



# WJ Charts of the Month

June 2024

**WJ** Interests  
WEALTH ADVISORS

# WJ Charts of the Month Intro

"WJ Charts of the Month" is a comprehensive monthly slide deck designed to showcase recent significant financial events and data. The presentation is organized into four sections, beginning with a "Highlights" slide that sets the stage for the subsequent content.

- 1. What Happened Last Month:** This section features a curated collection of charts and images from various publications, offering a visual summary of the previous month's key events.
- 2. WJ State of the Economy:** Our team at WJ has created an array of charts to emphasize crucial economic factors and trends.
- 3. WJ State of the Markets:** Similarly, this section comprises a series of charts crafted by WJ to provide an overview of the core markets we monitor.

We strive to maintain consistency across the charts to facilitate easy comparison month-over-month. However, we may adjust or emphasize specific charts if their relevance shifts over time.

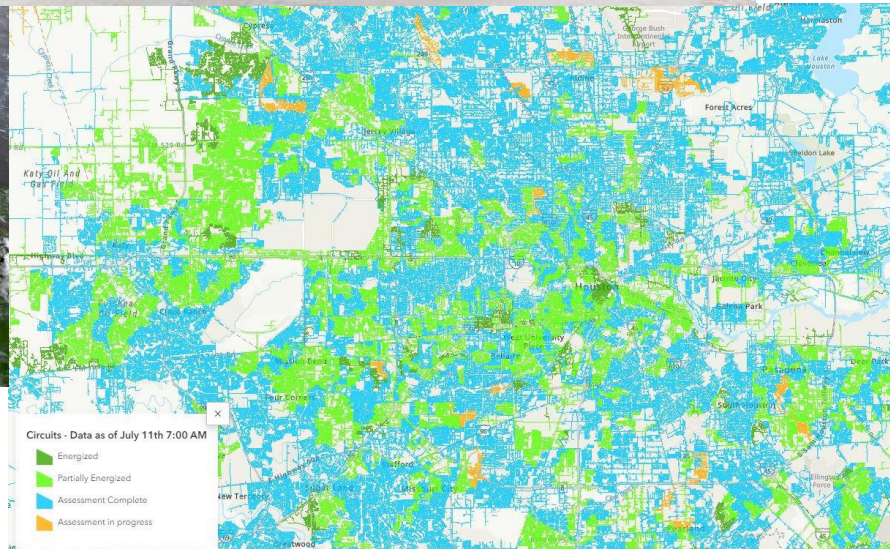
Our objective with this publication is to establish a "One-Stop Shop" for the most vital financial information, presented in a concise and easily digestible format. **We value your feedback to help us achieve this goal.** If you have suggestions regarding the format, or if there's particular information you'd like to see in future editions, please don't hesitate to let us know.

# Highlights

- [Hurricane Beryl](#)
- [Europe in Decline](#)
- [Inflation X Ray](#)
- [AI use in Medical Research](#)
- [Inflation Continues to Decline](#)

What Happened

# Hurricane Beryl



Hurricane Beryl hit Monday morning, and I'm sure most of you have been affected.

As I write this, there are currently 1.1 million people still without power. Most of us in the office are still waiting for power in our homes, and I'm sure many clients as well.

Hurricane Beryl is noteworthy for several reasons. It is the earliest Category 4 hurricane on record, reaching this intensity on June 30<sup>th</sup> in the Atlantic. Then the following day it became the earliest Category 5, beating the previous record by 2 weeks!

At sustained winds of 165 mph, it is the strongest July Atlantic Hurricane, topping the 160mph winds of 2005's Hurricane Emily.

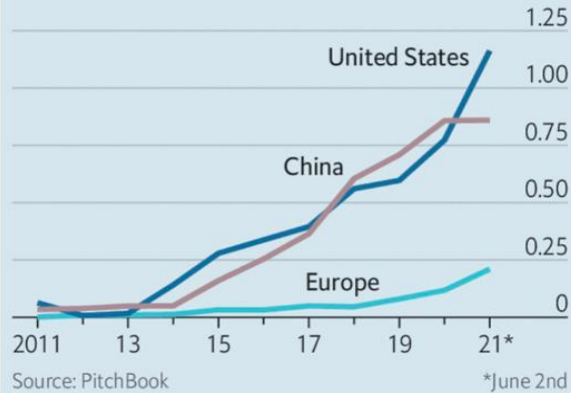
It is the easternmost June hurricane on record, forming way out in the Atlantic ocean, 2000 miles further east than 1966's Hurricane Alma (previous record).

We hope everyone had minimal damage to their homes, and for those still without power, we hope Centerpoint gets it back on soon!

# Europe is in Decline

## 3 Harder, better, faster, stronger

Market capitalisation of venture-backed companies valued at over \$1bn \$trn



Here are a bunch of charts saying basically the same thing. Europe has been in a structural decline. Below is a chart of Nvidia alone becoming more valuable than the entire German, French or British stock markets. Whether you look at GDP, venture backed company valuation, or productivity, they all say that Europe is lagging the rest of the world, particularly the US and China.

This can be interpreted in one of two ways. Europe is a disaster to steer away from, or everyone knows that already and its potentially a great buying opportunity.

## 2 This is the world we live in

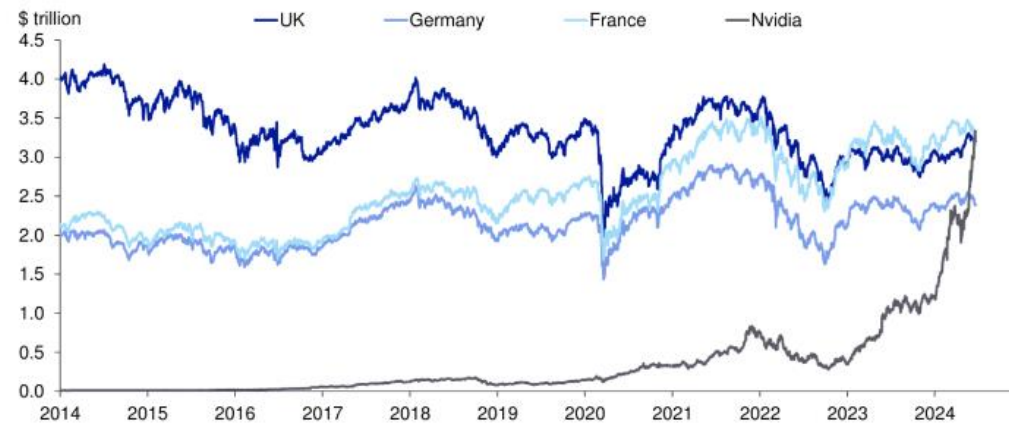
Europe, % of world total



\*EU27 plus Britain, Norway and Switzerland  
 †MSCI Europe as % of MSCI All-Country World Index  
 Sources: IMF; Refinitiv Datastream

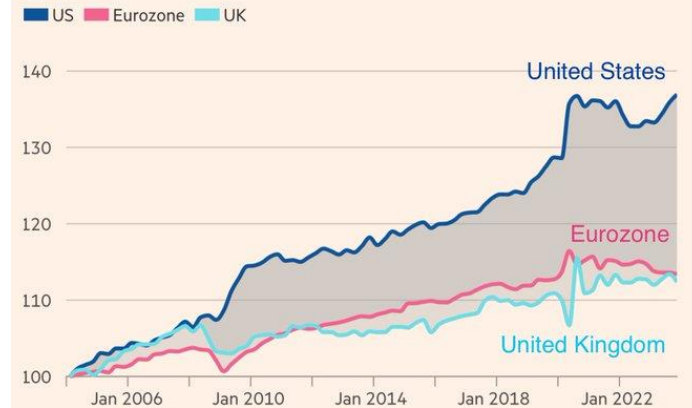
## Europe

Figure 1: Market cap of Nvidia vs. Broad stock indices of Germany, France, UK



## Productivity has risen much faster in the US than in Europe

US non-farm output per hours; eurozone/UK output per hour worked (real, rebased)



FINANCIAL TIMES

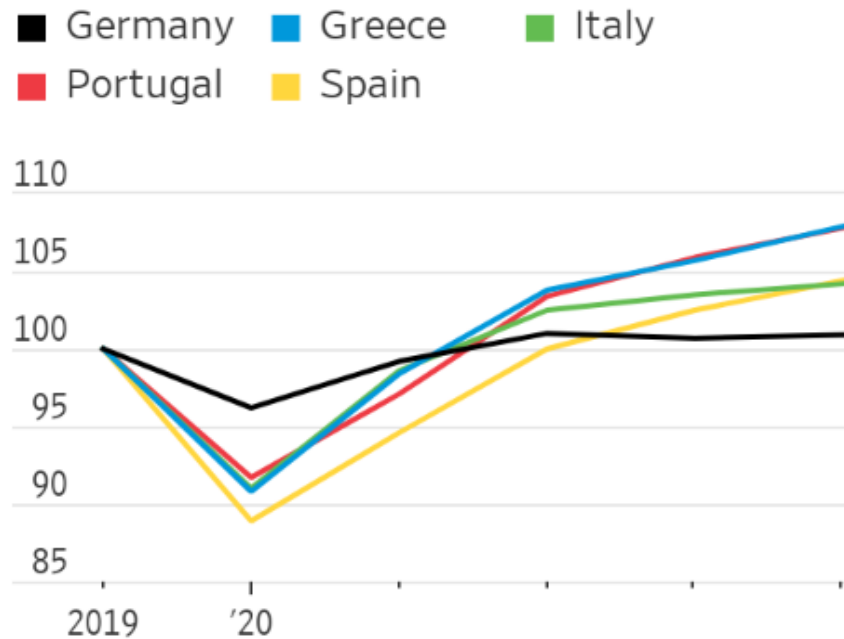
Source: LSEG, National statistics offices

# Incomes Are Outpacing Inflation

## Speedy South

Southern European economies recovered from the pandemic faster than Germany.

### Gross domestic product in constant prices



Note: 2019 = 100

Source: International Monetary Fund

There is one business that is flourishing in Europe, tourism. Despite all the inflation the US has experienced, incomes have broadly risen by as much as prices. In addition, the dollar has strengthened against most currencies, including the Euro.

As a result, in 2023 a record 84% of US adults traveled, and 82% are expected to travel this year. The effect can be seen in the chart to the left, which shows more tourism heavy countries outgrowing Germany, the largest economy in Europe.



## Europe Has a New Economic Engine: American Tourists

Free-spending visitors are fueling a powerful boom in southern Europe, flipping economic power in the EU.

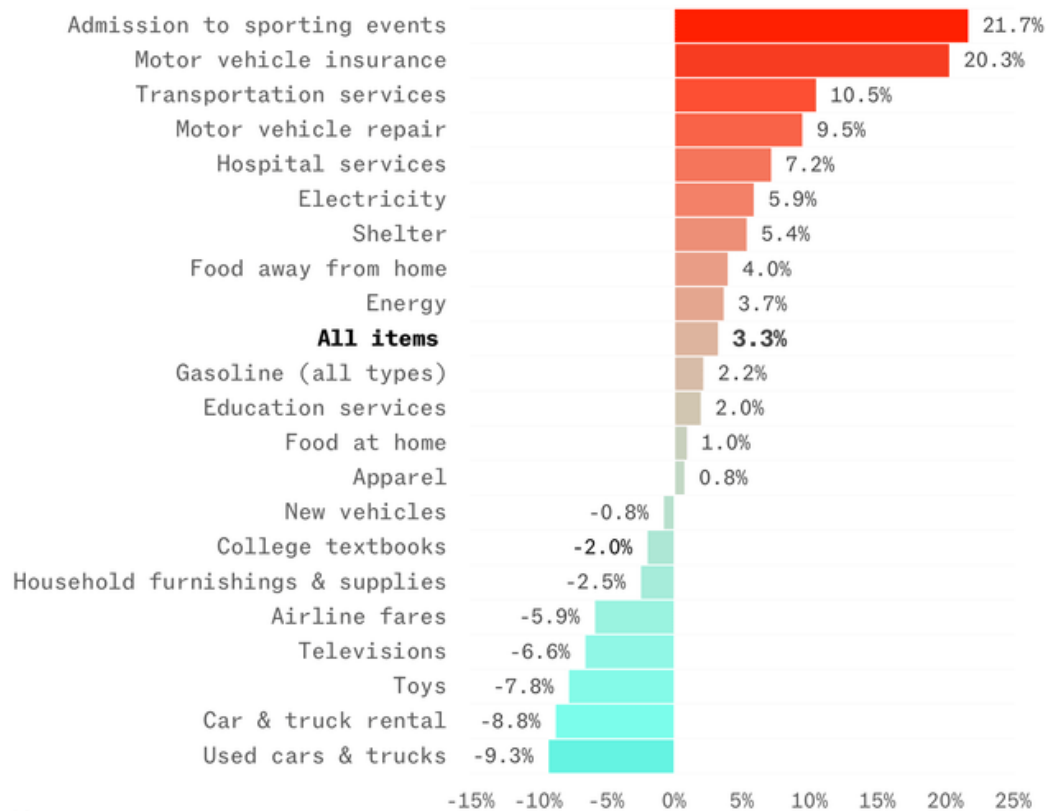
Some economists think it could end badly.

# Looking Through the Inflation Index

STICKER SHOCK

## Where Are Prices Still Rising?

Inflation [Selected categories, US CPI, 12-month % change, May 2023-24]



Source: Bureau of Labor Statistics

Broad measures of inflation have continued to creep down but lost in those numbers are the individual components. There are 100s of individual pricing indicators in those broad indices that are tracked individually. Both of these tables help look at some of the individual components for each. Keep in mind, shelter is the largest weight for CPI, roughly 30%.

### United States' CPI decomposed - June

Consumer Price Index, All Urban Consumers, U.S. City Average, SA, Index - BLS

	MoM %	QoQ %	YoY %
<b>All Items (100%)</b>	-0,06	0,26	2,98
<b>Food (13.5%)</b>	0,24	0,40	2,23
Food at Home (8.7%)	0,13	-0,07	1,14
Food Away from Home (4.8%)	0,41	1,12	4,06
<b>Energy (6.9%)</b>	-2,04	-2,94	0,91
Energy Commodities (3.5%)	-3,68	-4,60	-2,28
Gasoline, All Types (3.2%)	-3,79	-4,72	-2,46
Fuel Oil (0.2%)	-2,42	-2,02	0,84
Energy Services (3.4%)	-0,07	-0,96	4,26
Electricity (2.5%)	-0,73	-0,86	4,38
Utility (Piped) Gas Service (0.9%)	2,40	-1,31	3,74
<b>All Items Less Food &amp; Energy (79.5%)</b>	0,06	0,52	3,28
Commodities Less Food & Energy Commodities (21.4%)	-0,12	-0,27	-1,70
New Vehicles (4.3%)	-0,16	-1,10	-0,88
Used Cars & Trucks (2.7%)	-1,53	-2,30	-9,50
Apparel (2.5%)	0,11	0,97	0,77
Medical Care Commodities (1.5%)	0,19	1,93	3,14
Services Less Energy Services (58.2%)	0,13	0,76	5,02
Shelter (34.4%)	0,17	0,95	5,13
Shelter, Rent of Primary Residence (7.5%)	0,26	1,01	5,07
Transportation Services (5.8%)	-0,55	-0,19	9,20
Medical Care Services (6.7%)	0,17	0,95	3,29

■ MoM % ■ YoY %

Source: Steno Research, Bloomberg and Macrobond

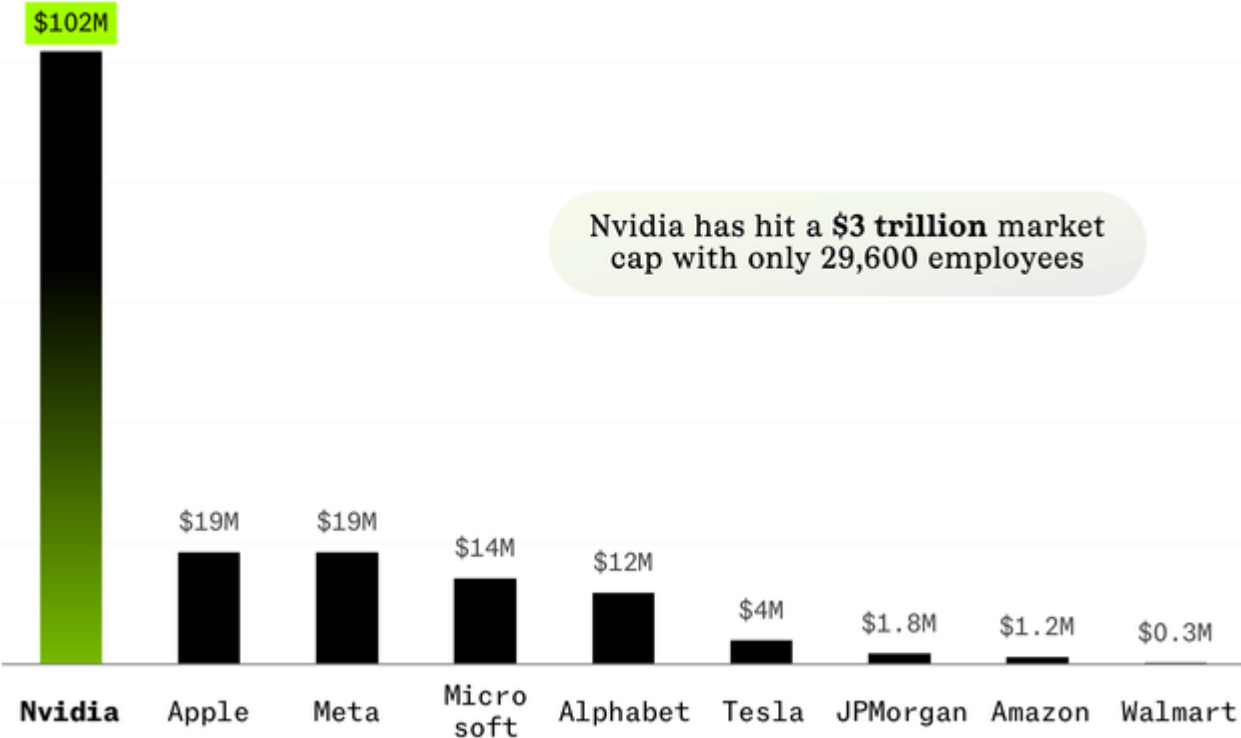


# More Insane Nvidia Charts

GREAT EXPECTATIONS

## Nvidia's Worth \$102M For Every Employee

Market Cap. per Employee\* [Big tech & selected others]

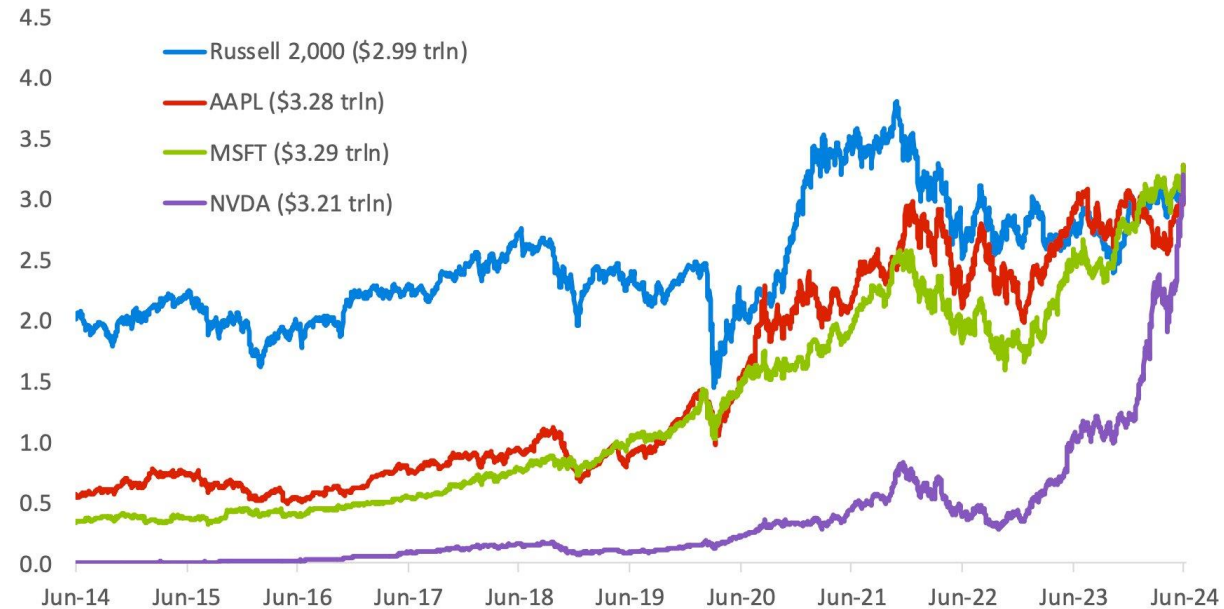


Nvidia has hit a \$3 trillion market cap with only 29,600 employees

I've posted about Nvidia a few times, because its on a remarkable run not only in terms of how fast its stock price has risen, but also its revenue, profits, and most importantly its expectations!

The chart on the left is a new one for me. For every employee at Nvidia, the company is worth over \$100 million. Look at how that compares with other tech giants. Below is the overall value of the 3 largest stocks, and how they have all passed the total market cap of the Russell 2000 (2000 small cap companies).

### Market Caps (\$, Trillions) of Russell 2,000, AAPL, MSFT, and NVDA: Last 10 Years

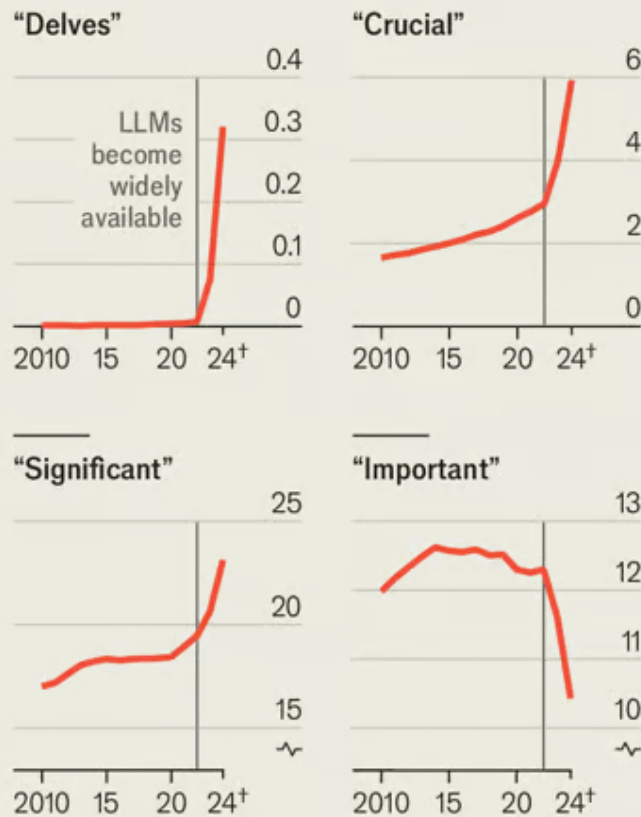


# AI is Changing Research

## Significant figures

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Word frequency in scientific papers\*, %

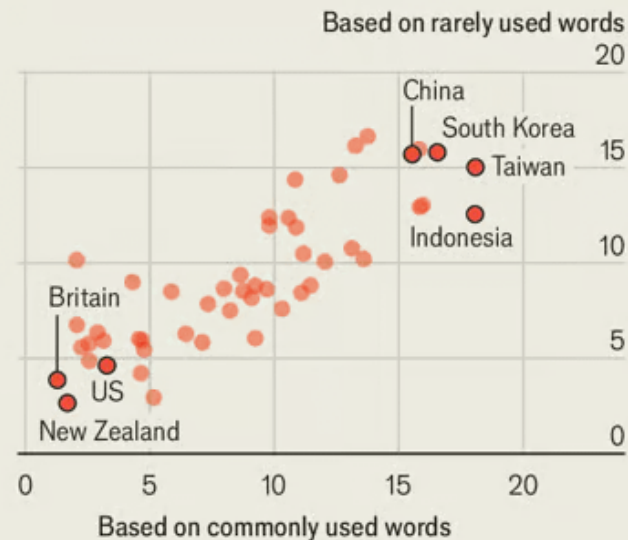


\*English-language abstracts on PubMed †First quarter  
Source: "Delving into ChatGPT usage in academic writing through excess vocabulary", by D. Kobak et al., 2024 (preprint)

## Lingua franca

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Estimated minimum share of science abstracts\* with LLM content, Q1 2024, %



\*In papers indexed by PubMed  
Source: "Delving into ChatGPT usage in academic writing through excess vocabulary", by D. Kobak et al., 2024 (preprint)

An interesting study was just published called "Delving into ChatGPT Usage in Academic Writing". With the proliferation of ChatGPT, people have noticed that it tends to favor certain stylistic words. For example, the word "delves" is a favorite word of ChatGPT that it seems to use much more often than the average person.

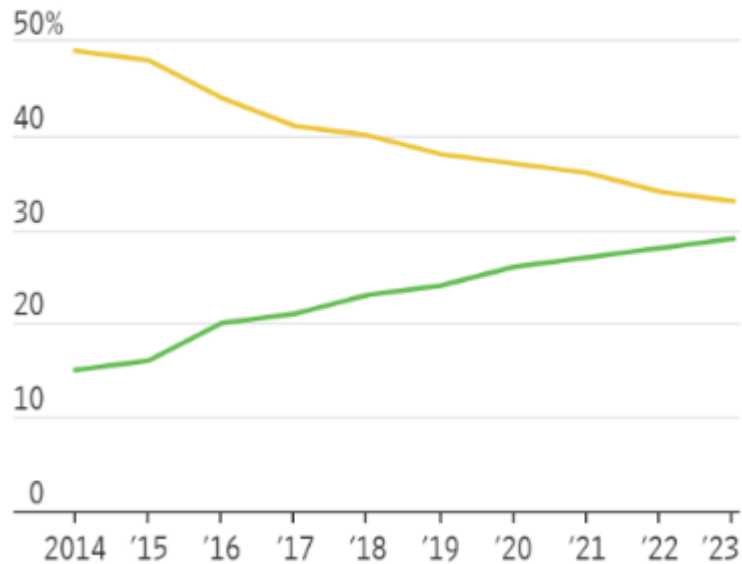
What's interesting is the massive increase in certain words that are favored by ChatGPT in newly published research papers. The first chart shows the increase in such words. The second chart shows that this is most common amongst non-English-speaking countries, which suggest some of it is being used for translation purposes.

The paper quotes that the excess frequency of such LLM (large language models aka ChatGPT) preferred style words suggests that at least 10% of 2024 PubMed abstracts were processed with LLMs. Hopefully its only being used to touch up the language and not to do the research!

# Retirement Savings Nudges Work

## Rising number of 401(k)-type plans default workers into a higher savings rate

- Plans that enroll workers at 6% of their paycheck or more
- Plans that enroll workers at 3%



Note: Plans that use Vanguard as a record keeper

Source: Vanguard

With the decline in pensions, the burden of saving for retirement has been laid on the worker. It was difficult to get people to save and invest their 401ks appropriately at first, but a series of subtle “nudges” have been enacted to help people along. One of the first major nudges was to simply auto enroll workers into their plan. Then they lifted the minimum savings rate at 3%. That was a major success, so now many plans start the savings rate at 6%, and you must opt out if you don’t want that. Most don’t and as a result, nearly 30% of plans auto enroll at 6%, and that number is rising. The benefit is seen in the chart below, as household net worth’s grow rapidly.



# The Changing Labor Force

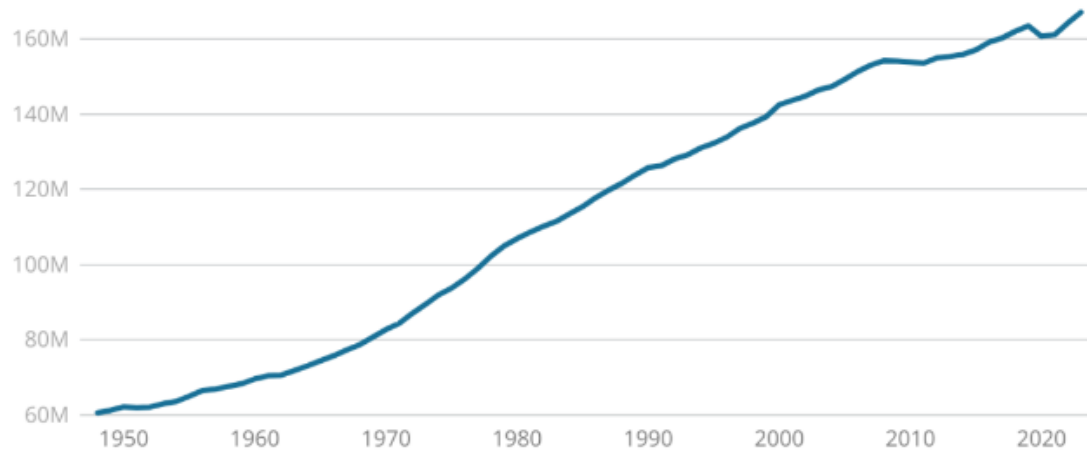
The labor market in general is strong. Even after replacing all the lost jobs during COVID, the US has added many on top of that. In addition, several jobs have been added due to immigration. So the first chart isn't surprising. The labor force is larger than ever.

I did find the second chart interesting, however. Male participation in the labor force has been steadily shrinking over the last 60ish years! I think some of this may be due to older generations retiring, as several households had a single income earner, but its long trend and shocking nonetheless.

## The US labor force is bigger than ever, at close to 170 million workers...

### Size of the civilian labor force

The labor force includes people who are working or looking for work.



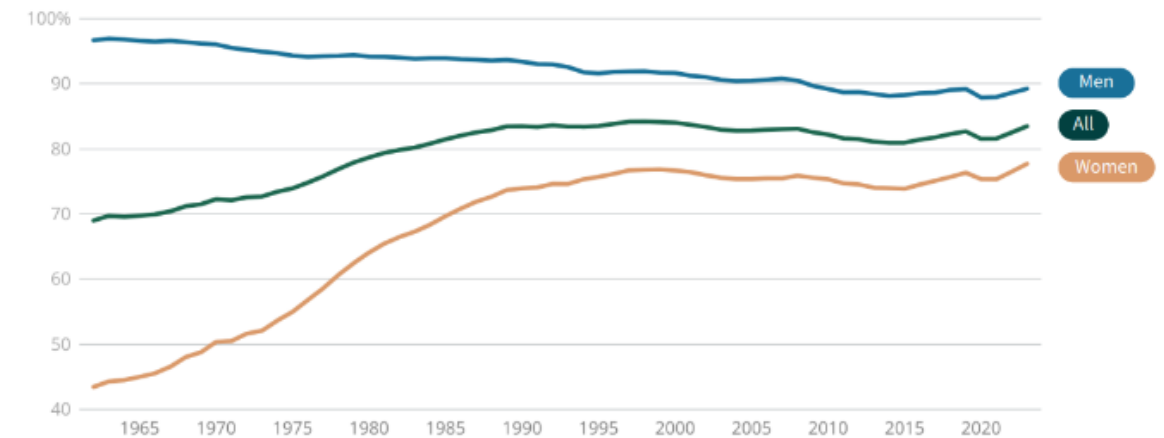
Source: Current Population Survey

3



## ...but of these workers, male participation is in long-term decline, while female participation is at an all-time high.

### Prime-age labor force participation rate by sex



The Current Population Survey's Annual Social and Economic Supplement sample was used from 1962 - 1975, and the basic monthly sample was used for 1976 - 2023.

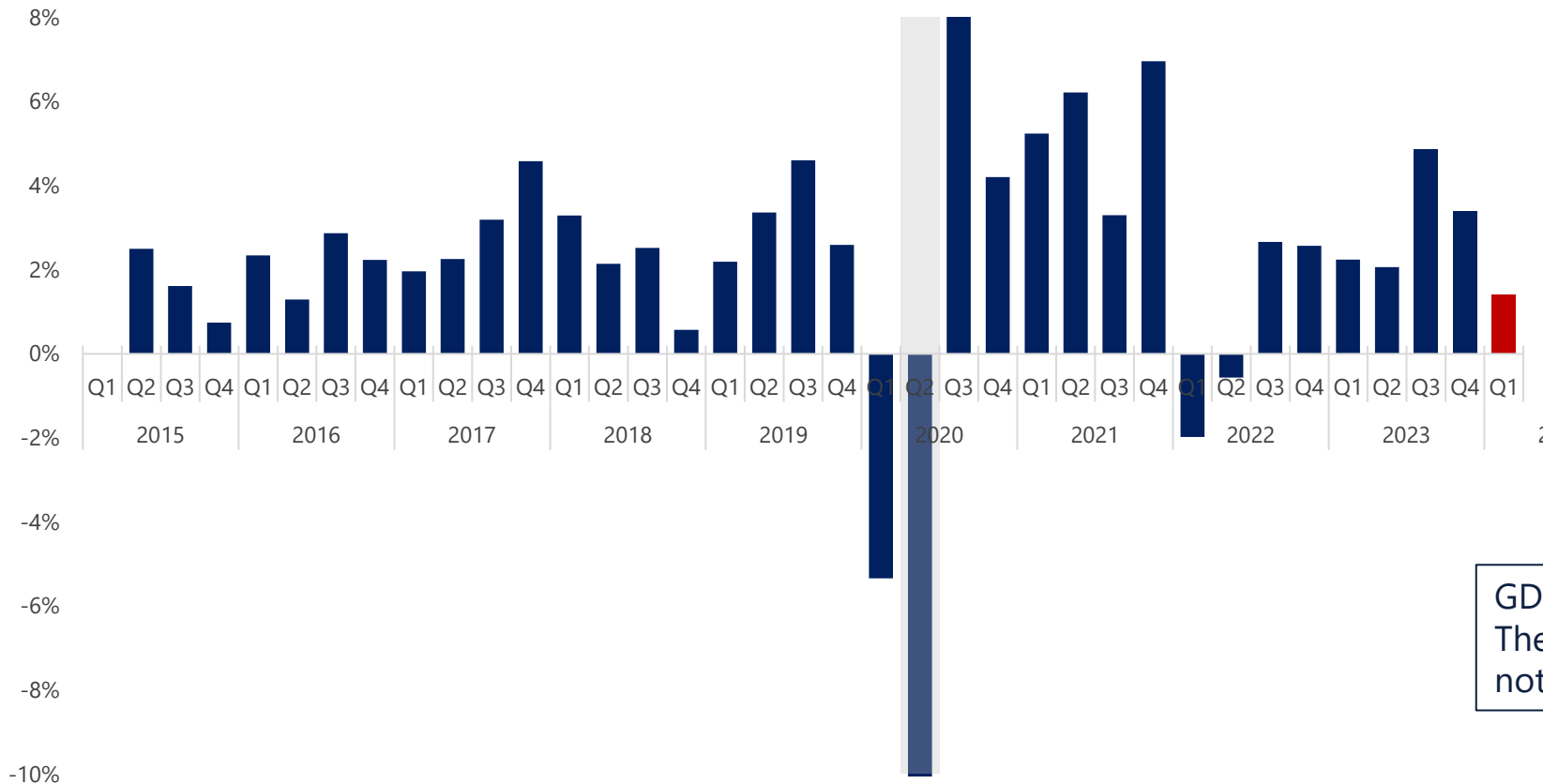
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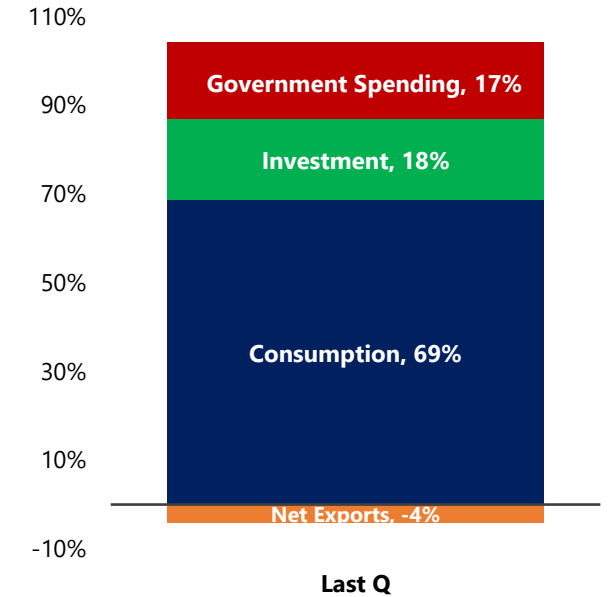
# WJ State of the Economy

# Q1 GDP Revised Down to 1.4%

Annualized Real Gross Domestic Product (GDP) % Chg



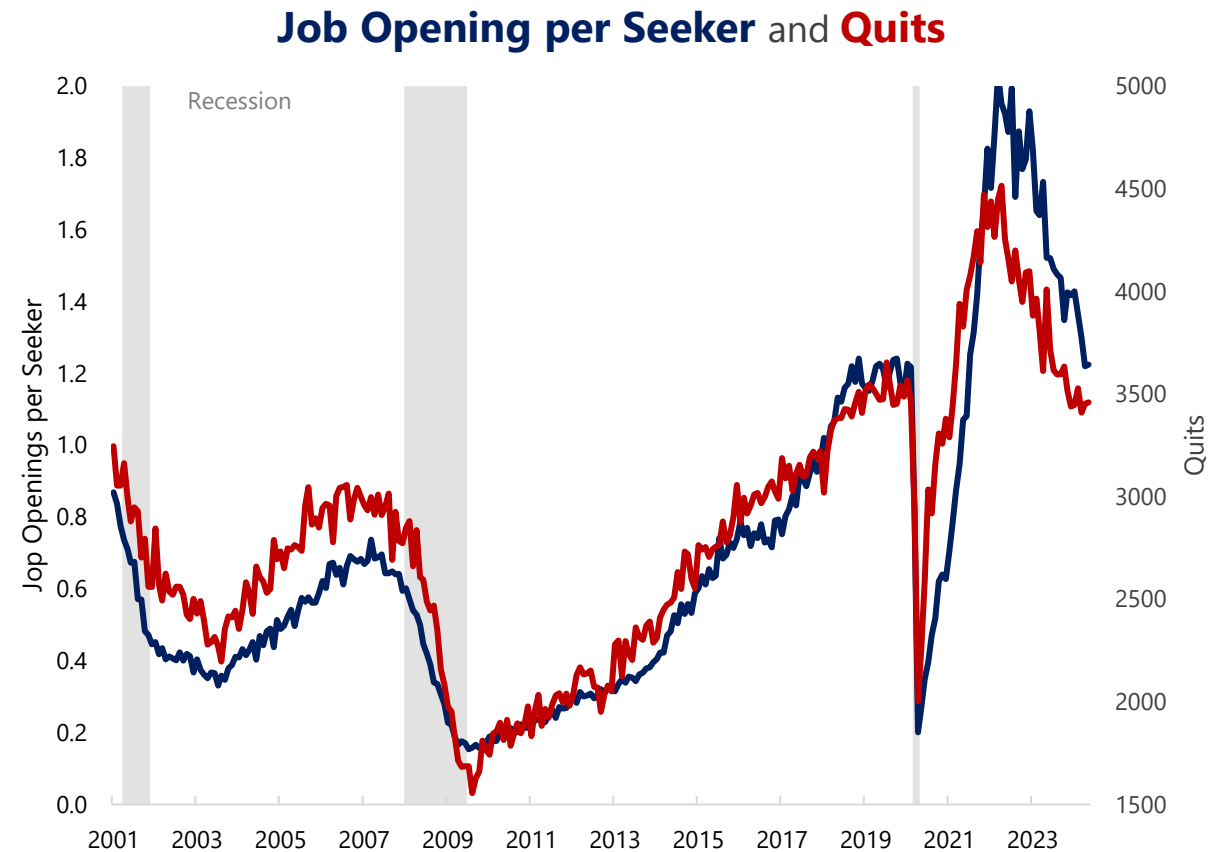
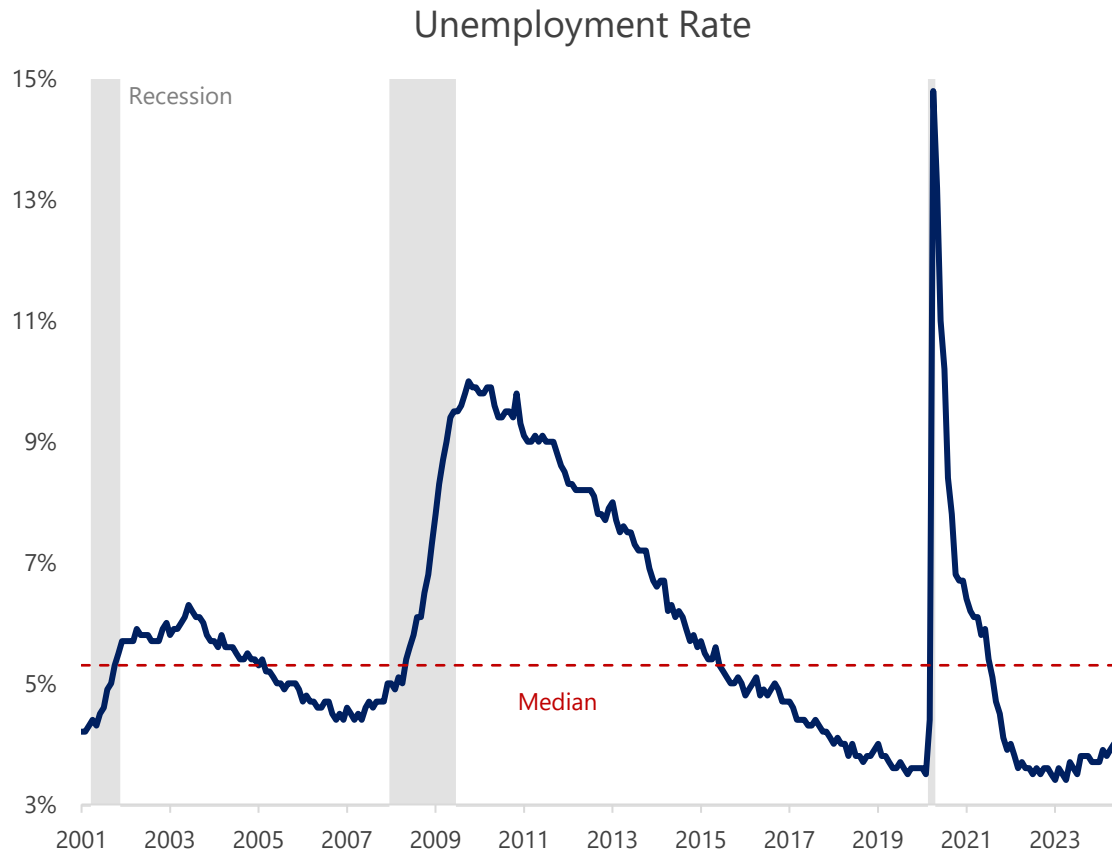
Components of GDP



GDP was revised down to 1.4% (from 1.6%). These revisions are common, but its worth noting that Q2s forecast has also come down.

Source: Federal Reserve Economic Database (FRED). Real Gross Domestic Product (left). Components from U.S. Bureau of Economic Analysis, "Table 1.1.6. Real Gross Domestic Product, Chained Dollars" (right). Recessions from NBER based Recession Indicators for the United States from the Period following the Peak through the Trough

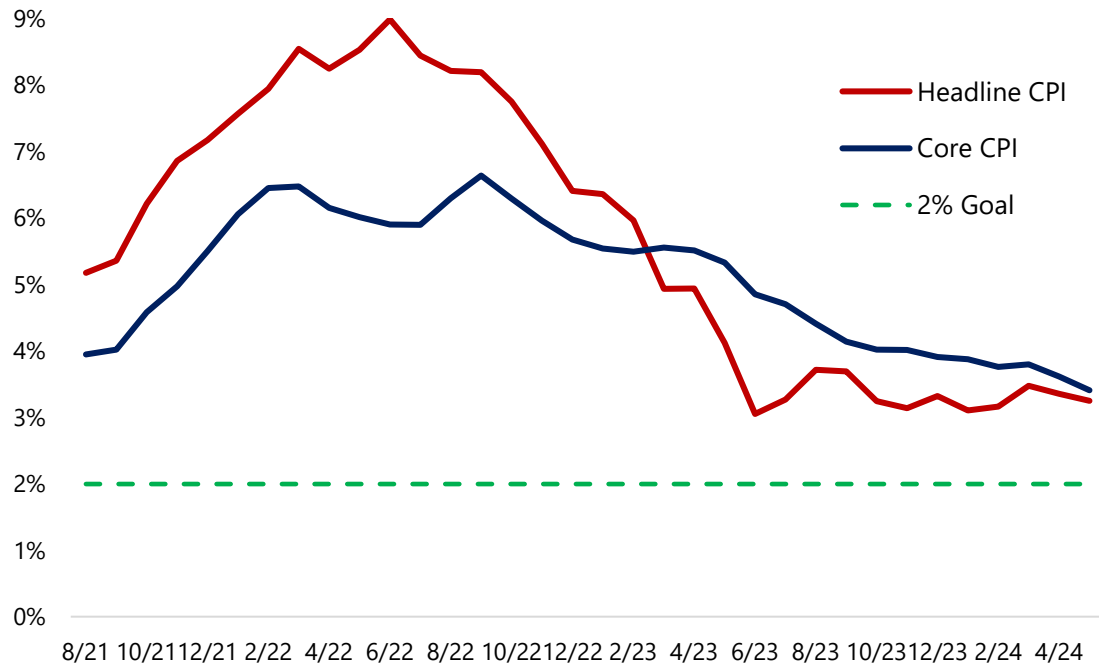
# The Jobs Picture is Still Strong Historically, but Slowing



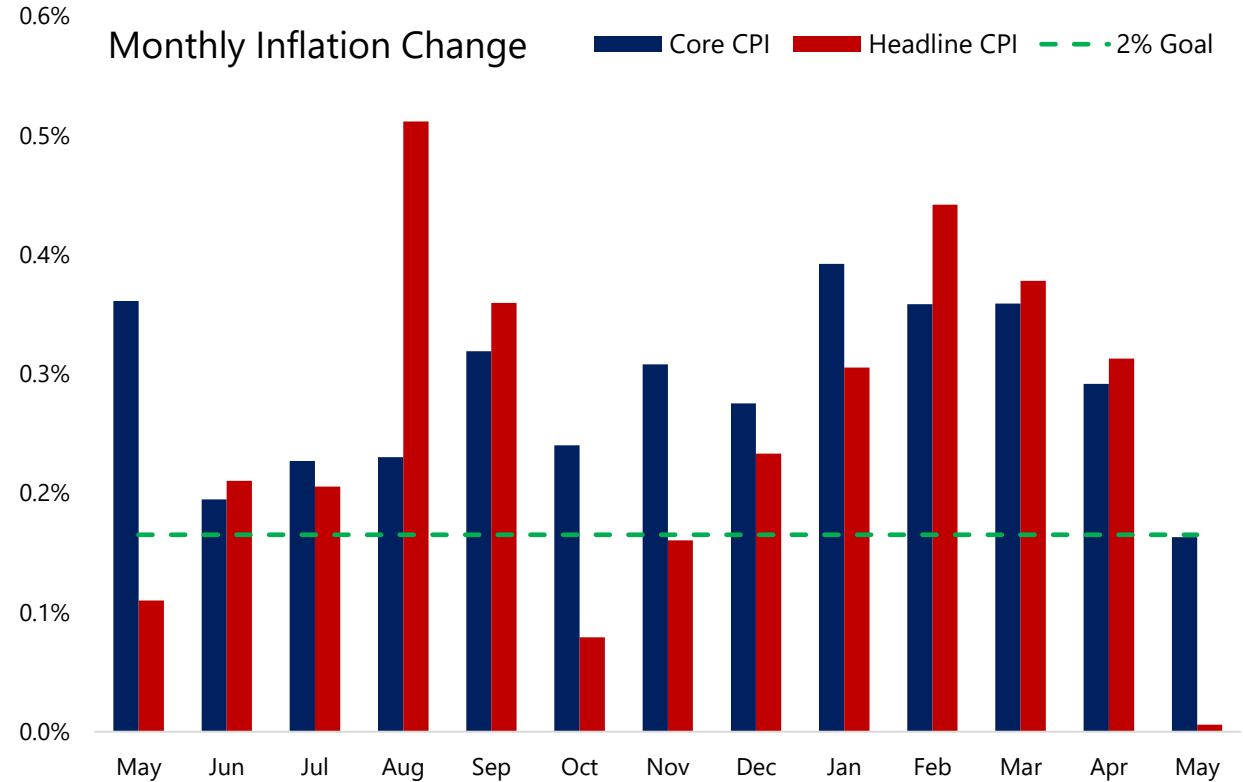
Source: Federal Reserve Economic Database (FRED). Unemployment Rate (left) and Job Openings: Total Nonfarm divided by Unemployment Level as well as Quits: Total Nonfarm (right). Recessions from NBER based Recession Indicators for the United States from the Period following the Peak through the Trough

# Finally, a Good Inflation Report

Annual Inflation Change



Monthly Inflation Change



You can see the drop off in May's monthly inflation report (right). Q1 readings made it difficult for the Fed to cut rates as planned. If we can get a few more readings like May, the Fed can easily rationalize rate cuts, which much of the market is anticipating and some borrowers are starving for. Other inflation measures like PCE and PPI are confirming the progress we see here in CPI.

Source: Federal Reserve Economic Database (FRED). Consumer Price Index. Annual CPI Forecasts are made by WJ using past month over month CPI data and extrapolating forward with different growth rates.

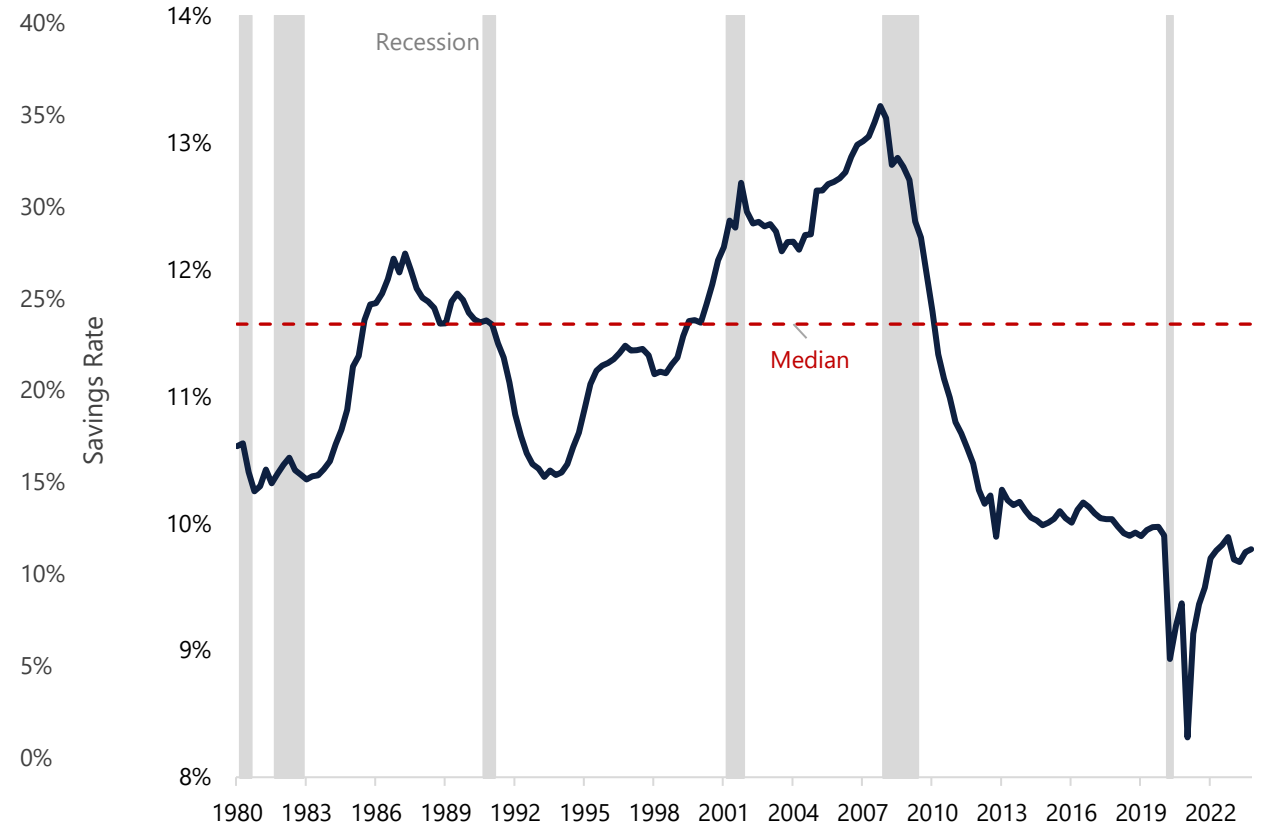


# Household Spending is Still Strong

## Consumer Spending Chg vs Savings Rate

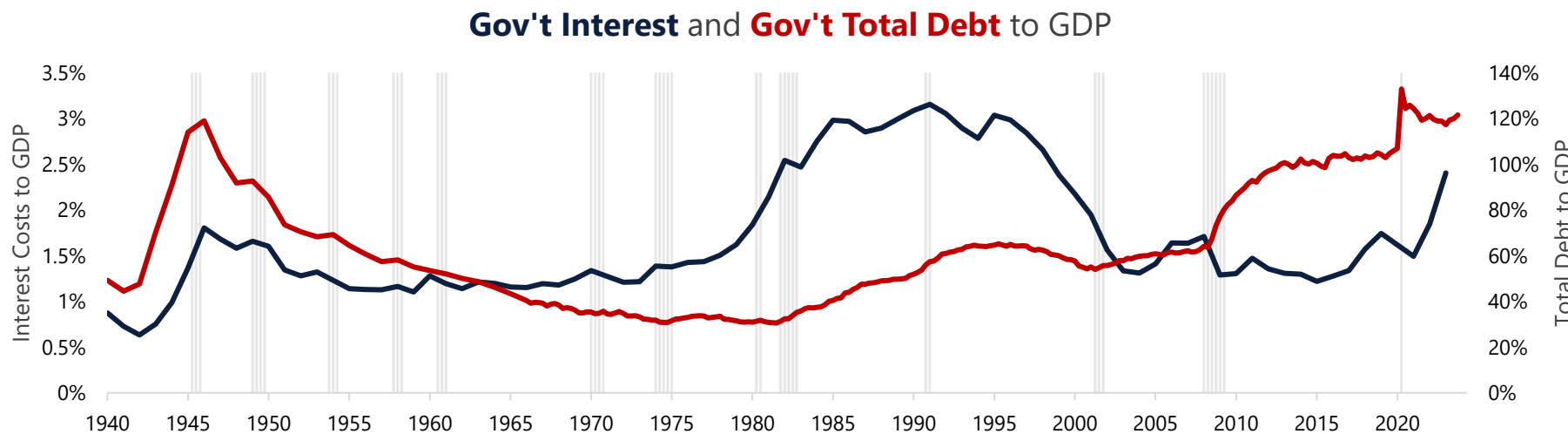
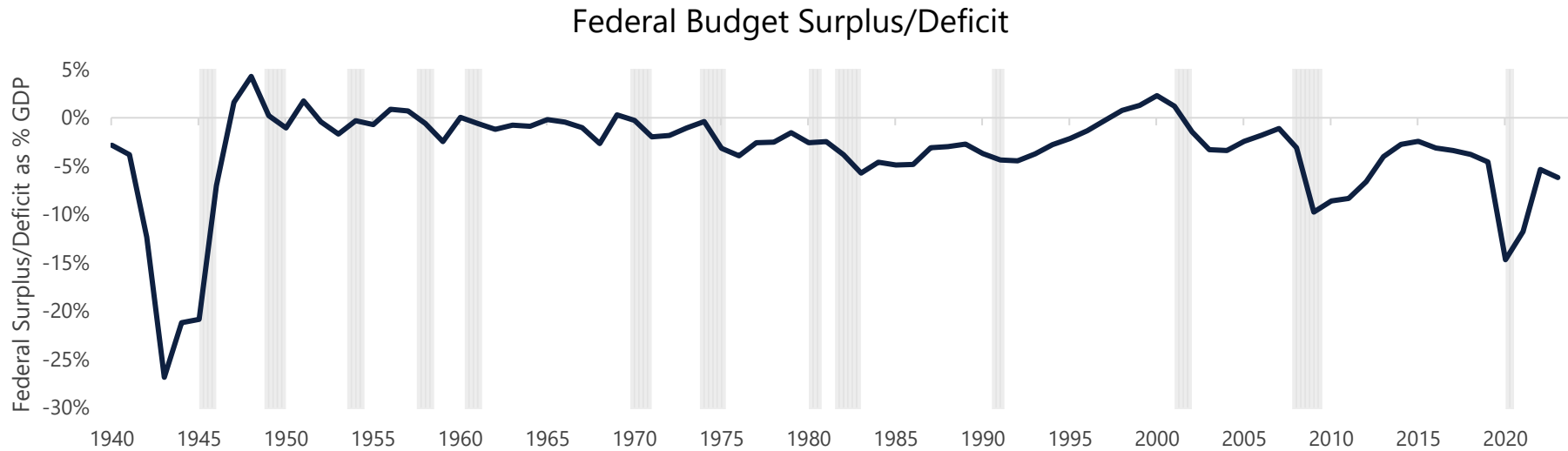


## Household Debt Service Payments as % of Income



Source: Federal Reserve Economic Database (FRED). Personal Saving Rate plus Real Personal Consumption Expenditures (left) and Household Debt Service Payments as a Percent of Disposable Personal Income (right). Recessions from NBER based Recession Indicators for the United States from the Period following the Peak through the Trough

# Government Budget Deficit Increased



Source: Federal Reserve Economic Database (FRED) Federal Surplus or Deficit [-] as Percent of Gross Domestic Product (top) and Federal Debt: Total Public Debt as Percent of Gross Domestic Product plus Federal Outlays: Interest as Percent of Gross Domestic Product (bottom). Recessions from NBER based Recession Indicators for the United States from the Period following the Peak through the Trough

# Government Expenditures 2023

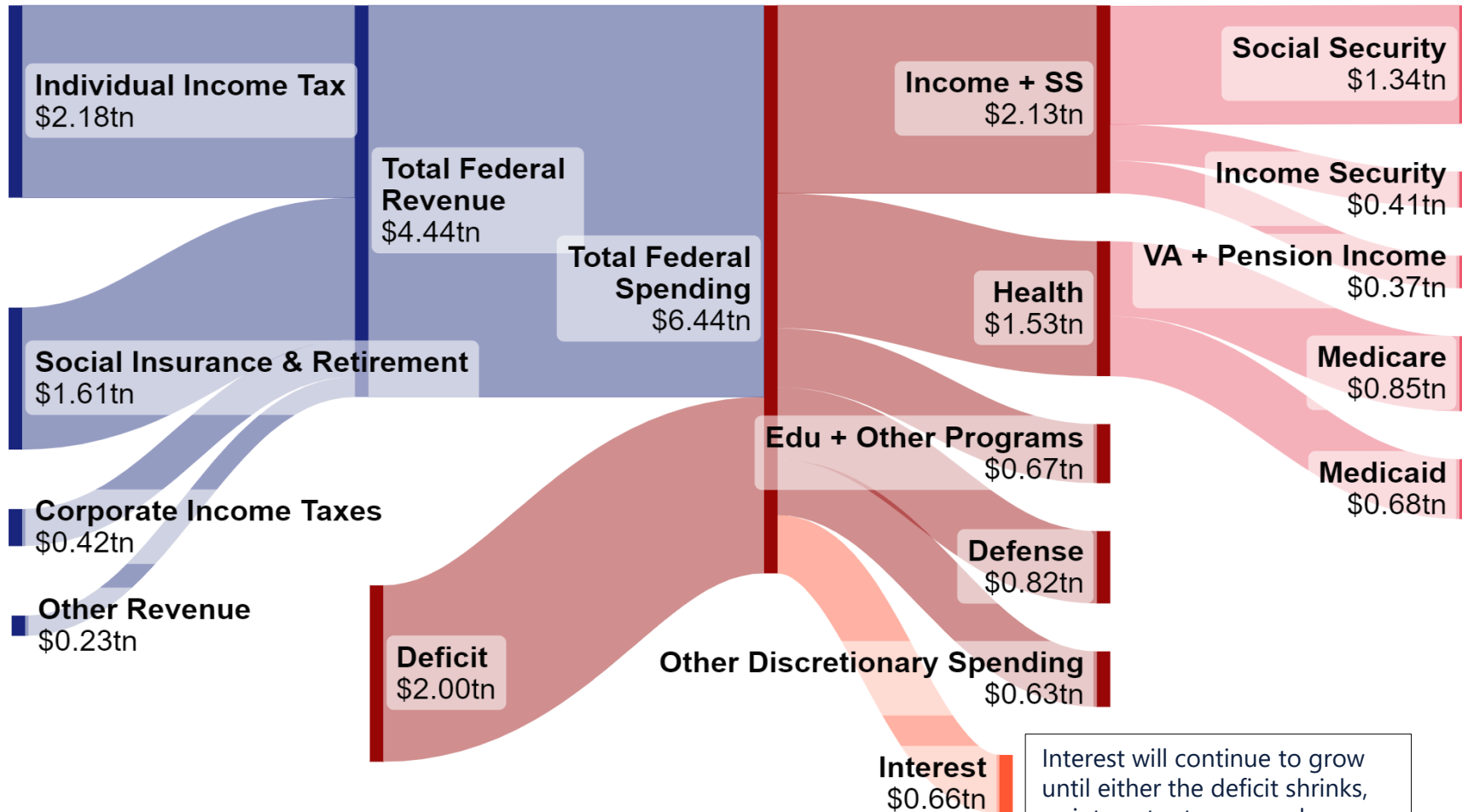
This is an in depth look at how the US makes and spends money. On the spending side, the top 3 categories are known as "mandatory spending" and are unable to change without major reform. That leaves "Defense" and "Other Discretionary Spending" as the two categories congress can change on any year.

Income taxes receipts were lower than budgeted, partly due to a bad 2022 that produced low capital gains taxes.

A major part of "other revenue" the last decade has been Federal Reserve Remittances, Where the Fed pays the Treasury any interest it makes over what it pays. With the Fed Funds Rate high, this income has gone away, but could return if rates went down.

Social Security and Medicare are forecasted to grow rapidly as baby boomers enter retirement. Other programs will fall as a percent of spending.

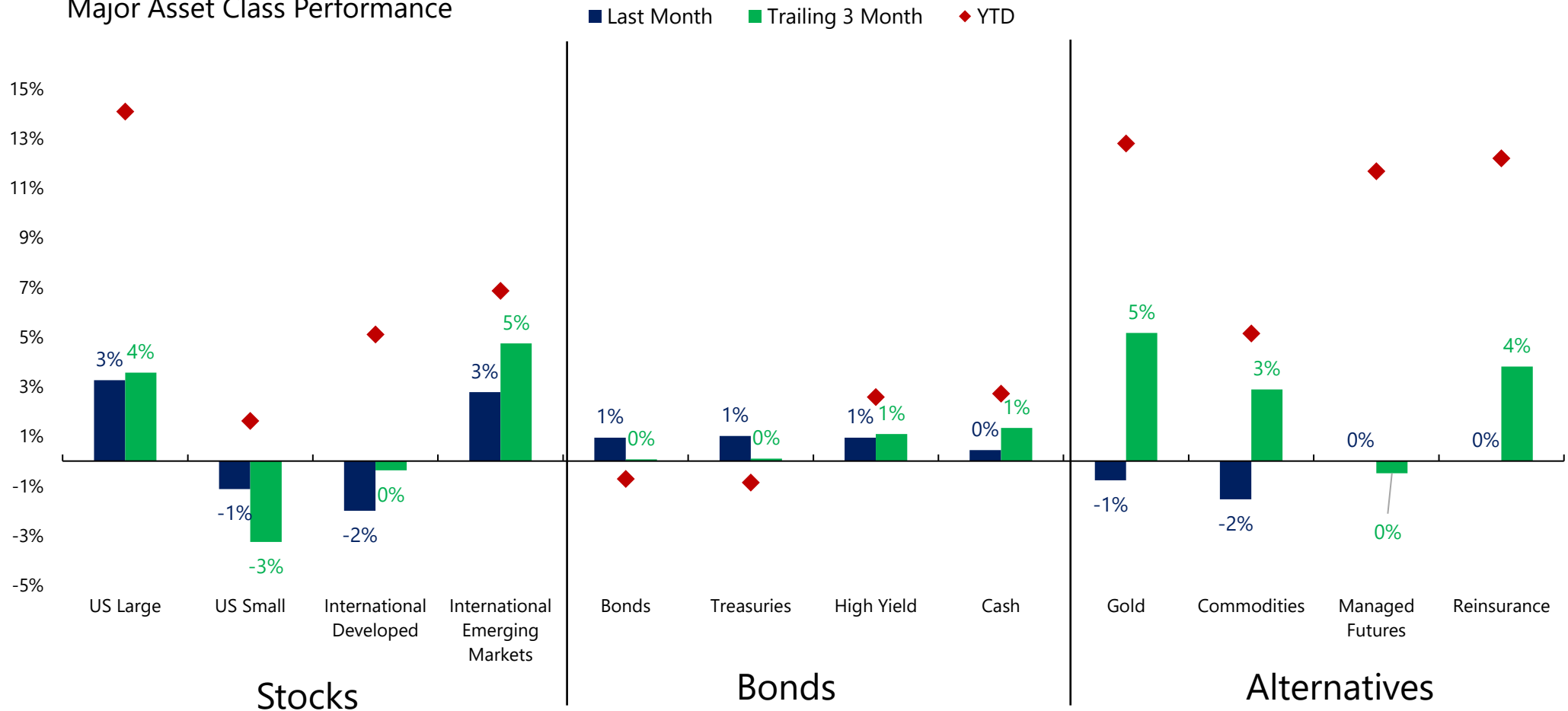
Interest will continue to grow until either the deficit shrinks, or interest rates come down.



# WJ State of the Markets

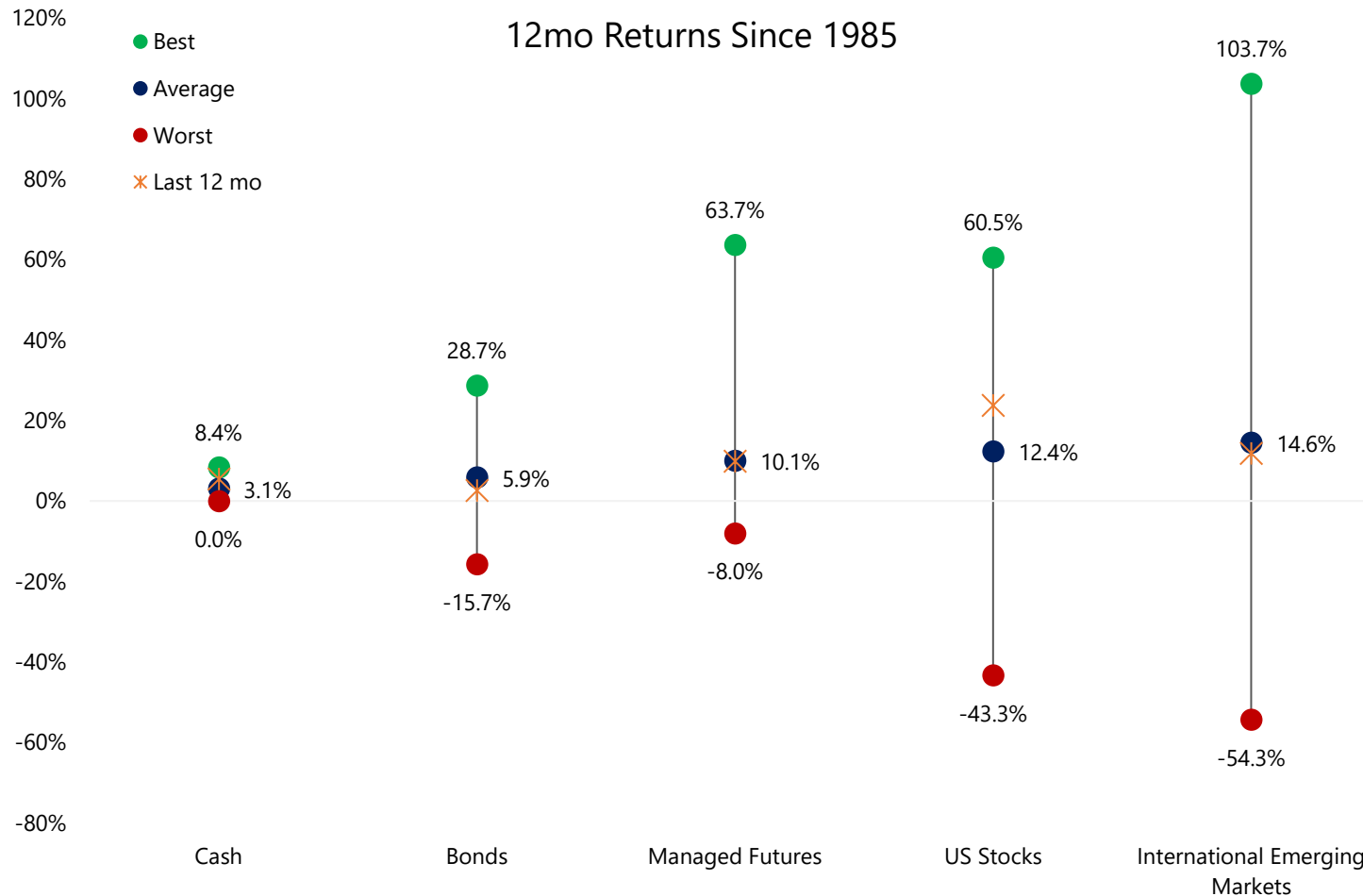
# Bounce Back For Stocks, But Alts Still Lead

Major Asset Class Performance



Source: Morningstar Direct. Categories in table are represented by (left to right) iShares Russell 1000 (IWB), iShares Russell 2000 (IWM), iShares Core MSCI EAFE (IEFA), iShares Core MSCI EM (IEMG), Bloomberg US Agg Bond TR, Bloomberg US Treasury TR USD, Bloomberg US Corporate High Yield TR USD, IA SBBI US 30 Day TBill TR USD, SPDR Gold Shares, Bloomberg Commodity TR USD, CISDM CTA EW USD, Stone Ridge Reinsurance Fund

# Historical Asset Class Return Range

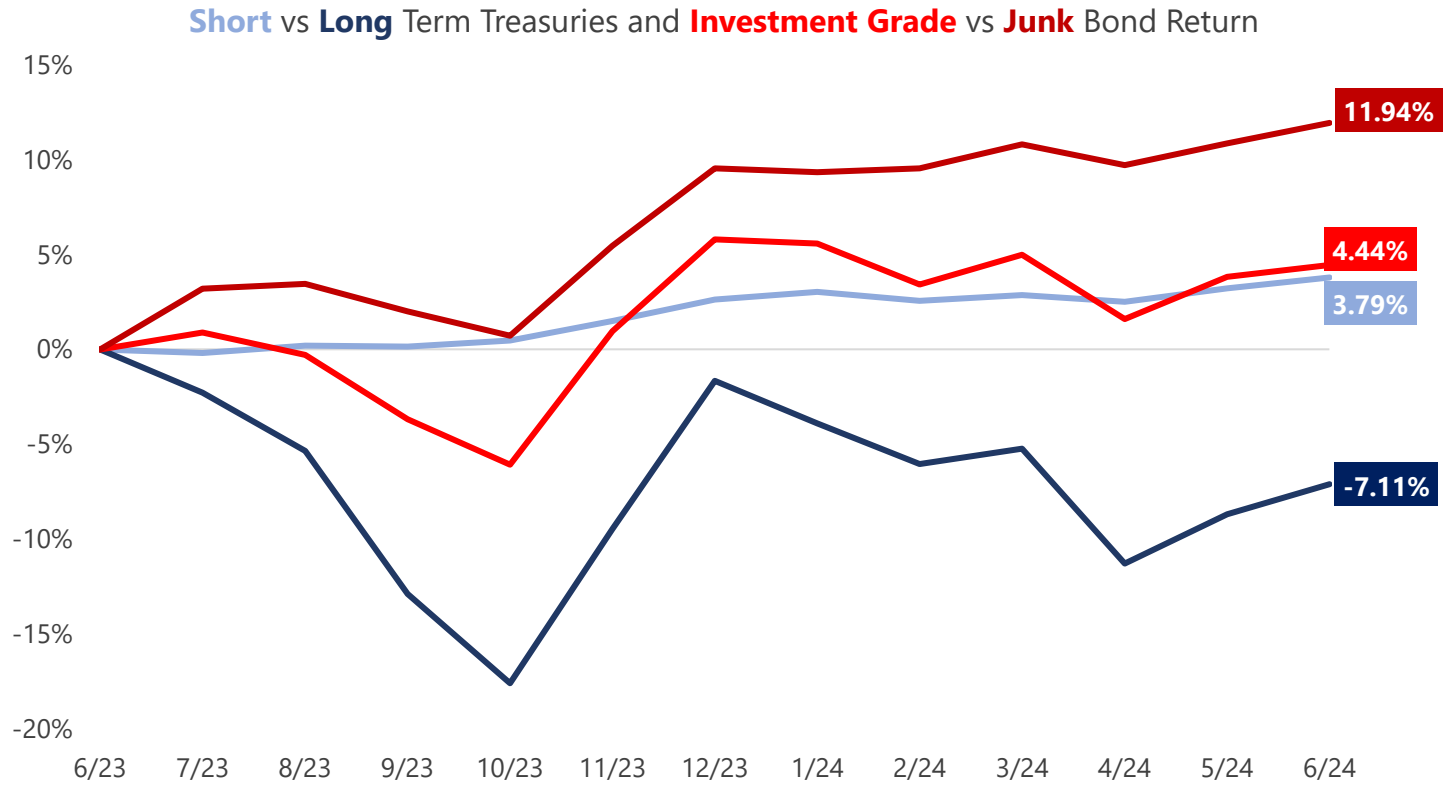


This chart shows the range of 12 month returns historically, by asset class. As you'd expect, the riskier investment leads to a greater potential gain, as well as loss.

The X on the line represents the last 12 months.

# Junk Bonds Good, Safe Assets Bad

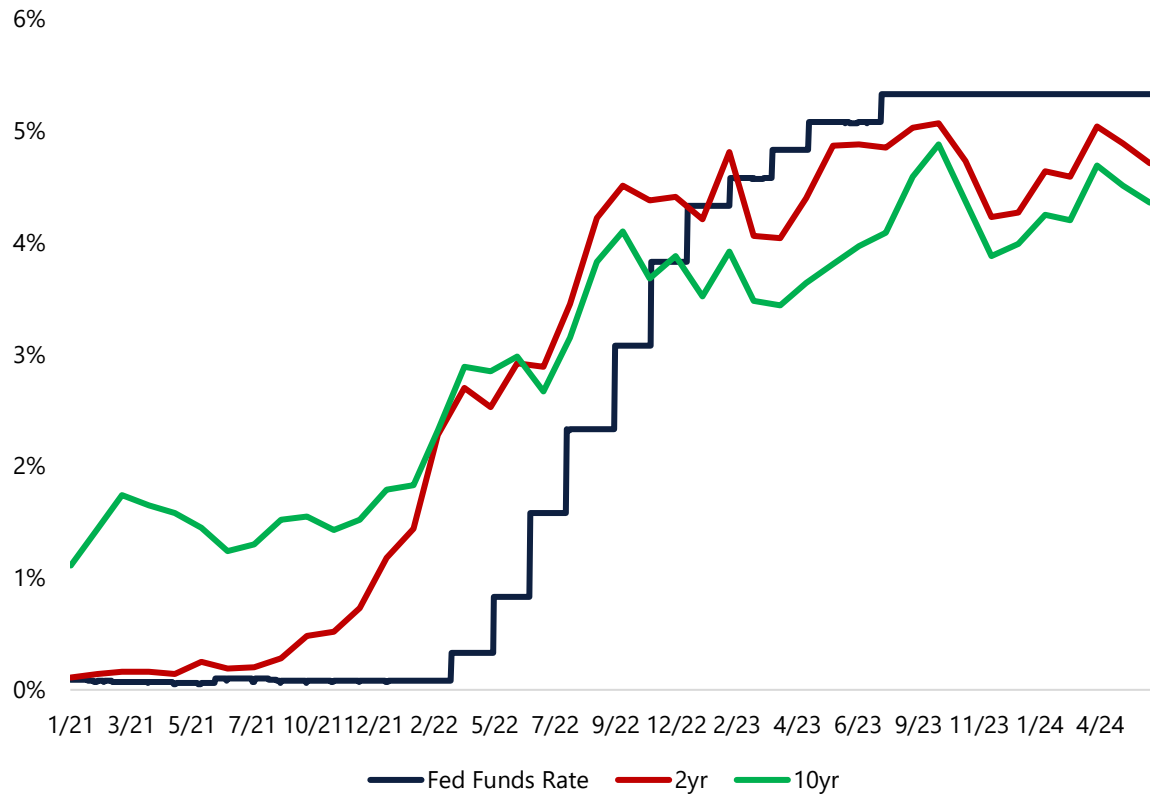
Bond Type	Yield (%)			Yield History
	Last Month	Last Year	Change	
ST Treasury	4.78	4.96	-0.18	
LT Treasury	4.61	4.11	0.5	
Investment Grade	5.48	5.45	0.03	
High-Yield	7.91	8.3	-0.39	
Mortgage-Backed	5.22	4.85	0.37	
Municipal Bonds	3.72	3.5	0.22	



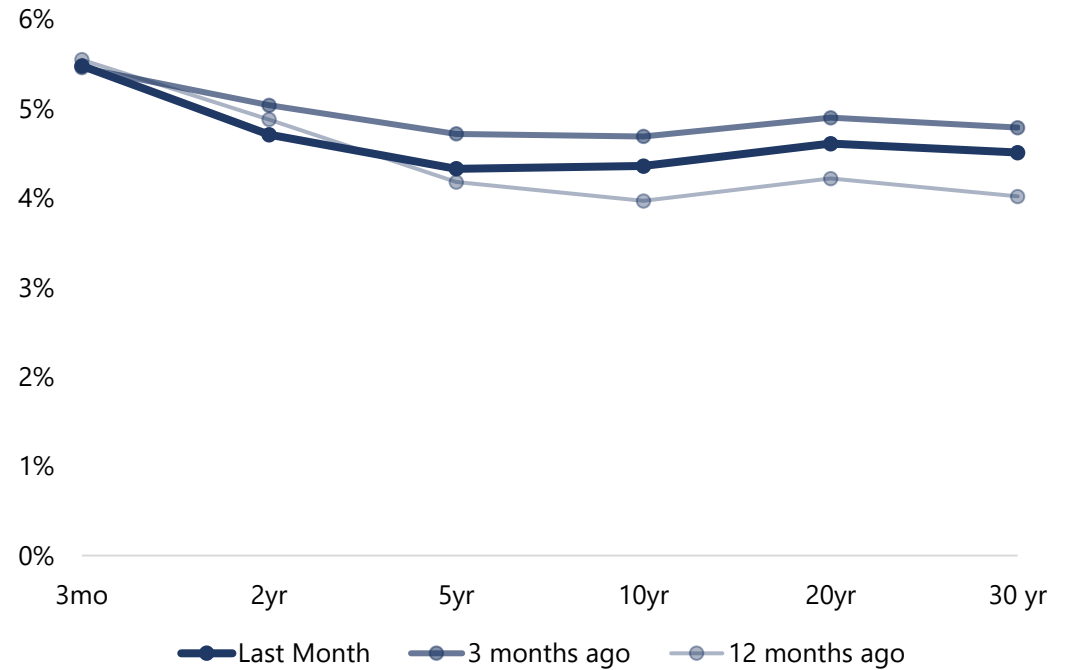
Source: Morningstar Direct. Categories in table are represented by (top to bottom) Bloomberg US Treasury 1-3 Yr Yld USD, Bloomberg US 20+Yr Yld USD, Bloomberg US Corp Bond Yld USD, Bloomberg US Corp High Yield Yld USD, Bloomberg US MBS Yld USD, Bloomberg Municipal Yld USD

# Yields May Have Topped, and are Coming Down

Key Treasury Yields



Treasury Yield Curve



	3mo	2yr	5yr	10yr	20yr	30 yr
<b>Last Month</b>	5.5%	4.9%	4.5%	4.5%	4.7%	4.7%
<b>3 months ago</b>	5.5%	4.6%	4.2%	4.2%	4.5%	4.3%
<b>12 months ago</b>	5.4%	4.9%	4.1%	3.8%	4.1%	3.9%

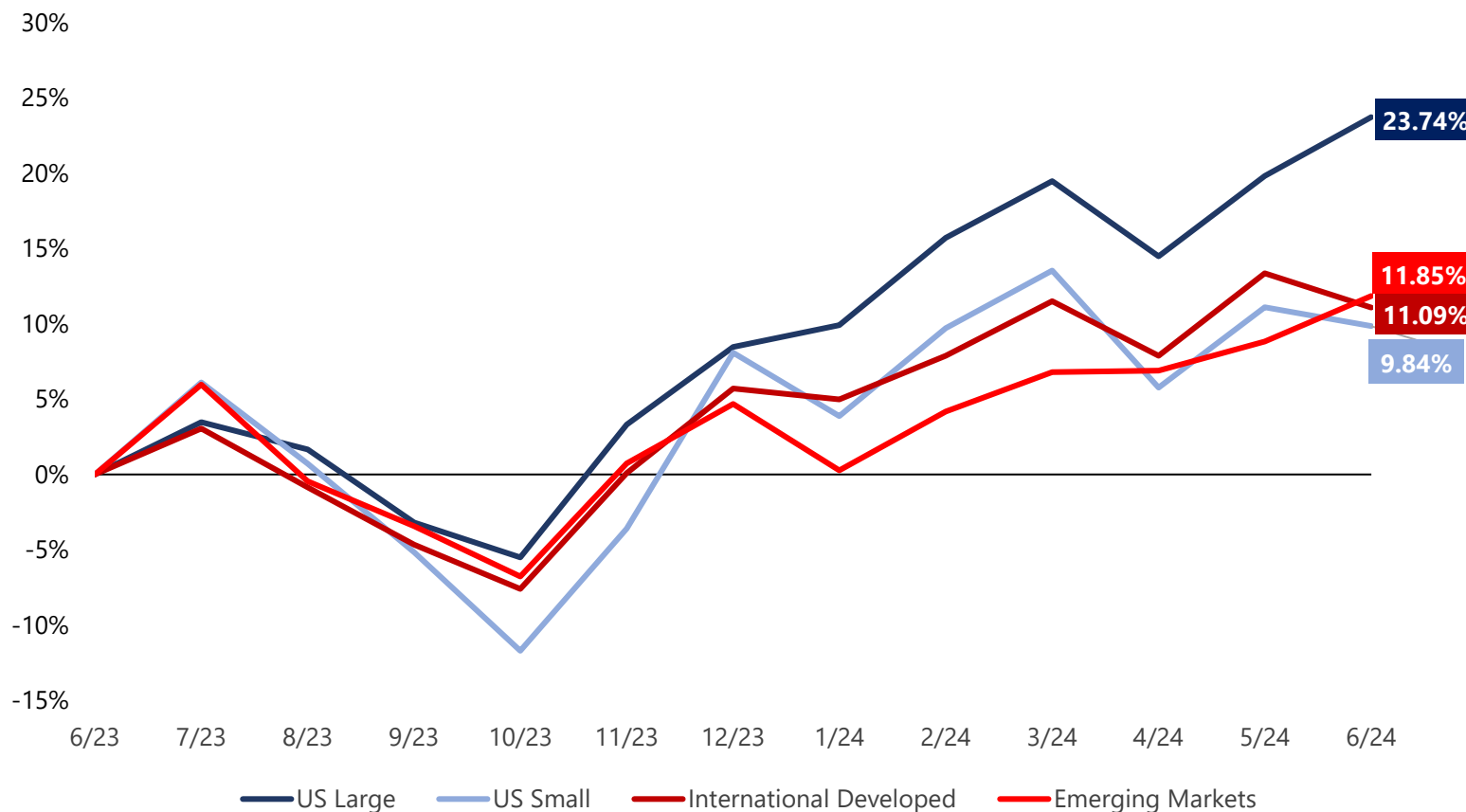
Source: Morningstar Direct. USTREAS T-Bill Cnst Mat Rate 3mo, USTREAS T-Bill Cnst Mat Rate 2 yr, USTREAS T-Bill Cnst Mat Rate 5yr, USTREAS T-Bill Cnst Mat Rate 10 Yr, USTREAS T-Bill Cnst Mat Rate 20 Yr, USTREAS T-Bill Cnst Mat Rate 30 Yr. Effective Fed Funds Rate from FRED Database.



# Large Cap Growth Stocks over Everything

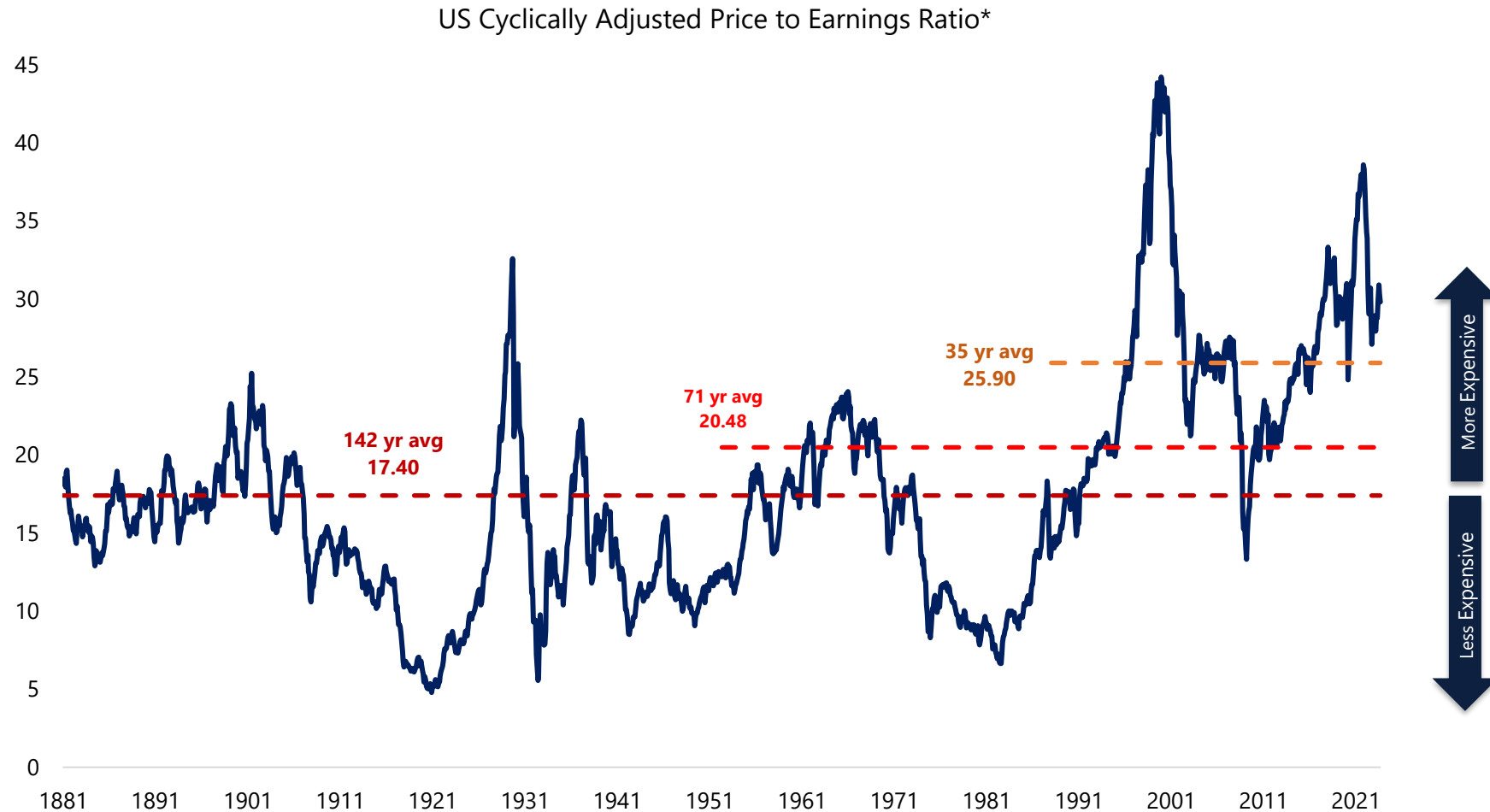
	Stock Type	Last Month	Last 3 Months	Last 12 Months
Core	US Large	3.3%	3.6%	23.7%
	US Small	-1.1%	-3.3%	9.8%
	International Developed	-2.0%	-0.4%	11.1%
	International Emerging	2.8%	4.7%	11.9%
Other	US Value	-1.0%	-2.2%	12.9%
	US Growth	6.7%	8.3%	33.3%
	Nasdaq	6.2%	8.0%	30.5%

US vs International Stock Performance



Source: Morningstar Direct. Categories in table are represented by (top to bottom) iShares Russell 1000 (IWB), iShares Russell 2000 (IWM), iShares Core MSCI EAFE (IEFA), iShares Core MSCI Emerging Markets (IEMG), iShares Russell 1000 Value ETF (IWD), Russell 1000 Growth ETF (IWF), Nasdaq 100 ETF (QQQ).

# US Stocks Valuation High Historically



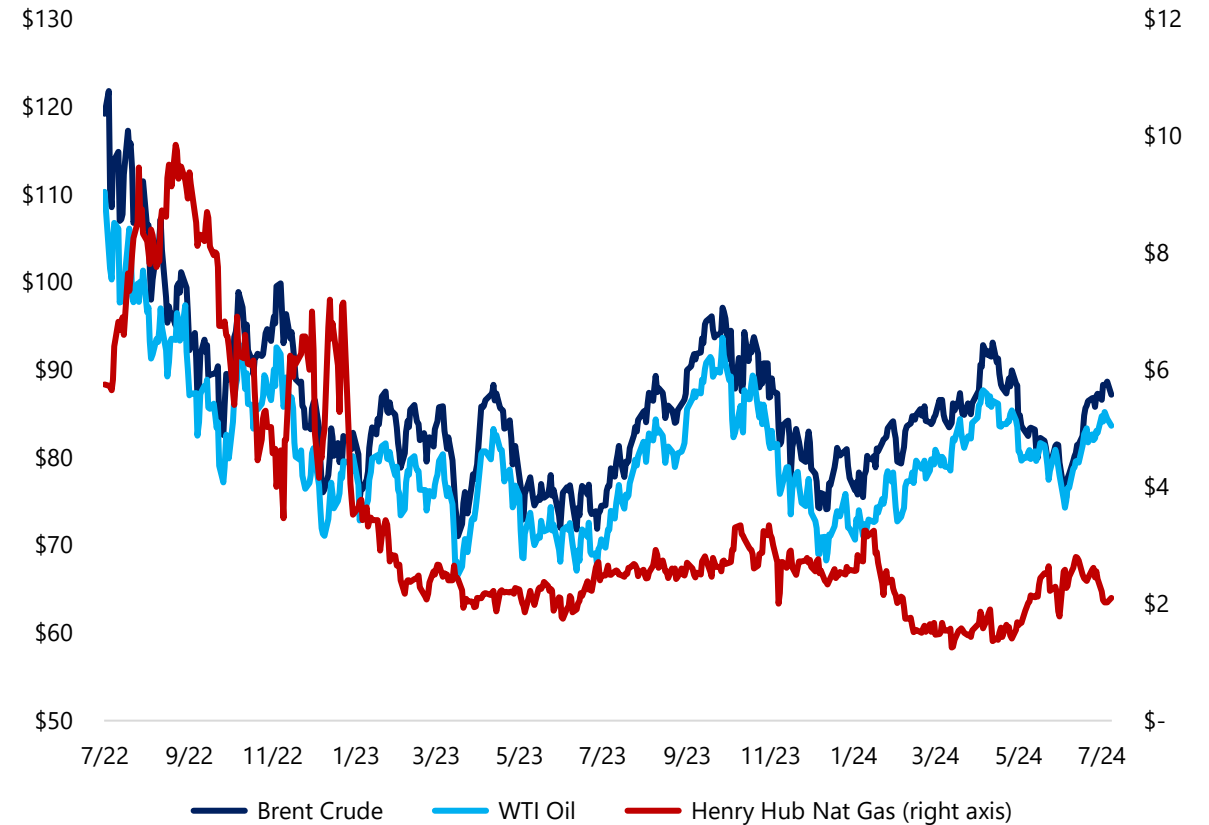
\*CAPE or Cyclically Adjusted Price to Earnings Ratio takes the current price and divides it by the last 10 years average earnings for the S&P 500 and adjusts it for inflation. It is thought to be more predictive of future returns than trailing 12 month or Forward PE.  
Source: Data and CAPE Ratio were developed by Robert Shiller using various public sources.

# Commodities/Energy Stabilizing

Bloomberg Commodity Index



Energy Prices



Source: Bloomberg Commodity TR USD (left) and Crude Oil Prices: West Texas Intermediate (WTI) - Cushing, Oklahoma, Crude Oil Prices: Brent - Europe, Henry Hub Natural Gas Spot Price from U.S. Energy Information Administration (right)

# Periodic Table of Asset Class Returns

											Through Last Month End 6/30/2024	
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 YTD	5 Yr	10 Yr
Trend Following 20%	Reinsurance 8%	US Small Stock 22%	Intl Emerging Stk 37%	Cash 2%	US Large Stock 31%	US Large Stock 21%	US Large Stock 26%	Trend Following 22%	Reinsurance 44%	US Large Stock 14%	US Large Stock 14.48%	US Large Stock 12.37%
US Large Stock 13%	Bonds 2%	US Large Stock 12%	Intl Developed Stk 27%	Bonds 0%	US Small Stock 25%	US Small Stock 20%	US Small Stock 15%	Reinsurance 3%	US Large Stock 26%	Reinsurance 12%	Reinsurance 10.43%	US Small Stock 6.96%
Reinsurance 11%	US Large Stock 1%	Intl Emerging Stk 10%	US Large Stock 22%	US Large Stock -5%	Intl Developed Stk 23%	Intl Emerging Stk 18%	Intl Developed Stk 12%	Cash 2%	Intl Developed Stk 18%	TAA 8%	US Small Stock 6.85%	Moderate Blended Port 6.35%
Bonds 8%	Cash 0%	Moderate Blended Port 6%	TAA 19%	Moderate Blended Port -8%	TAA 20%	Moderate Blended Port 13%	Moderate Blended Port 11%	Bonds -12%	Moderate Blended Port 17%	Trend Following 7%	Moderate Blended Port 7.14%	Reinsurance 5.29%
Moderate Blended Port 8%	Intl Developed Stk 0%	Reinsurance 6%	Moderate Blended Port 17%	Reinsurance -6%	Moderate Blended Port 20%	Intl Developed Stk 8%	TAA 10%	TAA -12%	US Small Stock 17%	Intl Emerging Stk 7%	Intl Developed Stk 6.46%	Intl Developed Stk 4.53%
US Small Stock 5%	Trend Following 0%	TAA 5%	US Small Stock 15%	TAA -8%	Intl Emerging Stk 18%	Reinsurance 7%	Trend Following 5%	Moderate Blended Port -15%	Intl Emerging Stk 12%	Moderate Blended Port 7%	Trend Following 6.50%	TAA 4.33%
TAA 5%	Moderate Blended Port 0%	Intl Developed Stk 2%	Bonds 5%	US Small Stock -11%	Bonds 8%	Bonds 7%	Cash 0%	Intl Developed Stk -15%	TAA 12%	Intl Developed Stk 5%	TAA 4.49%	Trend Following 3.58%
Cash 0%	TAA -4%	Bonds 1%	Trend Following 2%	Trend Following -13%	Trend Following 4%	Trend Following 3%	Bonds -1%	US Large Stock -19%	Bonds 6%	Cash 3%	Intl Emerging Stk 3.63%	Intl Emerging Stk 2.98%
Intl Emerging Stk -3%	US Small Stock -4%	Cash 0%	Cash 1%	Intl Developed Stk -14%	Cash 2%	Cash 0%	Intl Emerging Stk -1%	Intl Emerging Stk -20%	Cash 5%	US Small Stock 2%	Cash 2.20%	Bonds 1.66%
Intl Developed Stk -5%	Intl Emerging Stk -14%	Trend Following -6%	Reinsurance -11%	Intl Emerging Stk -15%	Reinsurance -4%	TAA -2%	Reinsurance -5%	US Small Stock -20%	Trend Following -3%	Bonds -1%	Bonds 0.13%	Cash 1.52%

# Disclaimer

PAST PERFORMANCE IS NOT A GUARANTEE OF CURRENT OR FUTURE RESULTS. Examples and historical information included in this presentation do not, nor are they intended to, constitute a promise of similar future results. Specific client portfolio allocations, risks and returns can and may deviate from these examples depending on accounts and types of investments available through each account. Future market views by WJ Interests, LLC may vary significantly from the historical examples presented herein and no one receiving this summary should assume that WJ Interests, LLC will be able to replicate successful views in the future.

Moderate Blended Portfolio is for illustrative purposes only. It is calculated by taking a weighted average of the following asset classes and represents a moderate risk portfolio incorporating leverage and the asset classes in the table:

28% US Large Stock	iShares Russell 1000 (IWB)
6% US Small Stock	iShares Russell 2000 (IWM)
21% Intl Developed Stock	iShares Core MSCI EAFE (IEFA)
6% Intl Emerging Stock	iShares Core MSCI Emerging Markets (IEMG)
41% Bonds	Vanguard Total Bond Market (BND)
-18% Cash	Morningstar USD 1M Cash TR USD
4% Reinsurance	Stone Ridge Reinsurance Fund (SRRIX)
6% Managed Futures	SG Trend Index, PIMCO Trends (PQTIX), Virtus Alphasimplex (ASFYX), Standpoint (BLNDX)
6% TAA	GMO Benchmark Free (GBMIX) and Strategy Shares Nwfd/Rslv Rbt ETF (ROMO)

Assumes annual rebalancing. All data represents total return for stated period.