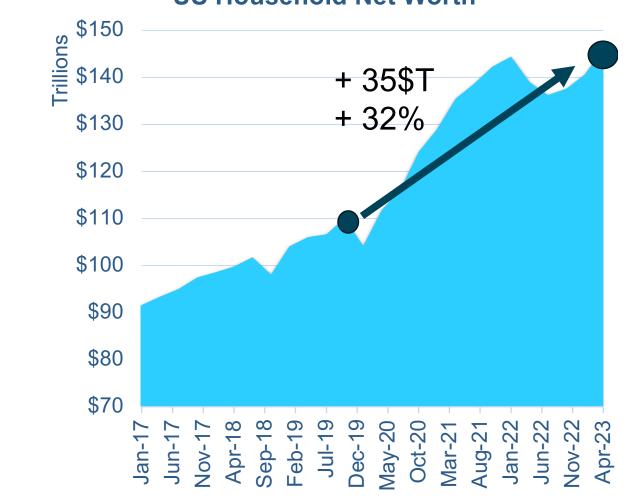
Source: U.S. Bureau of Economic Analysis (BEA)



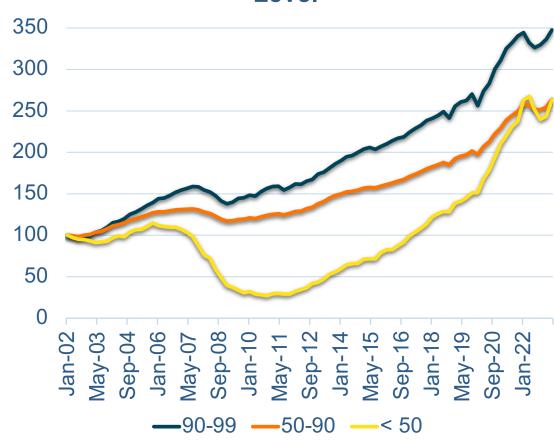
Wealth over income...







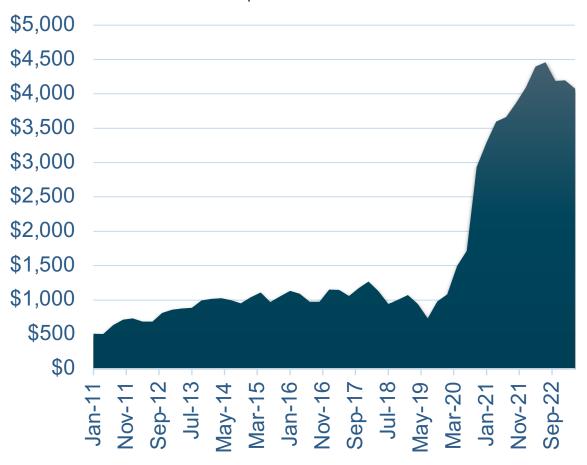
Index of Total Net Worth by Wealth Level



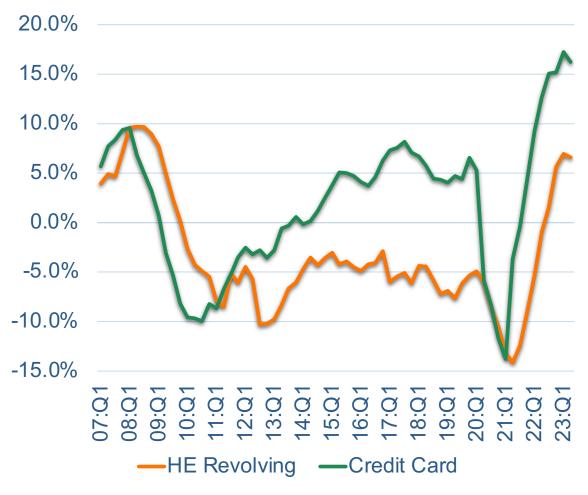
Wealth over income...



US Household Checkable Deposits \$Billions

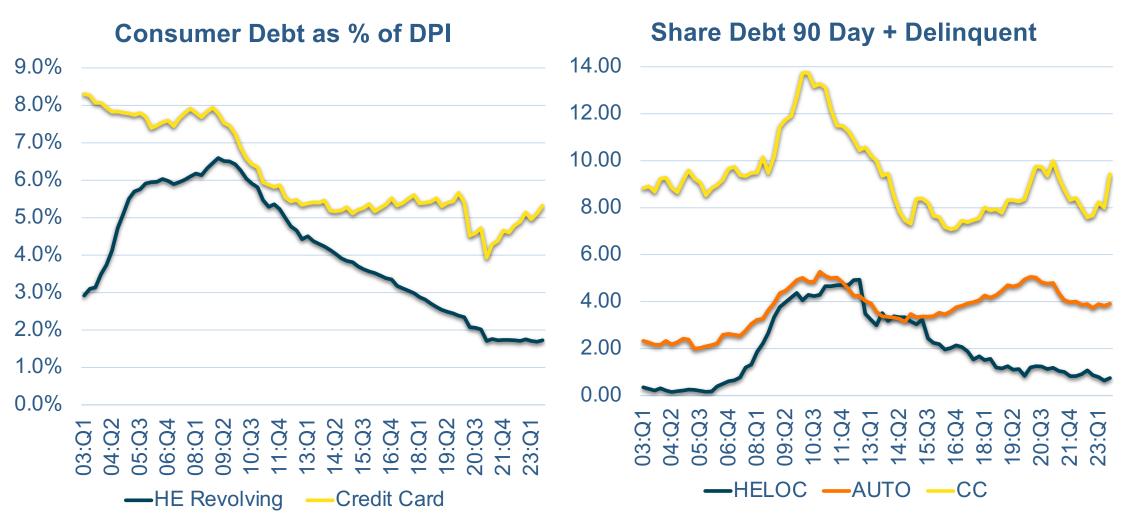


YoY Growth Consumer Credit



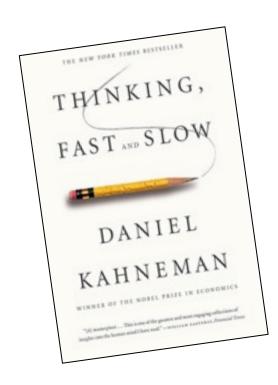
Consumer Debt Afterburners





How do narratives go astray?





"People have two modes of thought: "System 1" is fast, instinctive and emotional; "System 2" is slower, more deliberative, and more logical."

"System 1 is gullible and biased to believe, System 2 is in charge of doubting and unbelieving, but System 2 is sometimes busy, and often lazy"

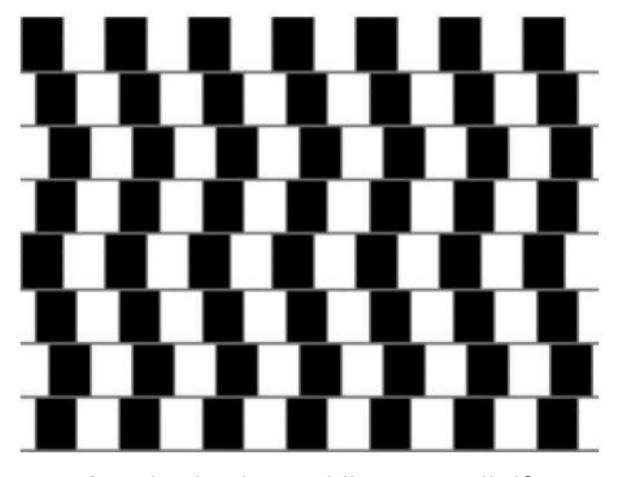
— D. Kahneman, *Thinking Fast and Slow*

Some Examples of Cognitive Biases

Anchoring bias Apophenia Availability heuristic Cognitive dissonance Confirmation bias Egocentric bias Extension neglect False priors Framing effect Logical fallacy Prospect theory Self-assessment Truth judgment

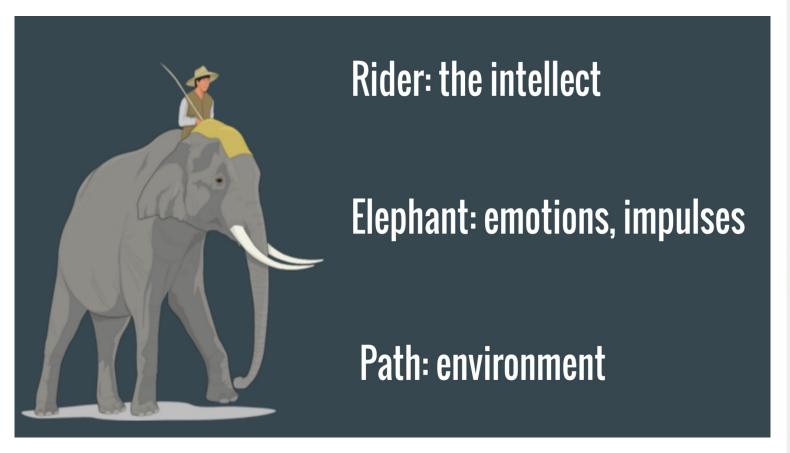
Example of a Visual Cognitive Bias



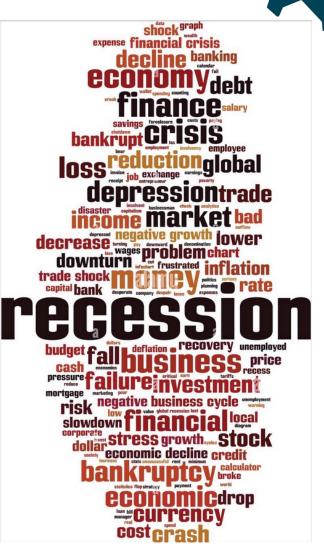


Are the horizontal lines parallel?

The Elephant and the Rider

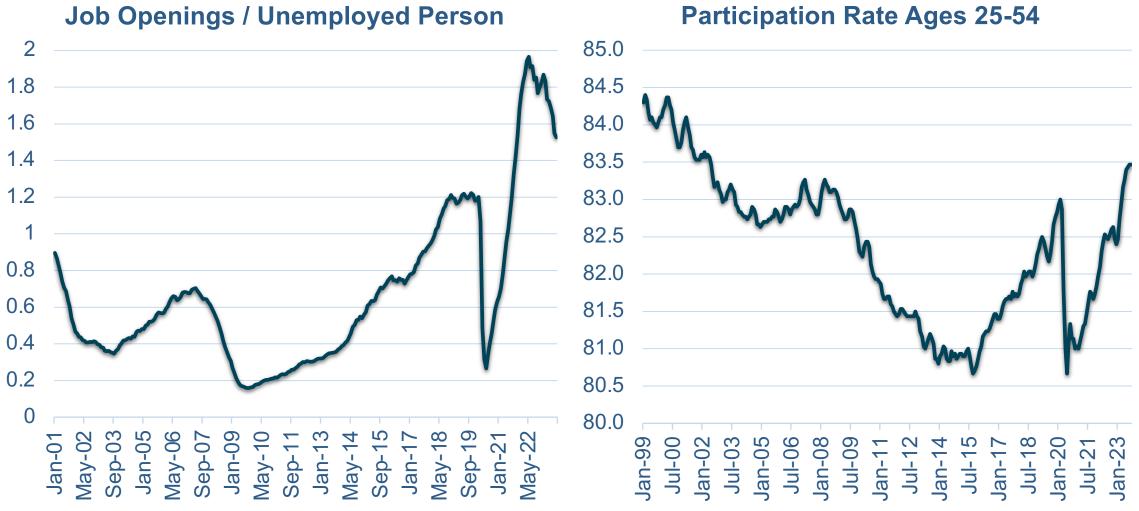


The rider has only the illusion of control..



The real issue? Labor supply, not consumer demand





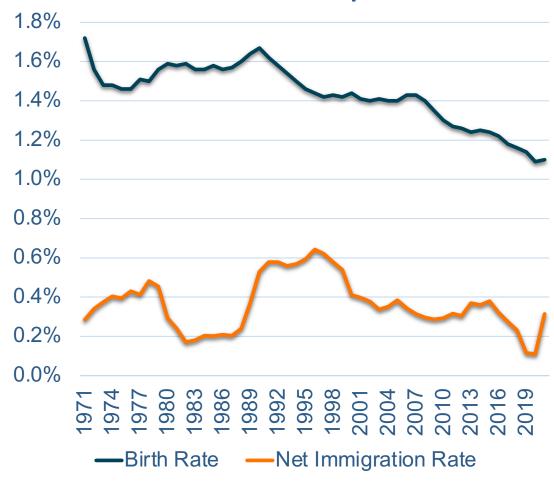
Labor Supply







Sources of New Population



The Era of Labor Shortages is Here



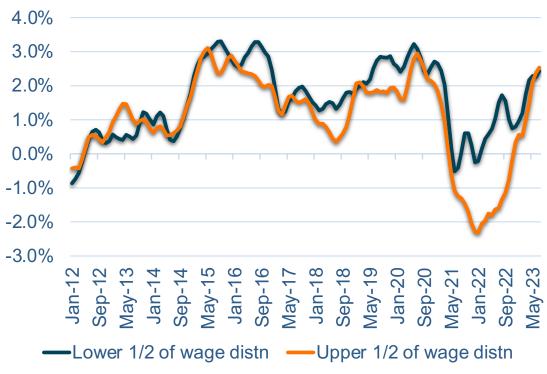




The Impact of Labor Shortages of Workers







Earnings Growth by Quartile 2015-2023

Lowest	2nd	3rd	Highest
38.0	31.8	29.4	27.1

	Male	Female
Median earnings All	50,232	36,608
Growth 19-22	19.3%	18.3%
Median earnings FT Growth 19-22	62,344 17.7%	51,275 18.7%
By Education (25+)		
< High School	35,428	23,370
Growth 19-22	15.3%	16.6%
High School	43,403	30,411
Growth 19-22	11.6%	17.7%
Associates	53,020	36,994
Growth 19-22	13.8%	16.9%
Bachelor's	78,869	54,913
Growth 19-22	14.0%	14.7%
Graduate	103,049	72,582
Growth 19-22	9.6%	13.6%

The Impact of Labor Shortages on Business



Weekly Earnings for Non-Supervisory Employees

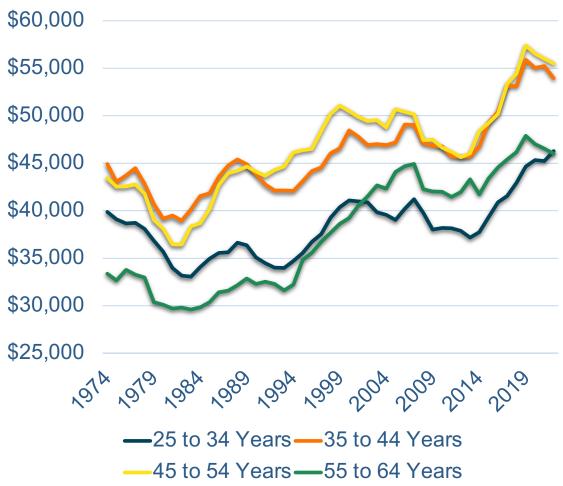
	Q1 23	Gr 17-20	Gr 20-23
Accommodation	\$603.5	6.5%	33.8%
Childcare	\$561.8	11.6%	28.7%
Food and Drink	\$418.6	10.6%	26.2%
Nursing Homes	\$704.4	12.6%	23.5%
Truck Transport	\$1,200.4	13.3%	20.1%
Total Private	\$964.8	10.0%	19.6%
Retail	\$620.0	14.6%	19.0%
Warehouses	\$857.2	10.0%	14.2%

Job Openings Rate	2019	2023	Churn
Total nonfarm	4.6	5.7	0.48
Health care	5.5	7.4	0.34
Accommodation food	5.6	6.9	0.82
Professional business	5.8	6.6	0.43
Information	4.8	6.5	0.25
Logistics	5.0	6.0	0.45
Other services	3.9	5.7	0.46
Financial activities	4.0	5.2	0.30
Arts, entertainment	3.8	5.0	0.95
Government	3.3	4.7	0.28
Retail trade	5.4	4.6	0.79
Durable goods manu	3.4	4.5	0.36
Construction	4.2	4.4	0.59

As for Gen Z?



Real Earnings by Age

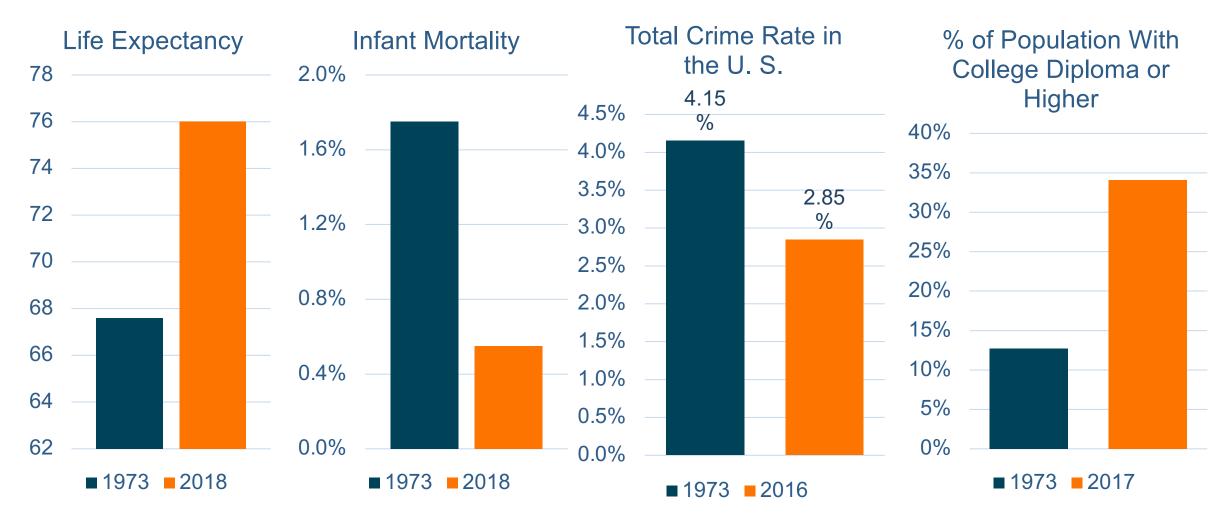


Cohort Comparison Real Earnings

Age in 2022	25 to 34 Years	35 to 44 Years	45 to 54 Years	55 to 64 Years
Inc. Year	2022	<u>2012</u>	2002	1992
Median	\$46,280	\$45,690	\$49,440	\$32,290
Mean	\$59,030	\$62,290	\$67,740	\$45,880

Other Metrics on Quality of Life





Regionally? Who is Ahead? Behind?



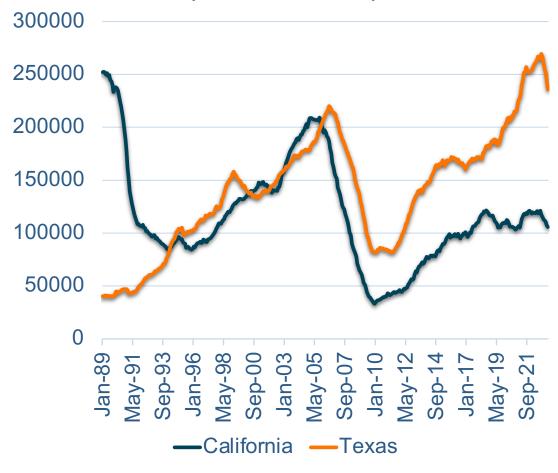
Change in Payrolls 19-23		Change in JOR 19-23		Unemployment 23	
Idaho	12.2%	Mississippi	2.5	Maryland	1.7
Utah	10.9%	Maine	2.2	New Hampshire	1.8
Nevada	9.1%	Massachusetts	2.2	Vermont	1.8
Florida	8.9%	West Virginia	2.1	North Dakota	1.9
Texas	8.8%	New Hampshire	2.1	South Dakota	1.9
North Carolina	7.6%	Minnesota	2	Nebraska	2
Arizona	7.5%	Connecticut	1.7	Alabama	2.1
Arkansas	6.5%	Tennessee	1.6	Maine	2.5
Tennessee	6.4%	South Carolina	1.6	Montana	2.5
Montana	6.3%	Delaware	1.5	Utah	2.5
Georgia	6.1%	New Jersey	1.5	Virginia	2.5
South Carolina	5.1%	Rhode Island	1.5	Massachusetts	2.6
Washington	4.6%	Illinois	1.4	Arkansas	2.7
South Dakota	4.4%	Nevada	1.4	Florida	2.7
Colorado	4.0%	Kentucky	1.4	Kansas	2.7
Indiana	3.9%	Maryland	1.4	Rhode Island	2.7
California	3.8%	Georgia	1.3	Hawaii	2.8
Alabama	3.7%	Louisiana	1.3	Missouri	2.8

The Labor Force Issue



	02-12	12-22	Rank
Utah	14.3%	29.3%	1
Idaho	12.6%	23.1%	2
Arizona	13.8%	18.4%	3
Colorado	12.3%	16.4%	4
Texas	17.7%	16.0%	5
Florida	16.0%	15.3%	6
Washington	11.9%	15.0%	7
Nevada	20.5%	13.4%	8
Nebraska	6.3%	4.6%	24
Minnesota	2.7%	4.3%	25
California	7.2%	4.1%	26
Hawaii	8.1%	4.0%	27
New Jersey	5.3%	3.6%	28
Vermont	3.1%	-3.3%	48
Maine	3.3%	-3.7%	49
Wyoming	12.7%	-3.9%	50
Mississippi	3.1%	-6.0%	51

CA vs TX? Put 'em up! (Houses that is)

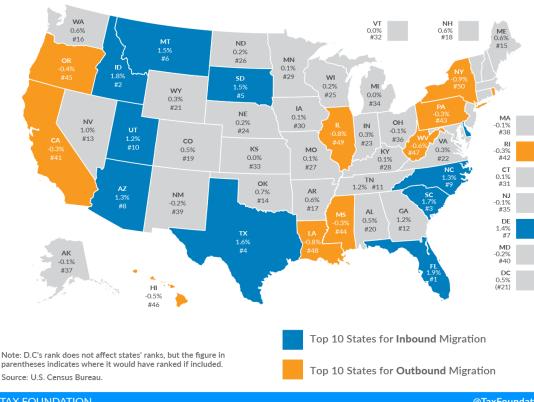


Population = Growth



State Population Change in 2022

State Migration Patterns, from Most Inbound to Most Outbound, 2022



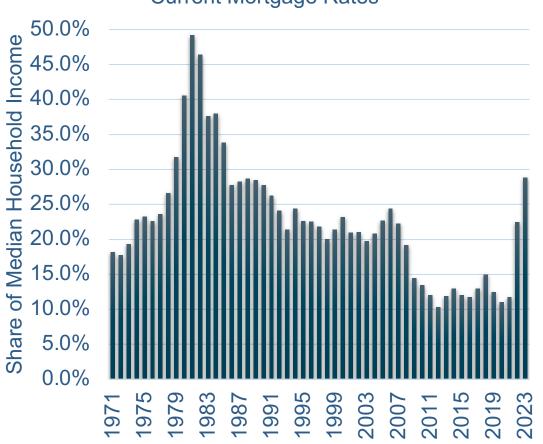
- Extensive: Increasing labor force
 - —Immigration reform, housing supply
- Raising participation rates
 - —Seniors, childcare support
- Worker skill training
 - —Vocational skills in short supply
 - —Not all college degrees are created equal
- Capital investments
 - —Don't be afraid of Al
- Change needs adaptive workers
 - —Teaching anti-fragility

Recent Housing Trends...



Existing Home Affordability

Interest Payment on Median Priced Home at Current Mortgage Rates



US Existing Home Sales



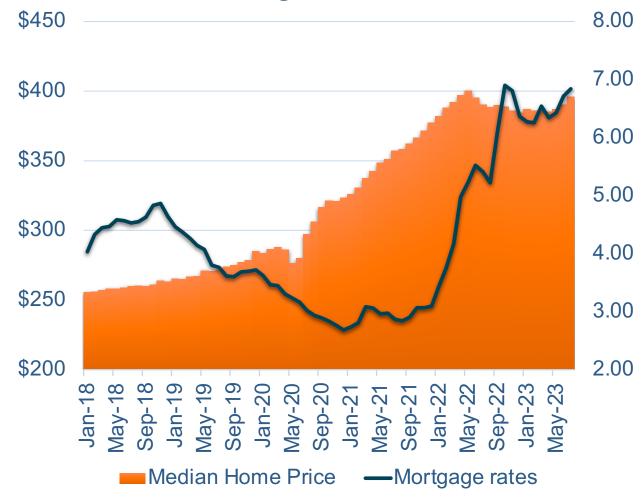
Housing: A Rate Whiplash



Case Shiller Home Price Appreciation July 20 – July 22

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

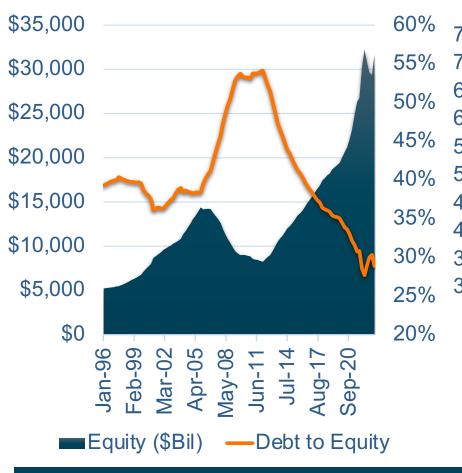
Existing Home Market



Housing Fundamentals



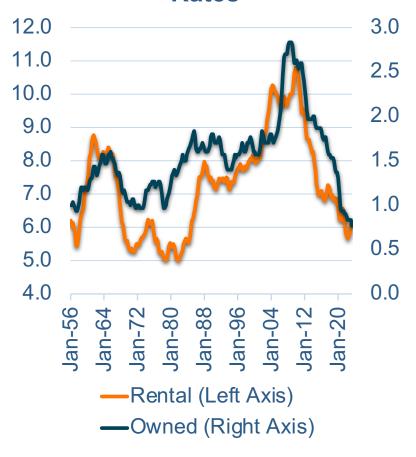
Household Housing Equity and Debt



Financial Obligations as % of DPI



US Housing Vacancy Rates



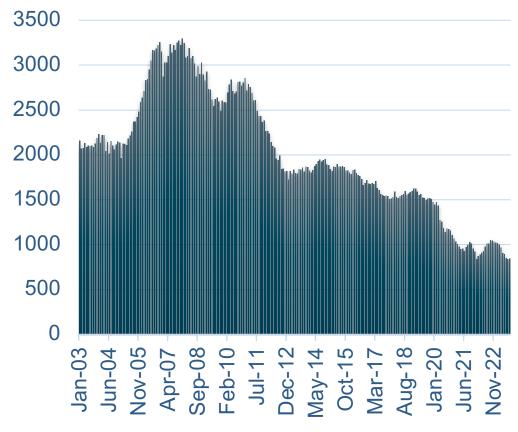
The Supply Issue



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%

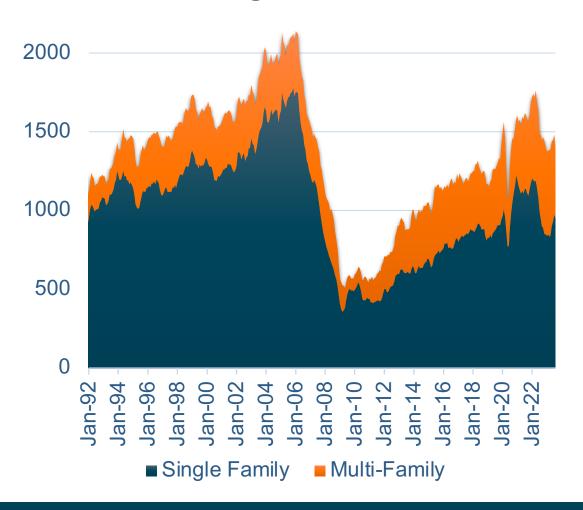
Single Family Homes for Sale



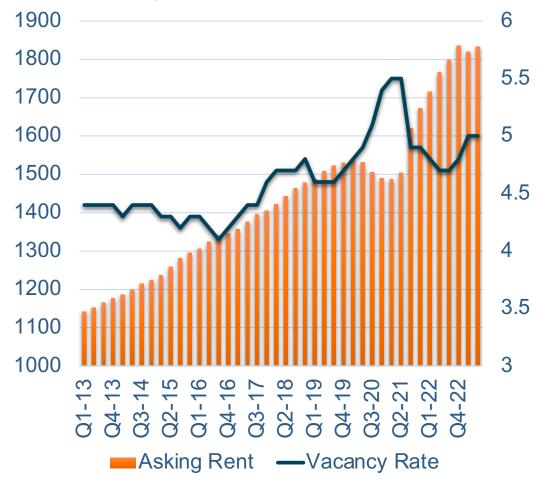
Housing Fundamentals



Housing Starts SAAR



US Apartment Rental Markets



The Inflation Narrative

- Supply chain issues
- The federal deficit
- Corporate Greed
- Not enough manufacturing jobs
- Low Interest Rates
- Inflation expectations
- The price of Swift concert tickets
- The price of a Kardashian smoothie at Erewhon





"If the public expects that inflation will remain low and stable over time, then, absent major shocks, it likely will," he said. "Unfortunately, the same is true of expectations of high and volatile inflation."



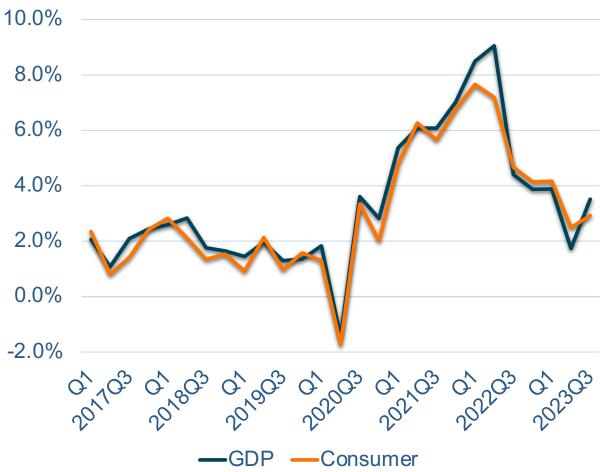


"Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output...

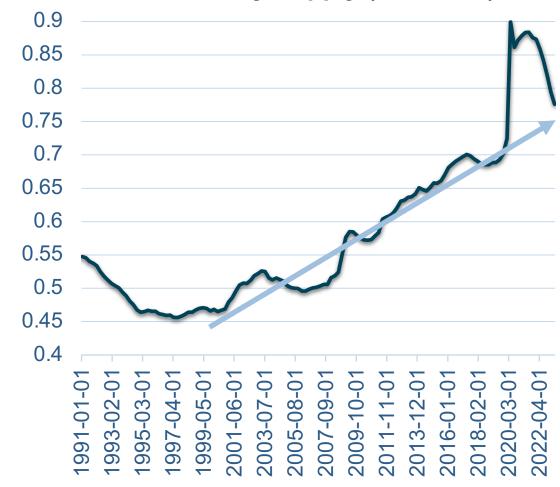
How much farther can inflation really go?







US Unit Money Supply (M2 / GDP)

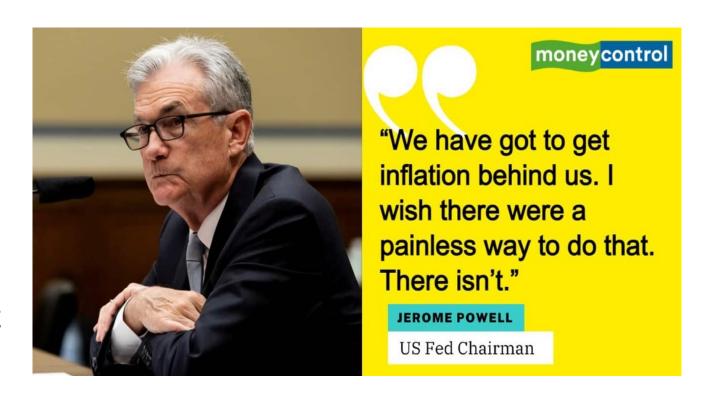


The bad news? All that good news...



The Federal Reserve Narrative

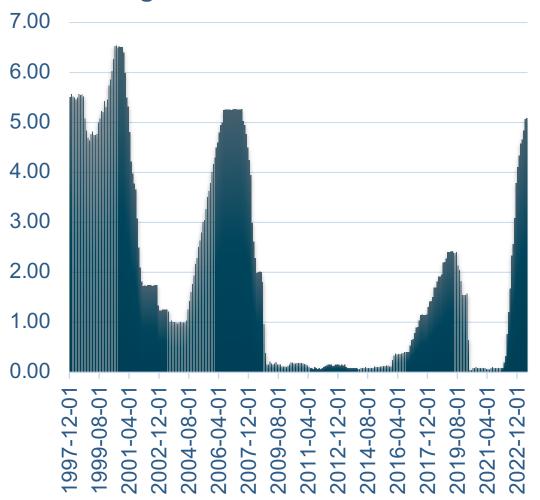
- US inflation due to some exogenous shock
- Inflation is now being driven by inflation expectations
- Inflation is causing substantial harm to American households
- The Fed must fight inflation and it is worth the loss of some jobs / higher unemployment



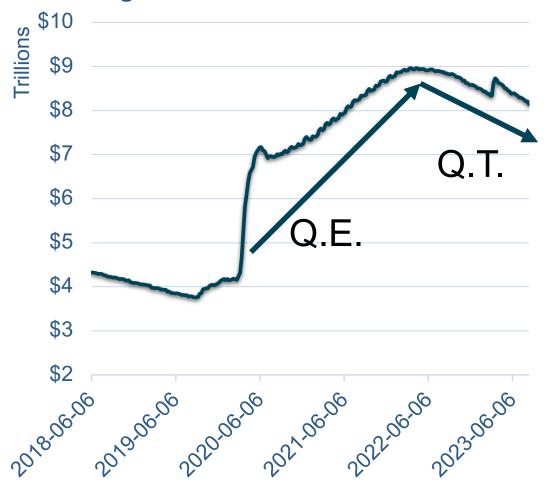
The Fed Response



Stage 1: Federal Funds Rate



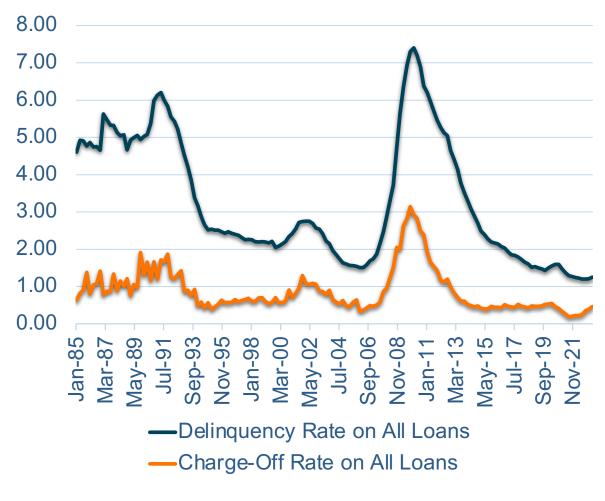
Stage 2: Federal Reserve Assets



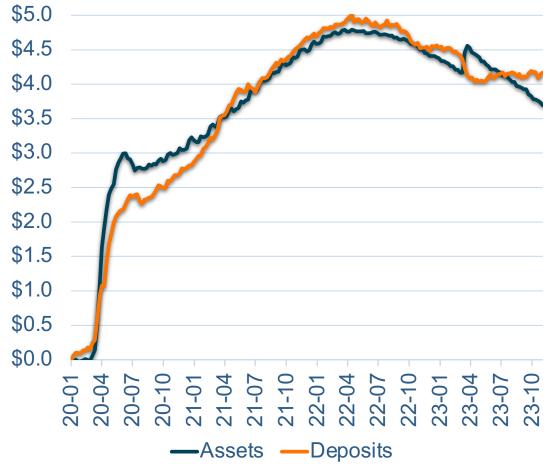
Bank Failures?



Commercial Bank Loan Performance

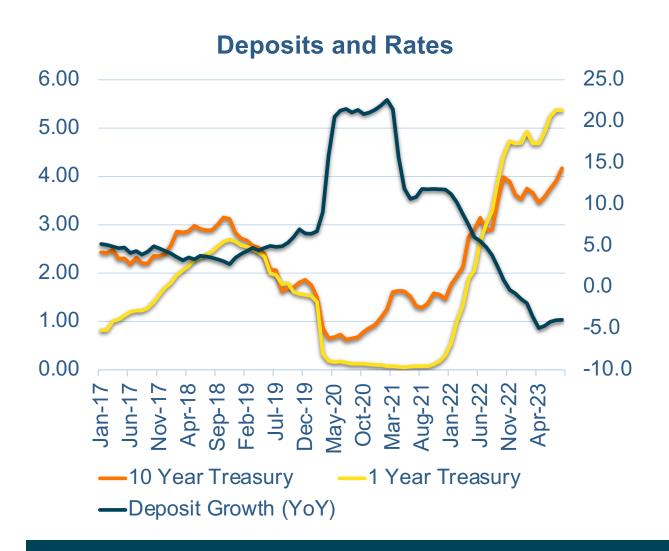


Cumulative Changes (Trillions)



Bank Failures? Forced to Buy High, Sell Low





- ☐ Conducting the nation's monetary policy ... in pursuit of full employment and stable prices.
- Supervising and regulating banks ... to ensure the safety and soundness of the nation's banking and financial system.

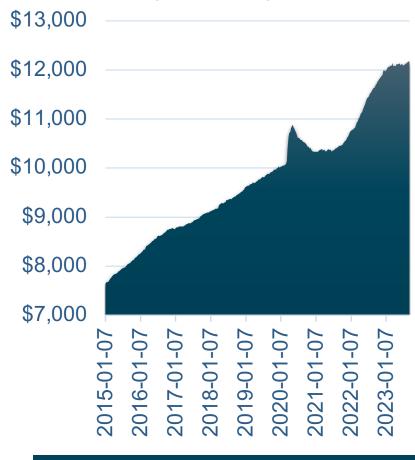
Error #1: Panic over full employment has negatively impacted price stability

Error #2: Panic over price stability has negatively impacted the credit system

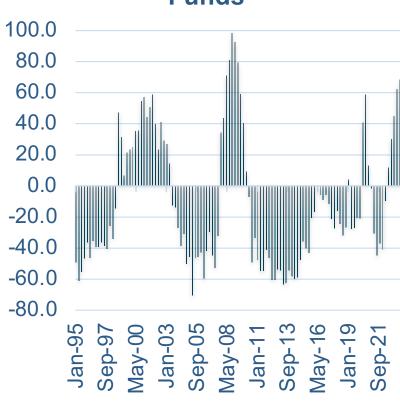
Credit shortages



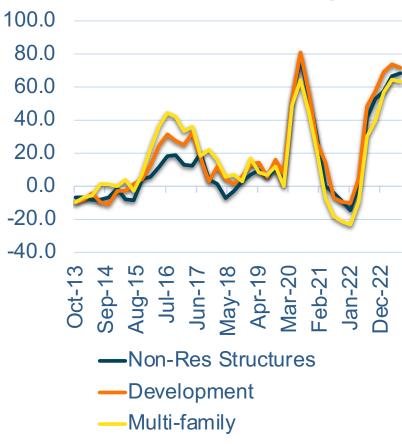
Outstanding Bank Loans (\$Billions)



Net % Banks Raising Spreads over Cost of Funds

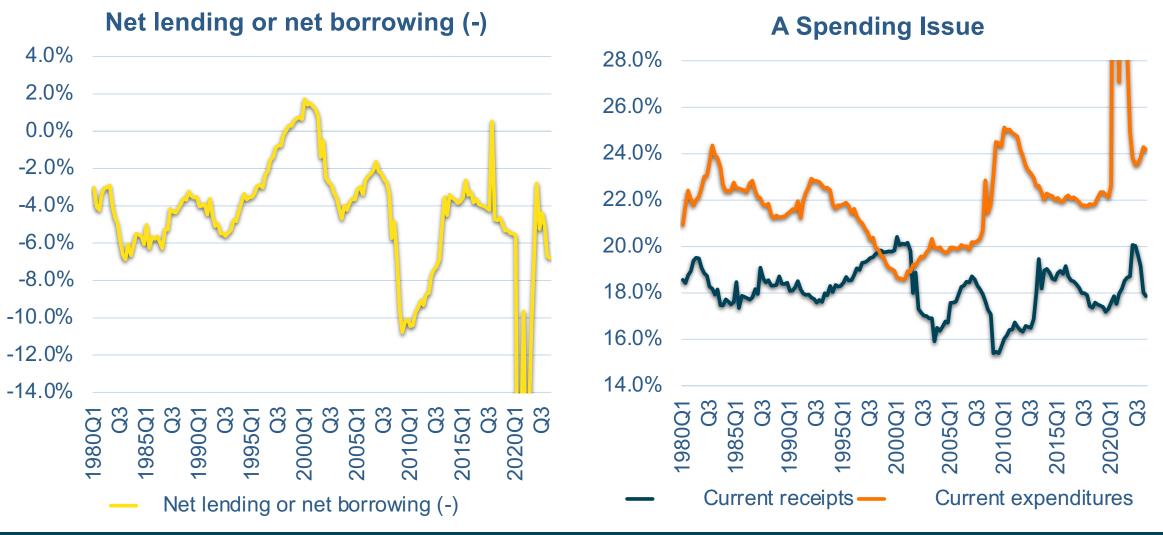


Net % Banks Tightening Standards on Lending



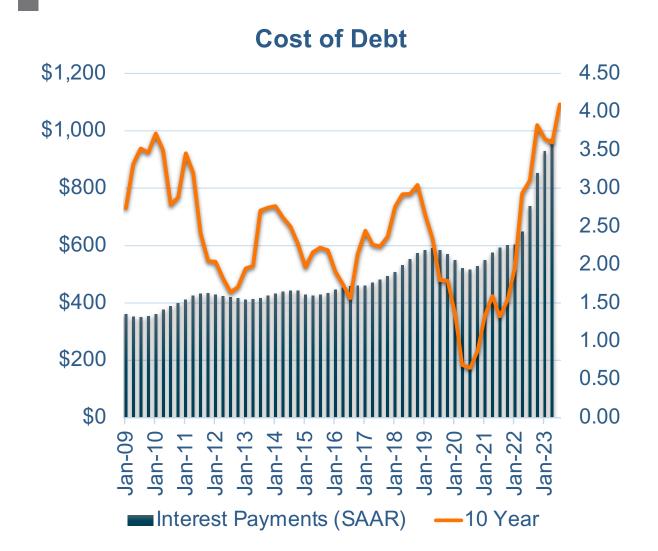
The Fed is on the Brake, Congress is the Gas

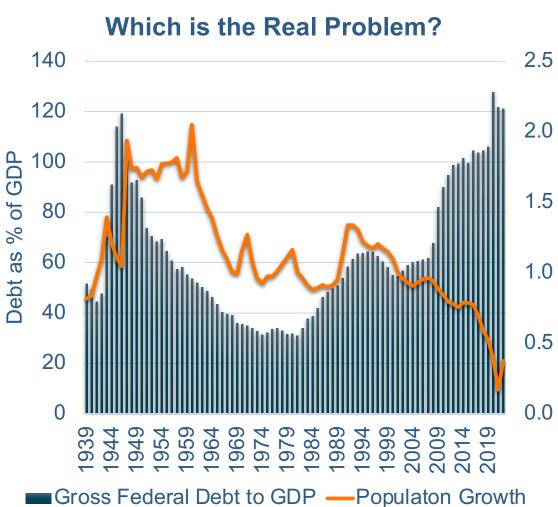




Feedback Effects



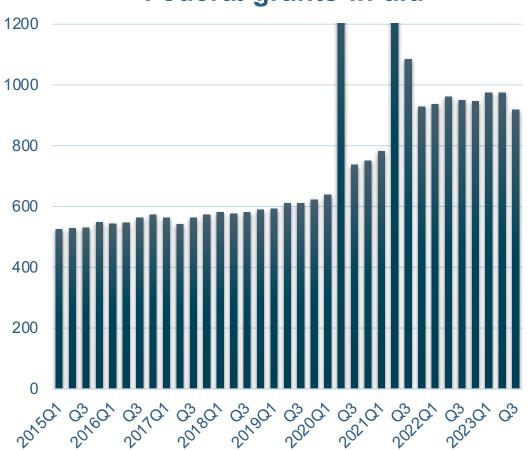




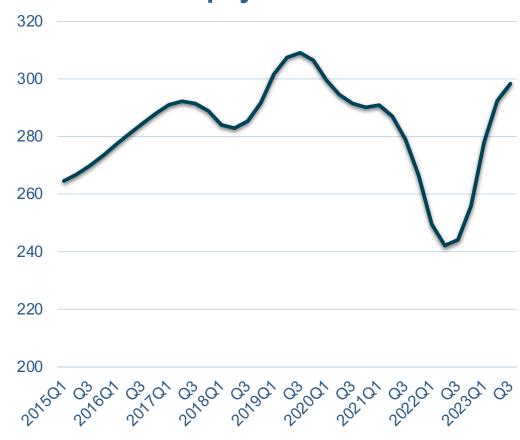
The Local Risks







State and local Interest payments



Out of the Woods?



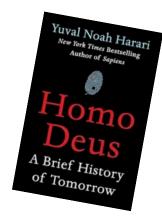
- We were never actually in the woods
 - Household finances, consumer demand driving the economy
 - —Economic indicators remain solid, growth to continue
- Headwinds will intensify
 - —Inflation will stay above target, Fed continues to tighten
 - —Public deficits are unsustainable
 - —Asset prices likely to sag again
 - —Economic growth to slow—but no recession yet
- The big issue: Narratives
 - —Labor supply not consumer demand
 - —Inflation is not a problem, the Fed is
 - —Government deficits are going to have to be dealt with

- 2024 Forecast Highlights
 - —GDP Growth 1.8%
 - —Unemployment Rate: 3.9%
 - —10 Year Treasury: 5.5%
 - —30 Year FR Mortgage: 8.4%
 - —HPI Forecast: -1.7%
 - —Housing Starts: 1.42m

A national case of Munchausen's syndrome

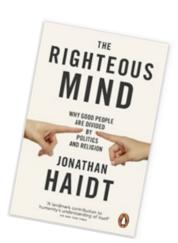


"Sapiens rule the world because only they can weave an intersubjective web of meaning: a web of laws, forces, entities and places that exist purely in their common imagination.



— Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow*

"People can believe pretty much whatever they want to believe about moral and political issues, as long as some other people near them believe it, so you have to focus on indirect methods to change what people want to believe.



— Jonathan Haidt, *The Righteous Mind: Why Good People are Divided by Politics and Religion*



Thank You

- Economic Outlooks
- Revenue Forecasts
- Cost Projections
- Regional Development
- Housing Studies



- Impact Reports
- CEDS Analysis
- Policy Studies
- Industry Studies
- Labor Markets

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.

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.

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

