

# 2023 YEAR IN REVIEW & 2024 OUTLOOK



# GREENLEAF TRUST INTRODUCTION



# PRESENTERS



**Nicholas A. Juhle, CFA®**  
Chief Investment Officer



**Chris Burns, CFA®, CPA, CFP®**  
Assistant Director of Investment Research



# GREENLEAF TRUST OVERVIEW

Founded in 1998. Thank you for celebrating our 25<sup>th</sup> anniversary with us  
Privately-held, trust-only bank; over \$18bn in assets under advisement  
Offices in Kalamazoo, Grand Rapids, Birmingham, Traverse City, Petoskey, Midland and Delaware  
Mission remains: financial security from generation to generation

## Our Team

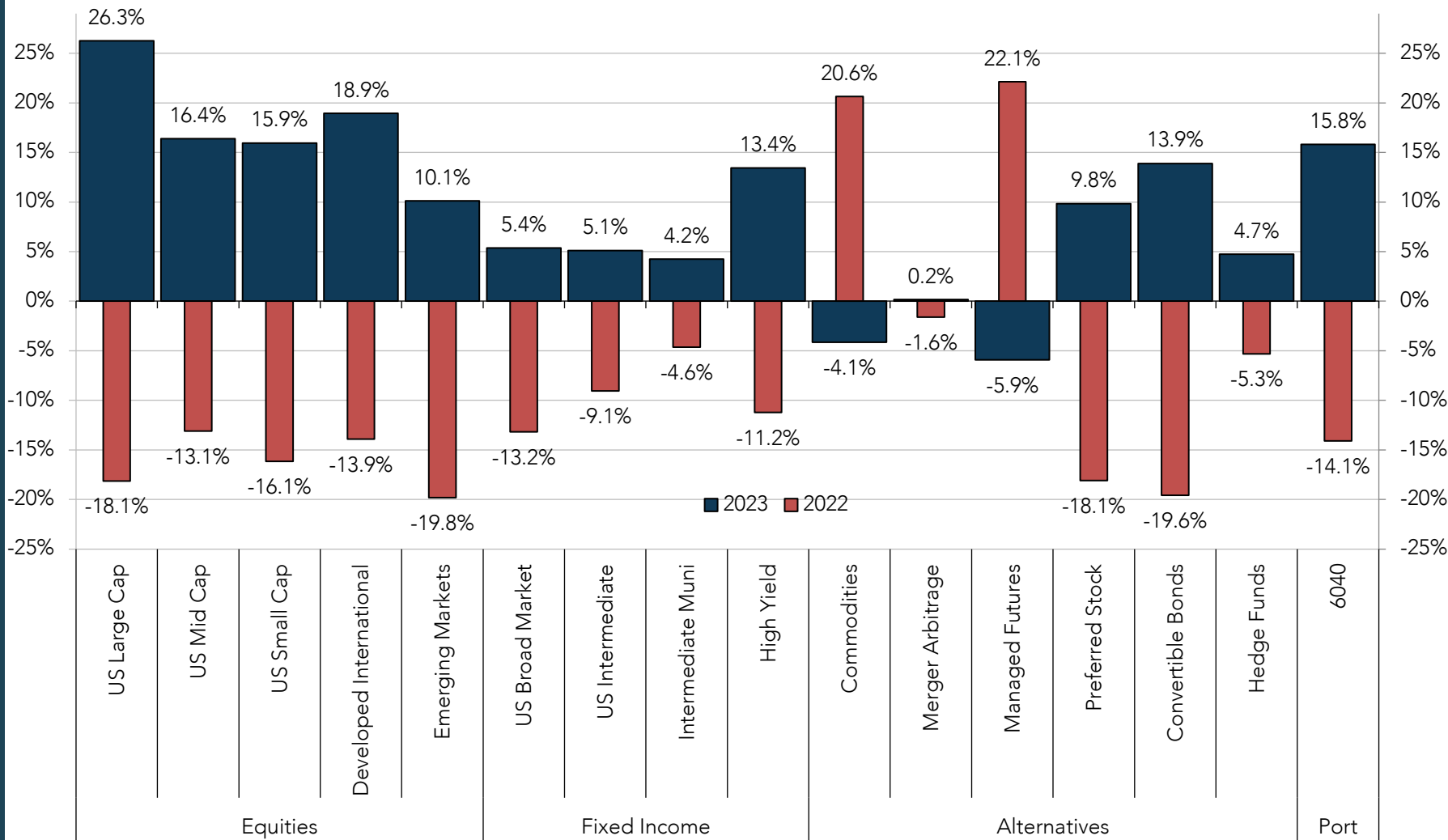




# MARKETS OVERVIEW

## AS OF 12/31/23

### Asset Class Performance



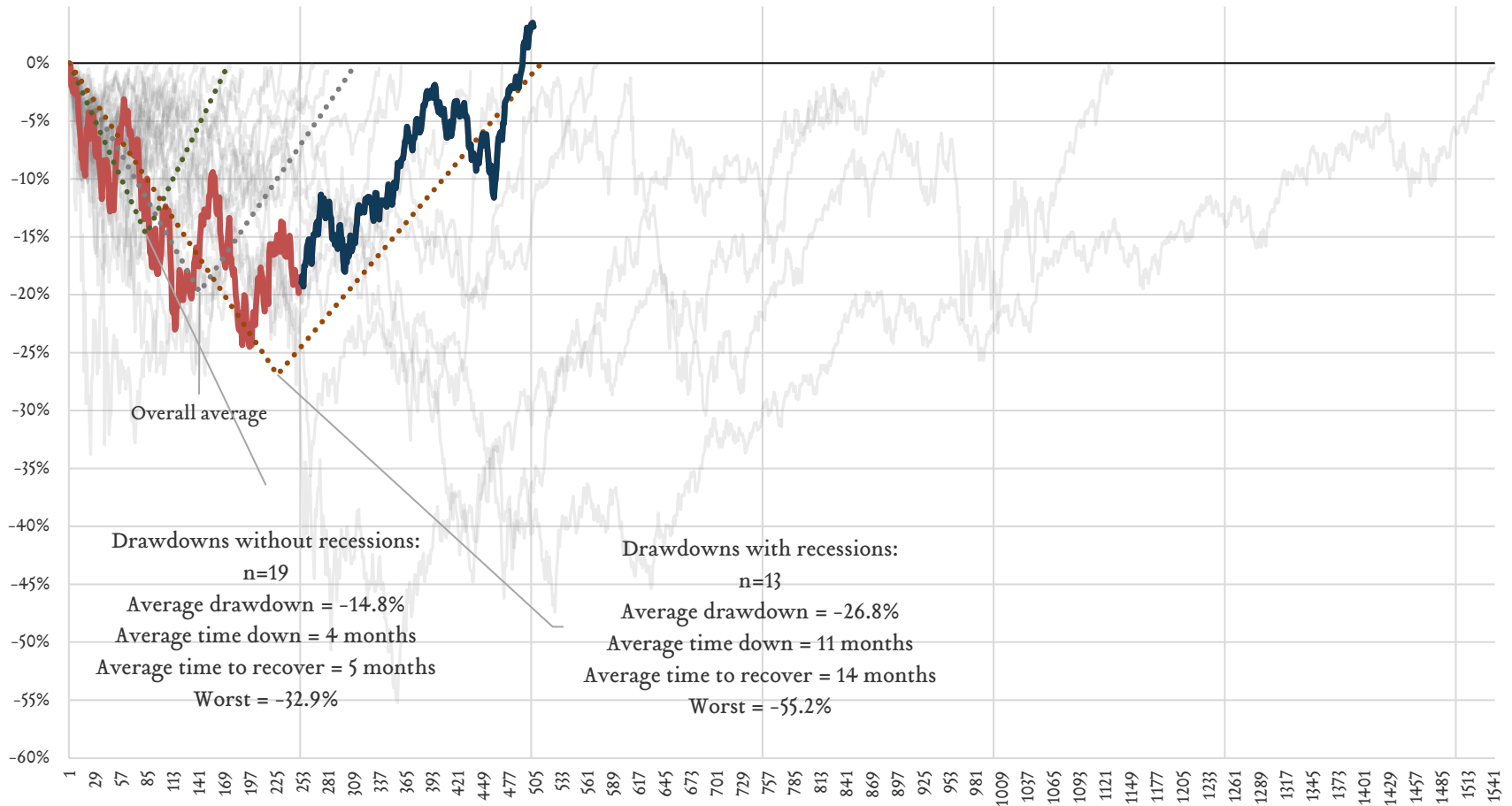
Source: Bloomberg. Asset classes are represented by - US Large Cap: S&P 500; US Mid Cap = S&P 400; US Small Cap = S&P 600; Developed International: MSCI EAFE; Emerging Markets: MSCI EM; US Broad Market: ICE BofA US Broad Market Index; US Intermediate: ICE BofA 1-10 Year US Broad Market Index; Intermediate Muni: ICE BofA 1-10 Year US Muni Index; High Yield: ICE BofA US High Yield Index; Merger Arbitrage: IQ Merger Arbitrage; Managed Futures: Credit Suisse Managed Futures Liquid Index; Preferred Stock = ICE Exchange-Listed Preferred & Hybrid Securities Index; Convertible Bonds = ICE BofA US Convertible Excluding Mandatory Index; Hedge Funds: Hedge Fund Research HFRIFOF.



# MARKETS OVERVIEW

## AS OF 12/31/23

S&P 500 Drawdowns Greater than 10%  
1927-2023  
\*Excludes Great Depression





# MARKETS OVERVIEW

## AS OF 12/31/23

2022

2023



DALL-E 2: Mona Lisa style portrait of a boxer throwing a cross

### GPT-4 Passes the Bar Exam

Daniel Martin Katz<sup>1,2,3,4,\*</sup>, Michael James Bommarito<sup>1,2,3,4</sup>, Shang Gao<sup>5</sup>, and Pablo David Arredondo<sup>2,5</sup>

<sup>1</sup>Illinois Tech - Chicago Kent College of Law (USA)

<sup>2</sup>CodeX - The Stanford Center for Legal Informatics (USA)

<sup>3</sup>Bucerius Law School (Germany)

<sup>4</sup>273 Ventures (USA)

<sup>5</sup>Casetext, Inc. (USA)

\*Corresponding Author: dkatz3@kentlaw.iit.edu

Exam	GPT-4
Uniform Bar Exam (MBE+MEE+MPT)	298 / 400 (~90th)
LSAT	163 (~88th)
SAT Evidence-Based Reading & Writing	710 / 800 (~93rd)
SAT Math	700 / 800 (~89th)

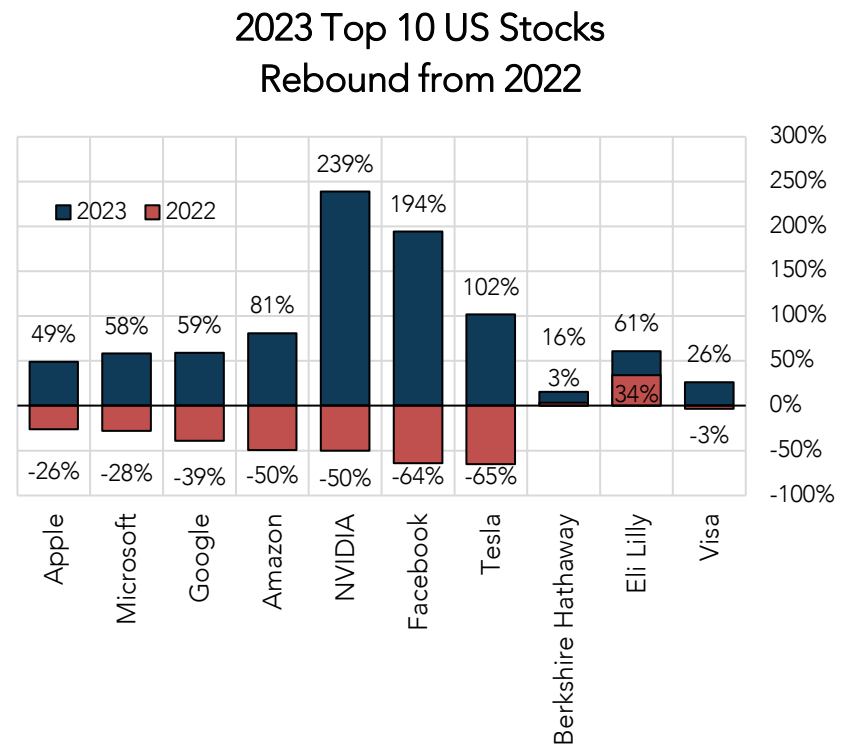
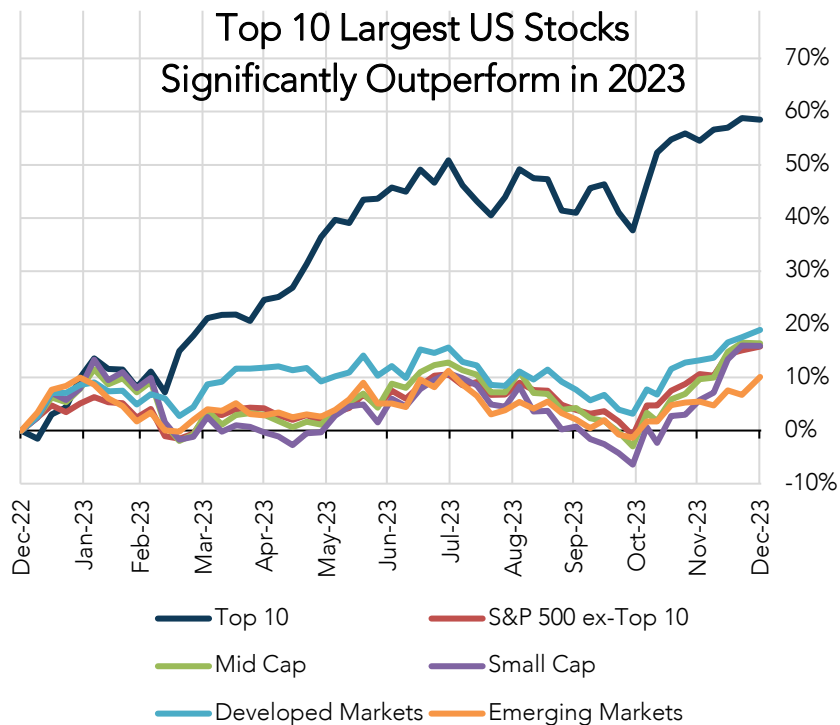
Exam	ChatGPT			GPT-4		
	ZS	CoT	FS	ZS	CoT	FS
Level I	Pass	Fail	Pass	Pass	Pass	Pass
Level II	Fail	Fail	Fail	Unclear	Pass	Pass

Table 7: ChatGPT and GPT-4 ability to pass Level I and Level II Exams



# MARKETS OVERVIEW

## AS OF 12/31/23



- 2023's stock market turnaround was most noticeable in the largest US Stocks, many of which have exposure to the evolving artificial intelligence landscape.
- The top 10 US Stocks returned roughly 60% in 2023 after leading the market lower in 2022, down 35%.
- Other stock market investment categories returned 10-20%, including the remaining 490 stocks in the S&P 500.

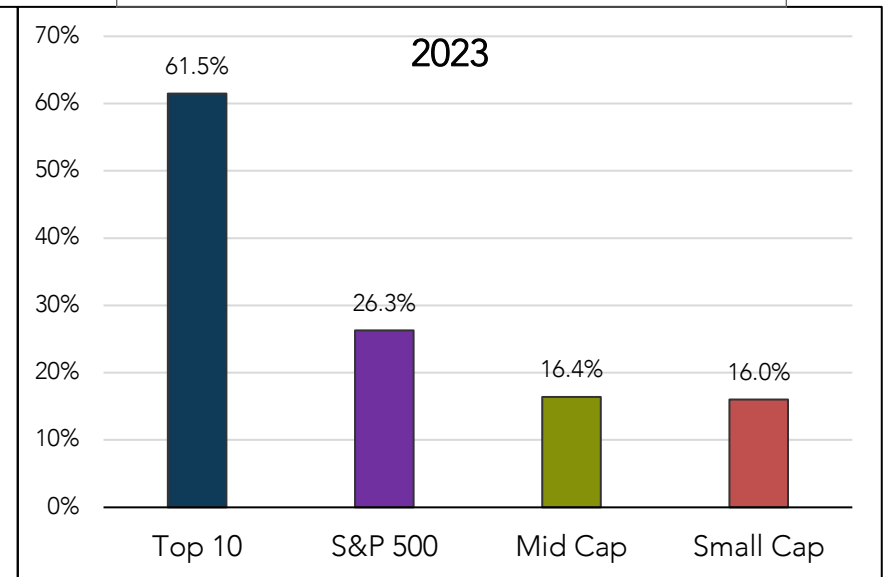
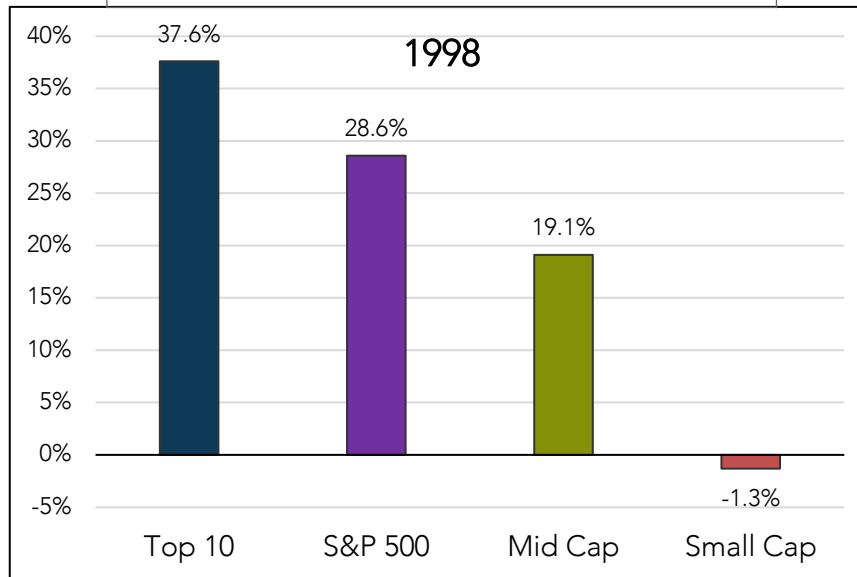




# TOP 10 STOCKS - 1998 & 2023

Market Cap Rank	
Company	1998
Microsoft	1
General Electric	2
Intel	3
Exxon Mobil	4
Walmart	5
Merck	6
IBM	7
Coca-Cola	8
Lucent	9
Pfizer	10

Market Cap Rank	
Company	2023
Apple	1
Microsoft	2
Google	3
Amazon	4
NVIDIA	5
Facebook	6
Tesla	7
Berkshire Hathaway	8
Eli Lilly	9
Visa	10





1998





# 2023 INVESTMENT & ECONOMIC THEMES

- Top 10 Stocks
- Resiliency Despite Risks
- Inflation Decelerating
- Monetary Policy Reaches Peak Rate
- Fiscal Policy & 2024 Election
- Business Cycle & Recession Outlook
- Forward Return Outlook & Potential Risks



# 1998: TOP 10

the Internet:  
making it fast,  
easy and cool.  
Intel is

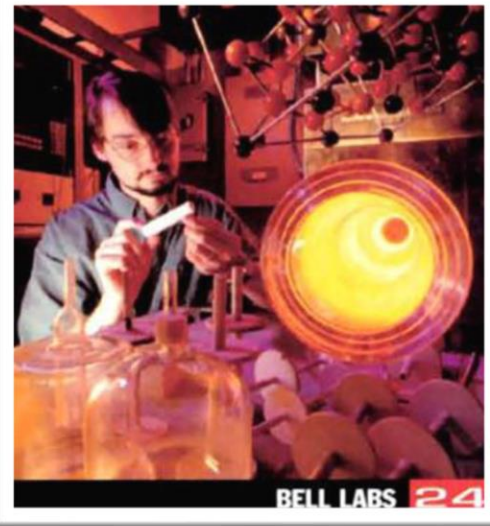
# innova



Designing a Better Disk

tools were used to develop the new ramps.

**Designing a Better Disk** Bruce Harper of GE Plastics examines new digital video disks (DVDs) made of Lexan® Optical Quality resin. GE technicians are working with equipment manufacturers and customers to develop new products for making DVDs, compact disks and CD-ROMs.



BELL LABS 24



# 1998: NOT TOP 10

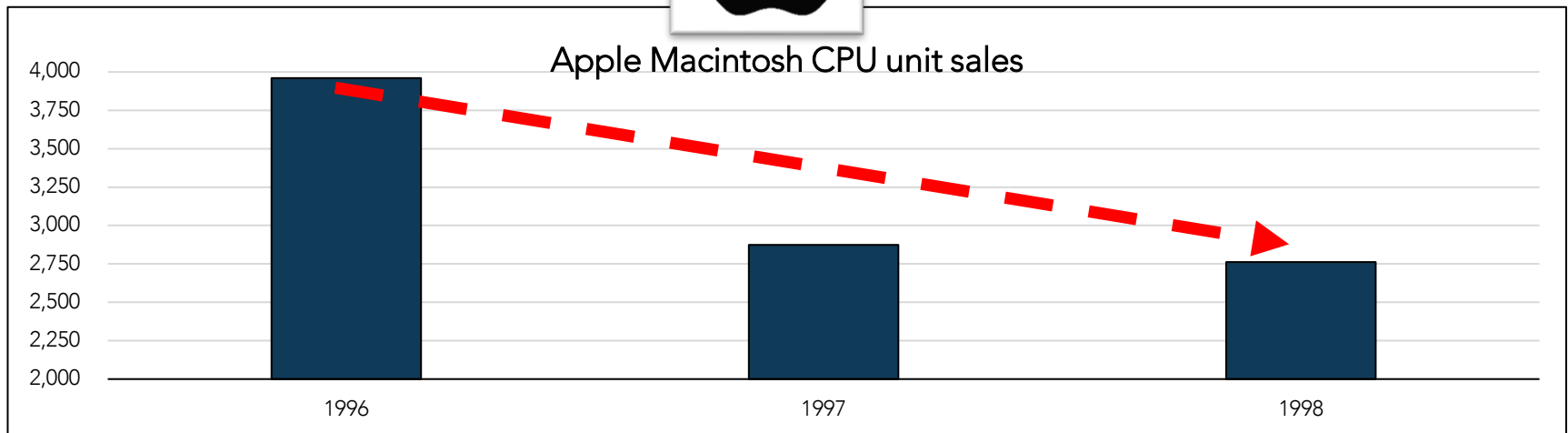
## amazon.com

### GENERAL

Amazon.com, Inc. ("Amazon.com" or the "Company") is the leading online retailer of books. Since opening for business as "Earth's Biggest Bookstore" in July 1995, Amazon.com has become one of the most widely known, used and cited commerce sites on the World Wide Web (the "Web").



Apple Macintosh CPU unit sales



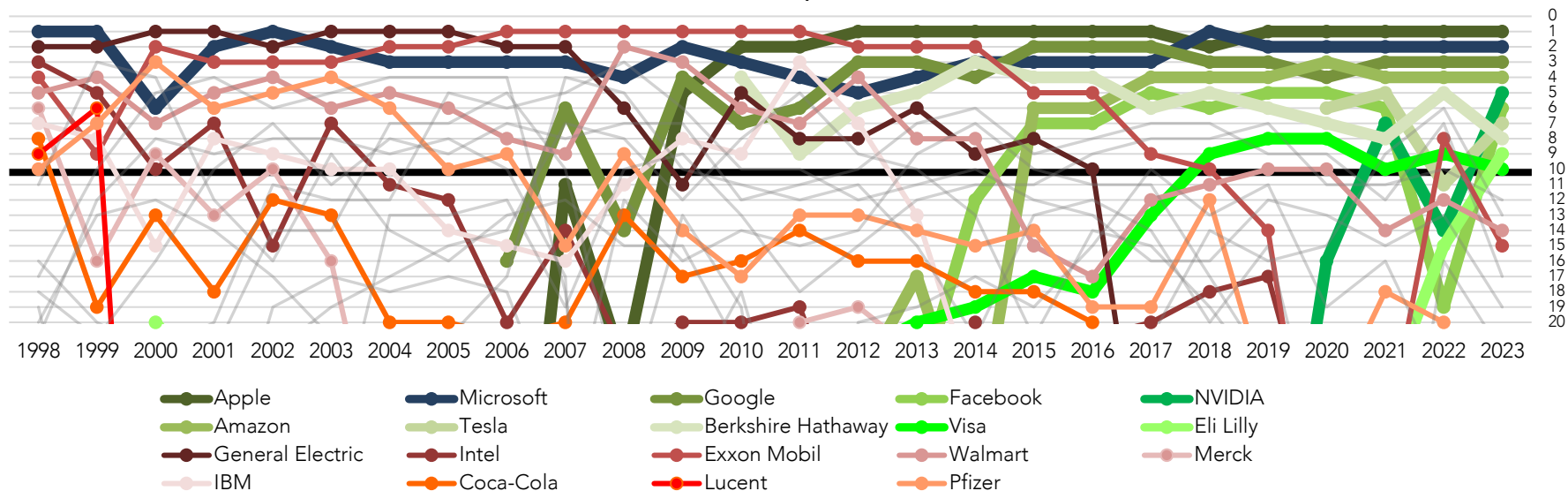


# TOP 10 STOCKS - 1998 & 2023

Market Cap Rank		
Company	1998	2023
Microsoft	1	2
General Electric	2	60
Intel	3	34
Exxon Mobil	4	15
Walmart	5	14
Merck	6	23
IBM	7	56
Coca-Cola	8	28
Lucent	9	N/A
Pfizer	10	46

Market Cap Rank		
Company	1998	2023
Apple	300	1
Microsoft	1	2
Google	N/A	3
Amazon	N/A	4
NVIDIA	N/A	5
Facebook	N/A	6
Tesla	N/A	7
Berkshire Hathaway	N/A	8
Eli Lilly	22	9
Visa	N/A	10

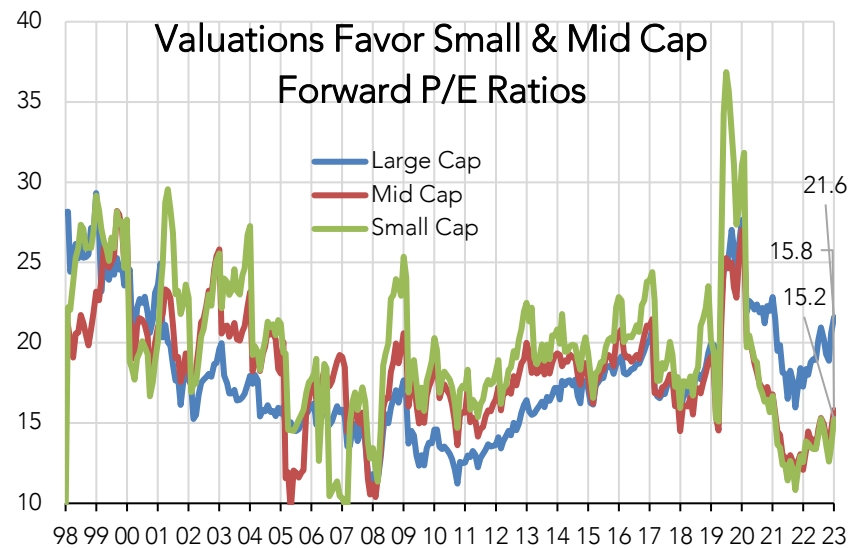
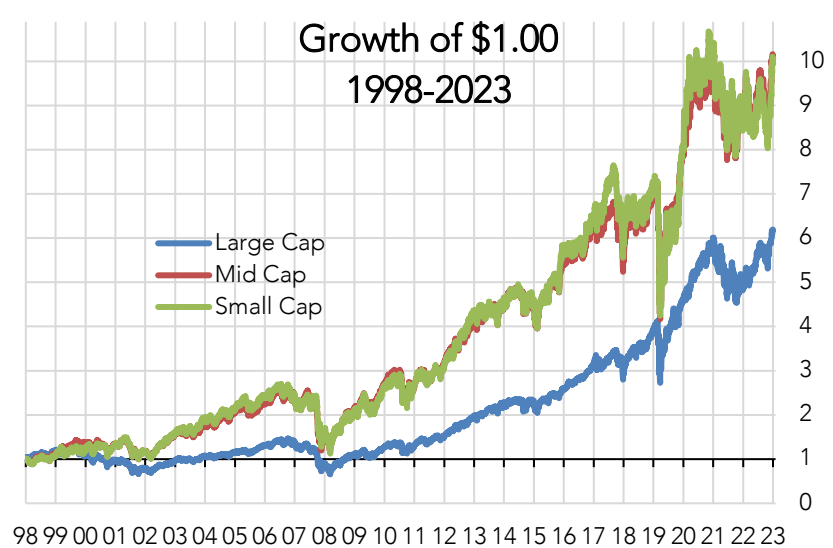
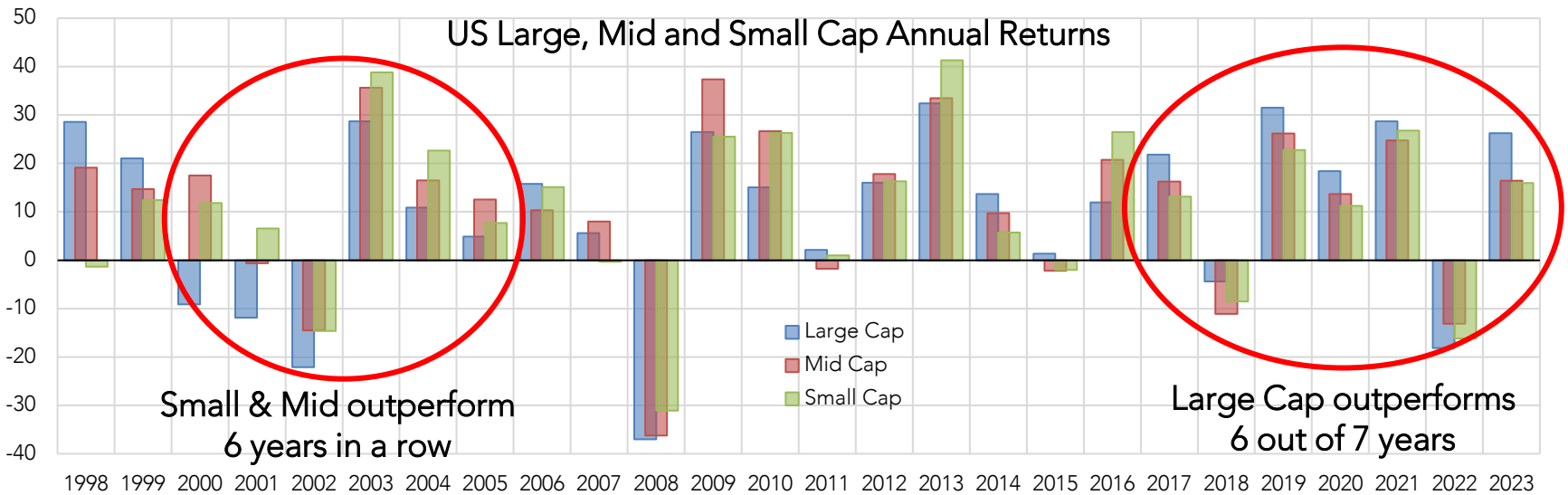
## 25 Years of Top 10 Stocks



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20



# LARGE CAP vs MID & SMALL CAP





# HISTORY RHYMES

**amazon.com**

1998

But this is Day 1 for the Internet and, if we execute well, for Amazon.com. Today, online commerce saves customers money and precious time. Tomorrow, through personalization, online commerce will accelerate the very process of discovery. Amazon.com uses the Internet to create real value for its customers and, by doing so, hopes to create an enduring franchise, even in established and large markets.

 **Microsoft**

2023

In closing, this is Microsoft's moment. We have an incredible opportunity to use this new era of AI to deliver meaningful benefits for every person and every organization on the planet.

On New Year's Day, I saw a tweet from Andrej Karpathy, Tesla's former director of AI who now works at OpenAI, about how GitHub Copilot was writing about 80 percent of his code, with 80 percent accuracy. Two days later, I saw a [stunning example](#) of work we've done with the government of India's Ministry of Electronics and IT, which is applying an AI model so farmers in rural areas can interact with government resources in their native languages.

Think about that: A foundation model that was developed on the West Coast of the United States is already transforming the lives of both elite developers *and* rural farmers on the other side of the globe. We've not seen this speed of diffusion and breadth of impact in the tech industry before.

As a company, this is our moment to show up and responsibly build solutions that drive economic growth and benefit every community, country, industry, and person. If we do it well, the world will do well, and Microsoft will do well too. I've never been more confident that we will deliver on this promise together in the days, months, and years to come.



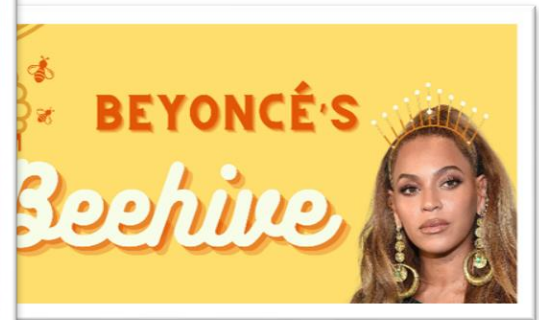
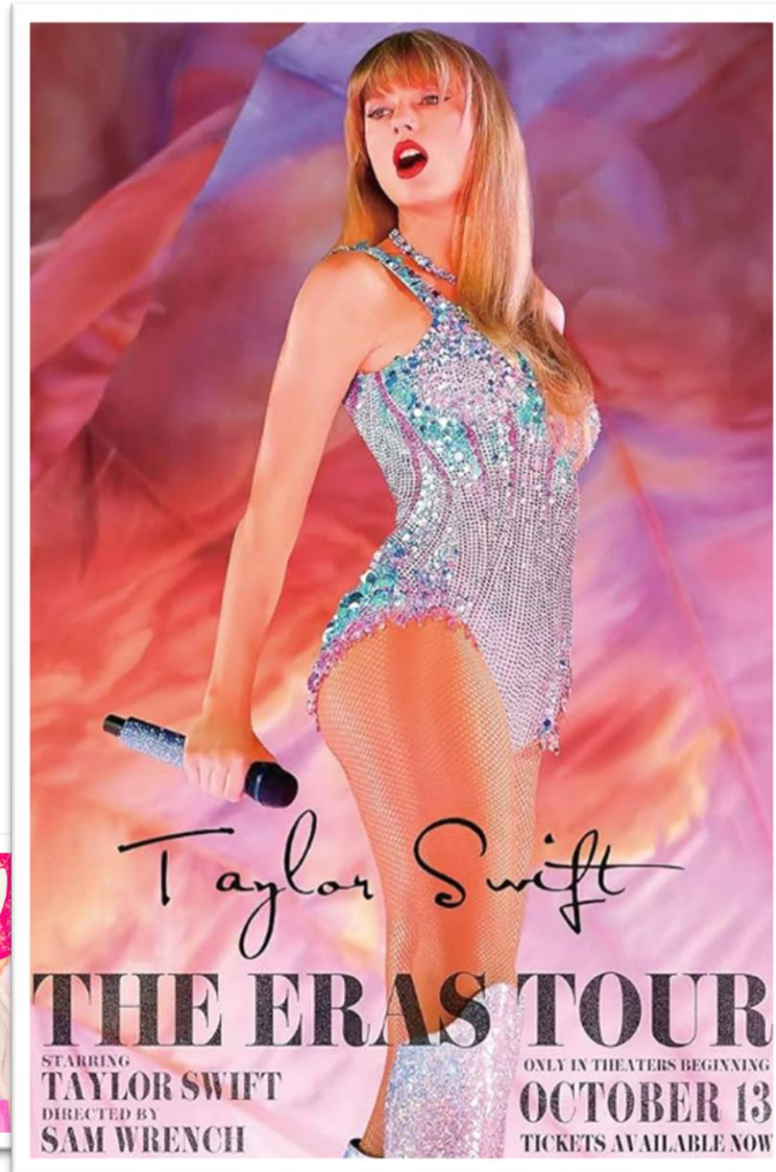


# HISTORY RHYMES

1998's Economic Risks	2023's Economic Risks
<ul style="list-style-type: none"><li>• Deepening Japanese recession and aftermath of 1997 Asian financial crisis</li><li>• Devaluation of the Russian Ruble and Russian debt default</li><li>• Tight US labor market creating inflation concerns</li><li>• Collapse of Long-Term Capital Management requiring Federal Reserve intervention</li><li>• Concerns about Y2K leading to the destruction of all mankind</li></ul>	<ul style="list-style-type: none"><li>• Weak growth in China</li><li>• Ongoing Russia/Ukraine war</li><li>• Tight US labor creating inflation concerns</li><li>• Collapse of several regional banks requiring Federal Reserve intervention</li><li>• Debt ceiling standoff and potential US debt default</li><li>• Student loan payment resumption</li><li>• UAW coordinated strike</li><li>• Potential Federal government shutdown</li><li>• War in Israel and Gaza</li><li>• Concerns about AI leading to the destruction of all mankind</li></ul>
1998's Economic & Market Results	2023's Economic & Market Results
<ul style="list-style-type: none"><li>• Real GDP growth: 4.5%</li><li>• Unemployment rate: 4.7%</li><li>• CPI inflation: 1.6%</li><li>• S&amp;P 500 return: 28.6%</li><li>• US Aggregate Bond return: 8.7%</li></ul>	<ul style="list-style-type: none"><li>• Real GDP growth (est.): 2.4%</li><li>• Unemployment rate (est.): 3.7%</li><li>• CPI inflation (est.): 3.2%</li><li>• S&amp;P 500 return: 26.3%</li><li>• US Aggregate Bond return: 5.5%</li></ul>

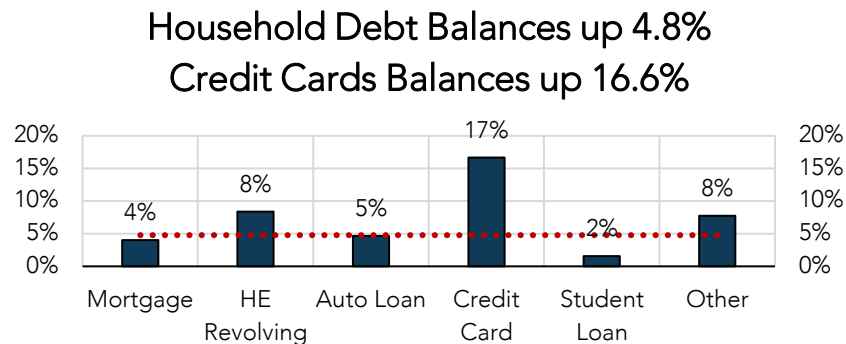
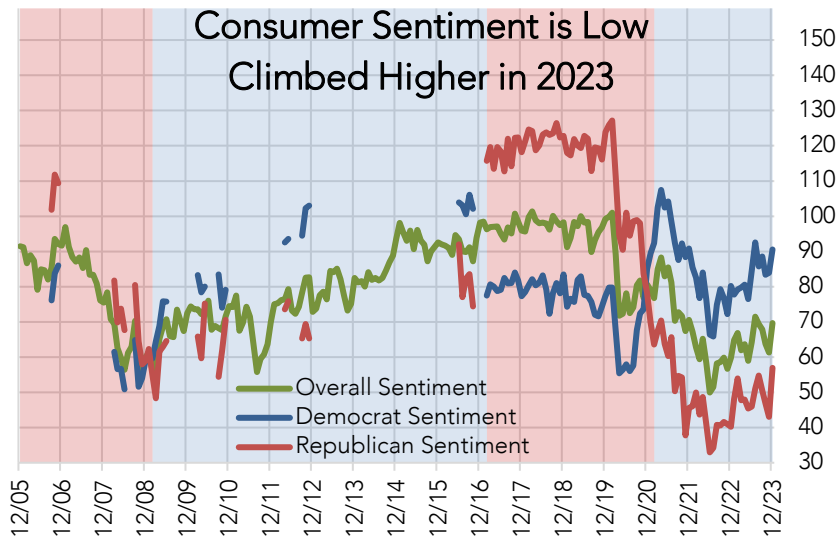
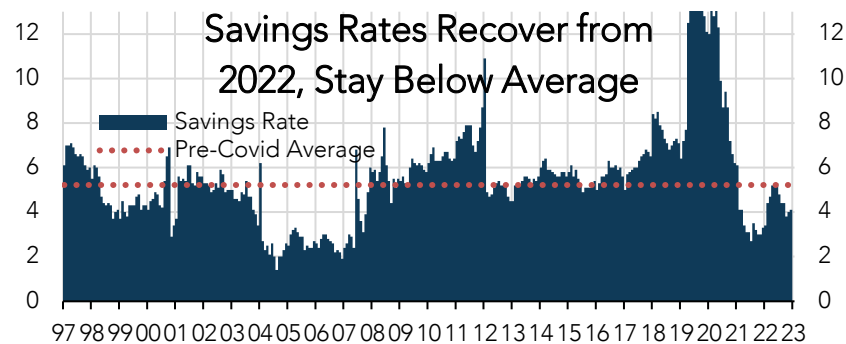
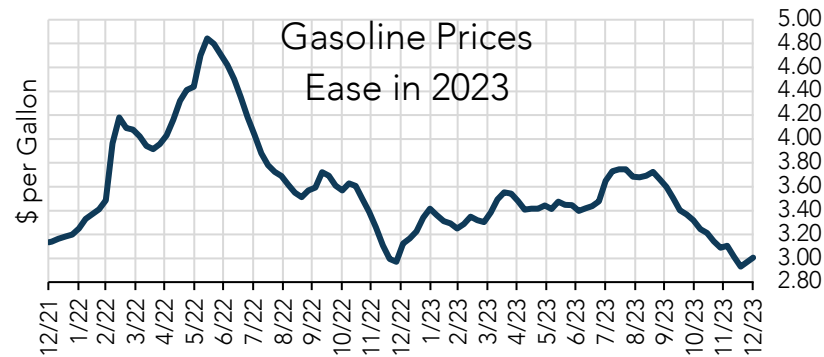
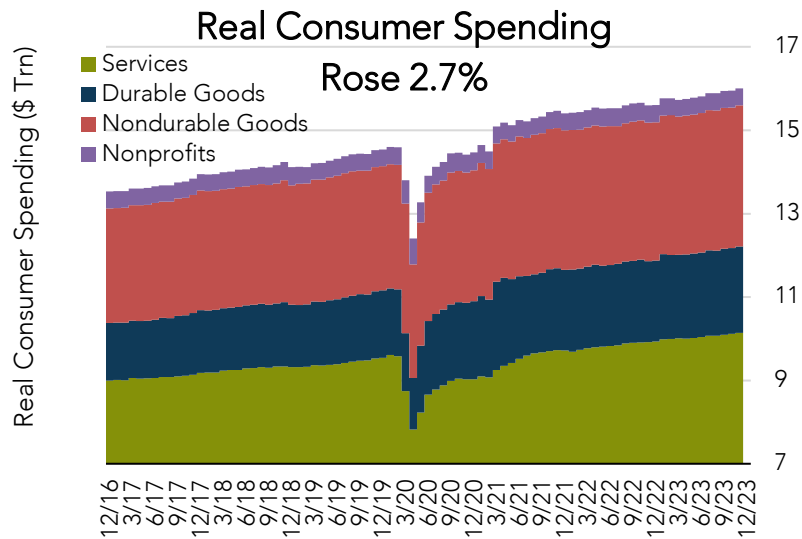


# THANK YOU, SWIFTIES! (AND ALSO BARBENHEIMER AND THE BEYHIVE)



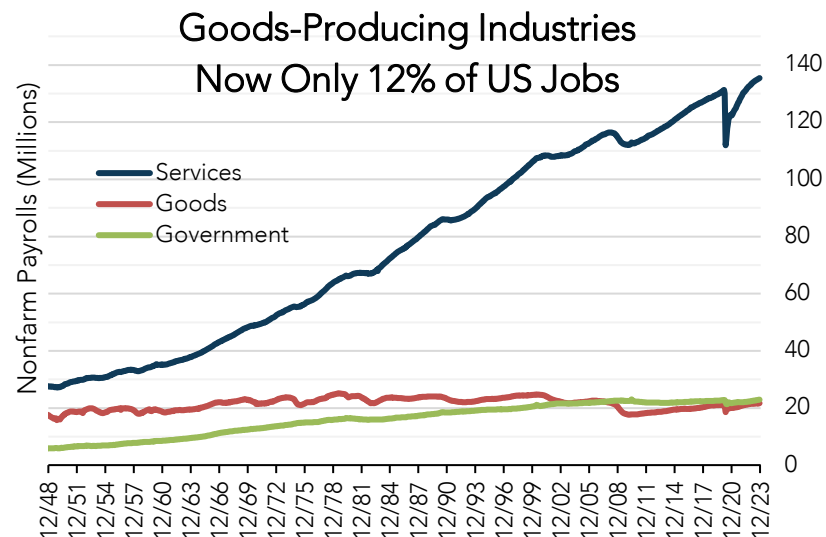
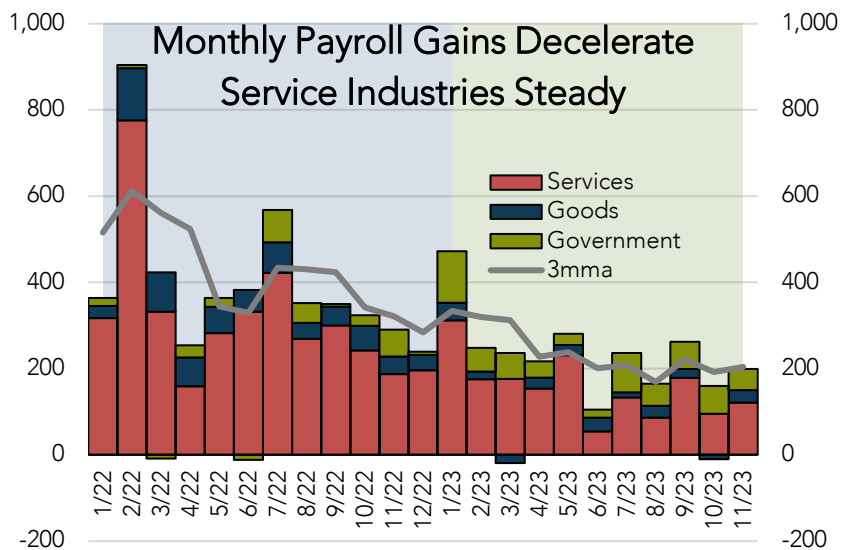
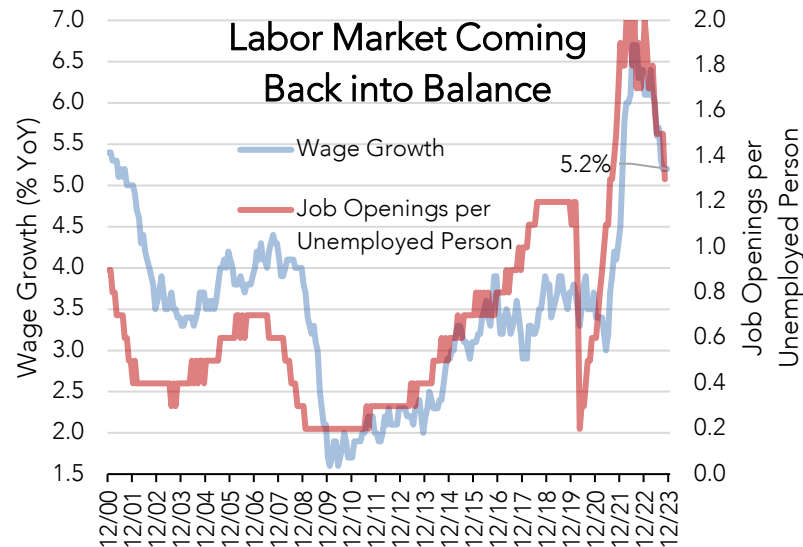
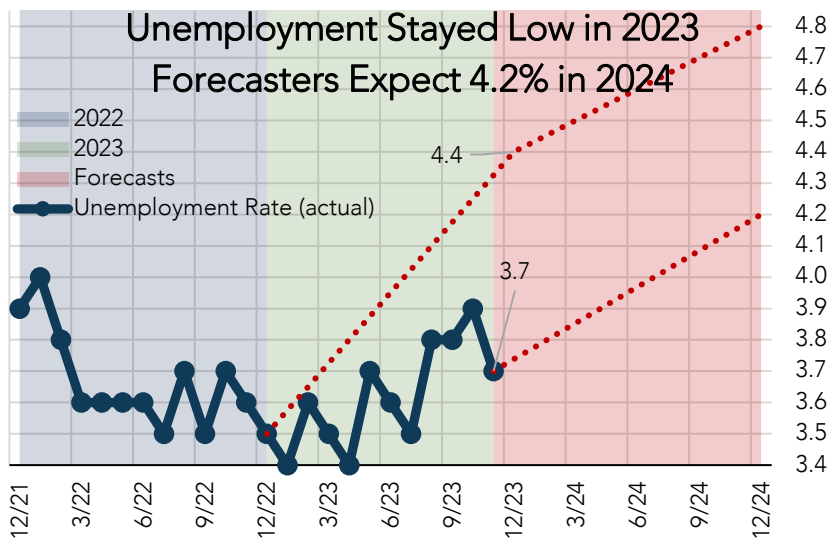


# RESILIENT US CONSUMER



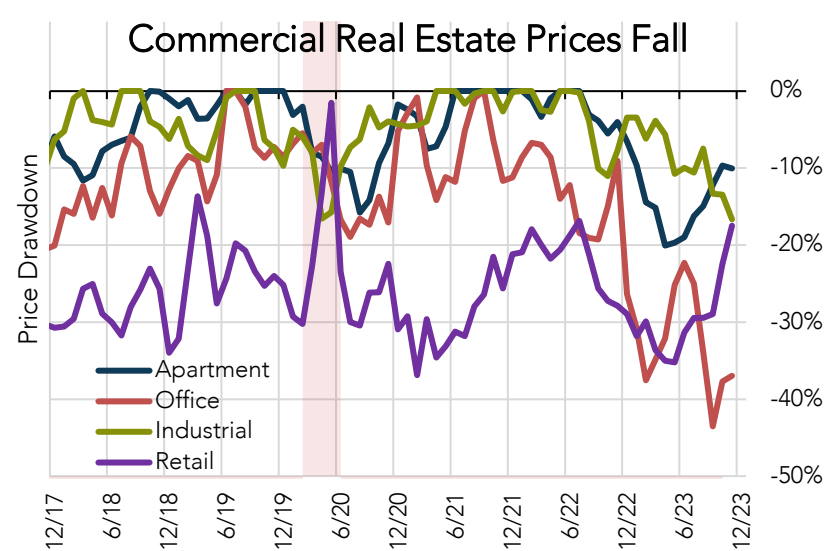
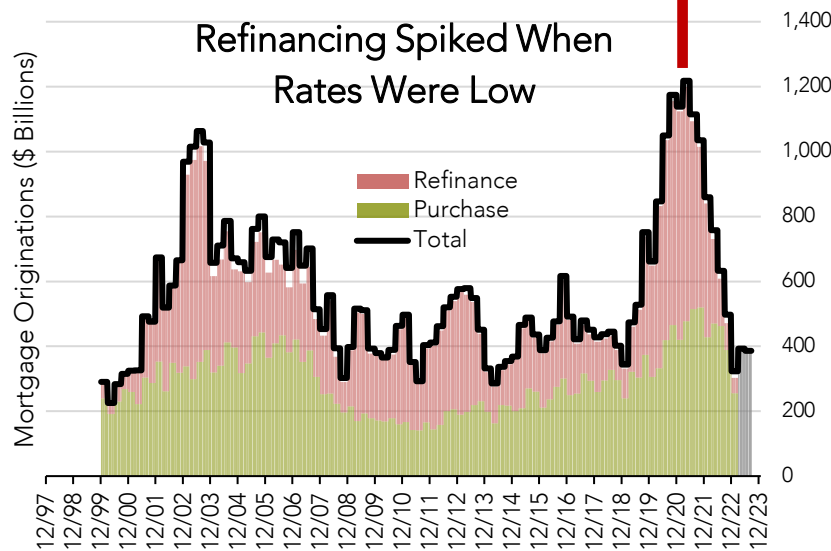
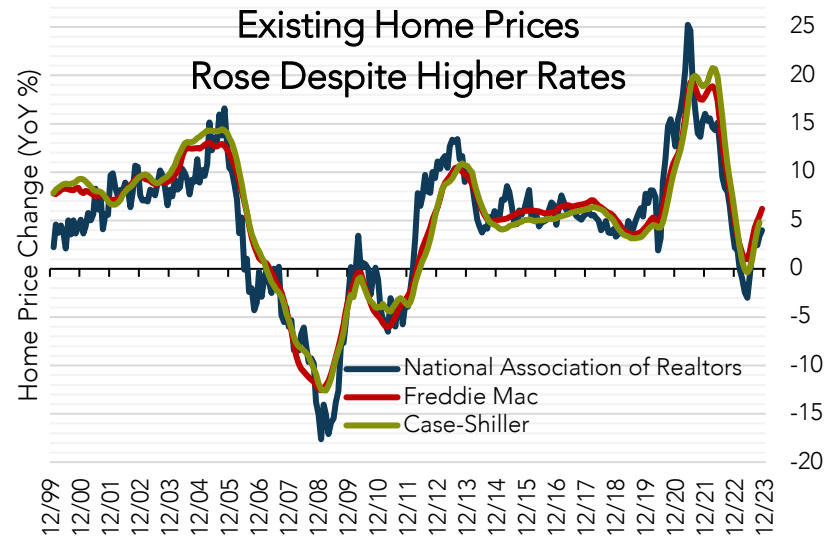
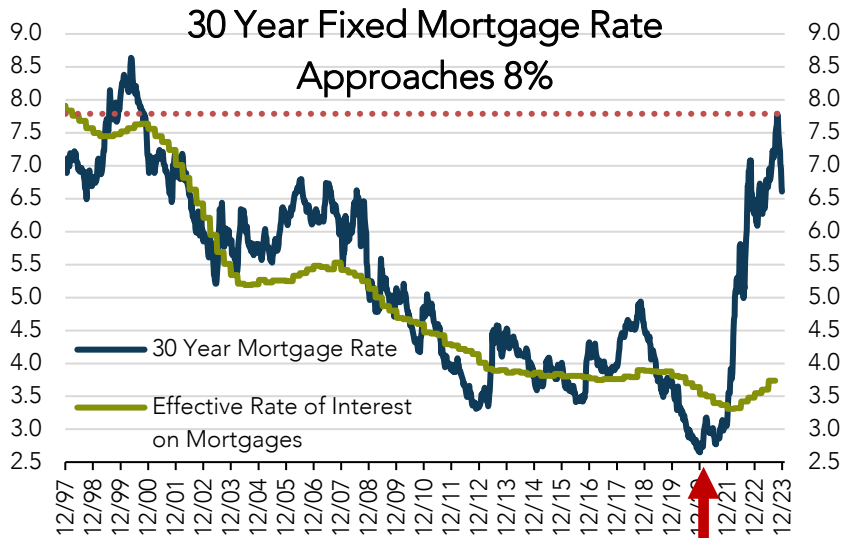


# RESILIENT US LABOR MARKET





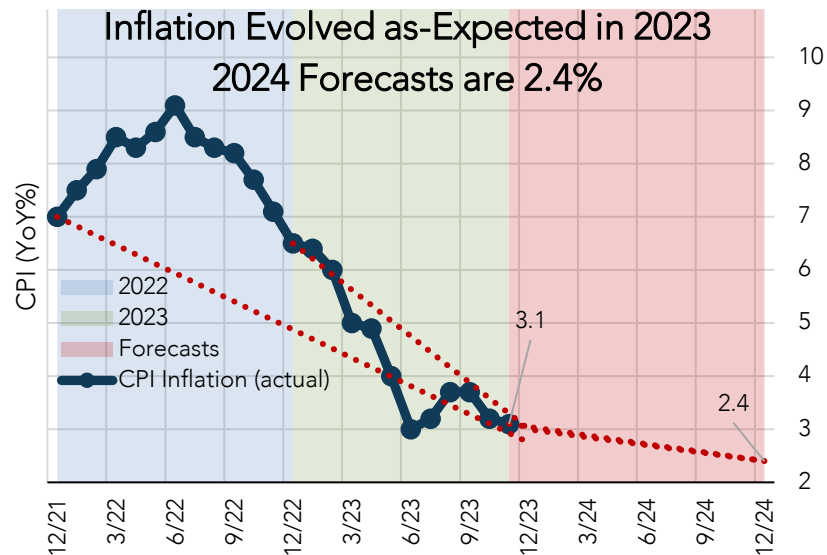
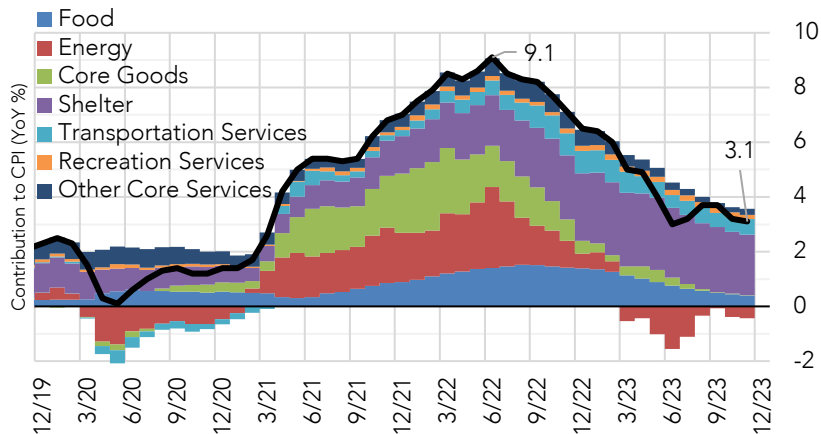
# RESILIENT US HOUSING MARKET



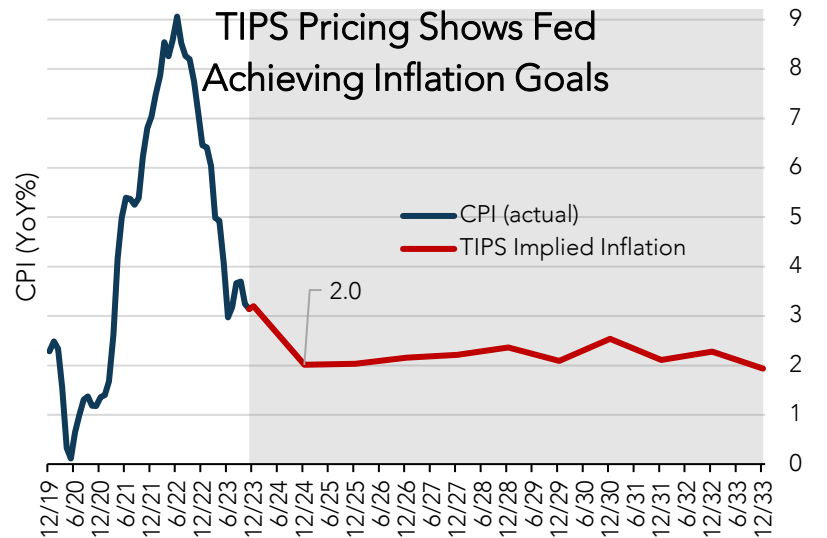
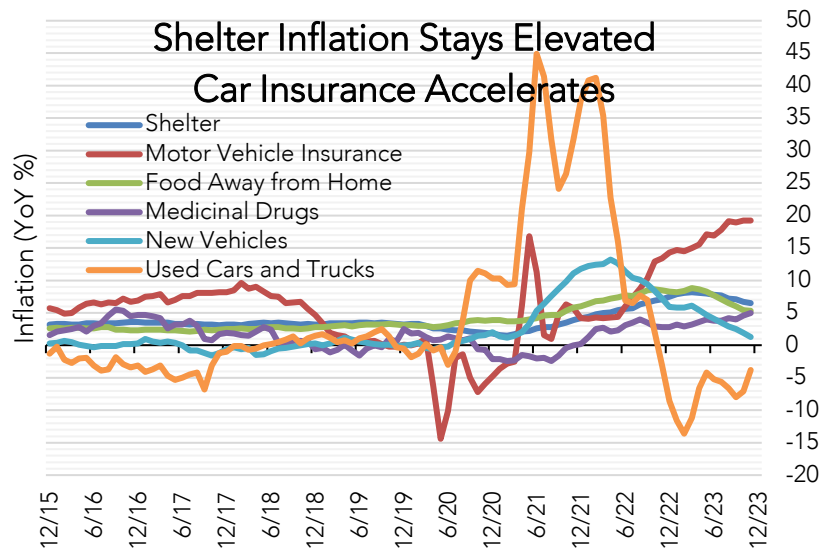


# INFLATION DECELERATES

## Inflation Decelerates Significantly in 2023 Shelter Inflation Remains Elevated



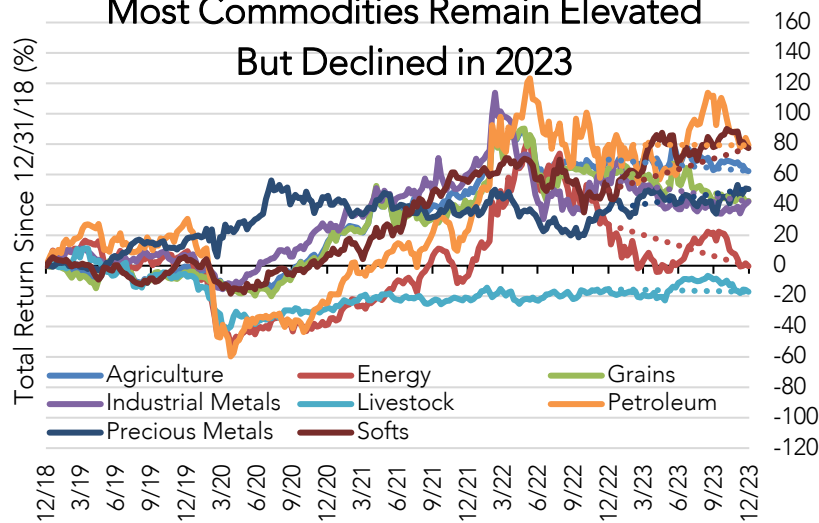
## Shelter Inflation Stays Elevated Car Insurance Accelerates



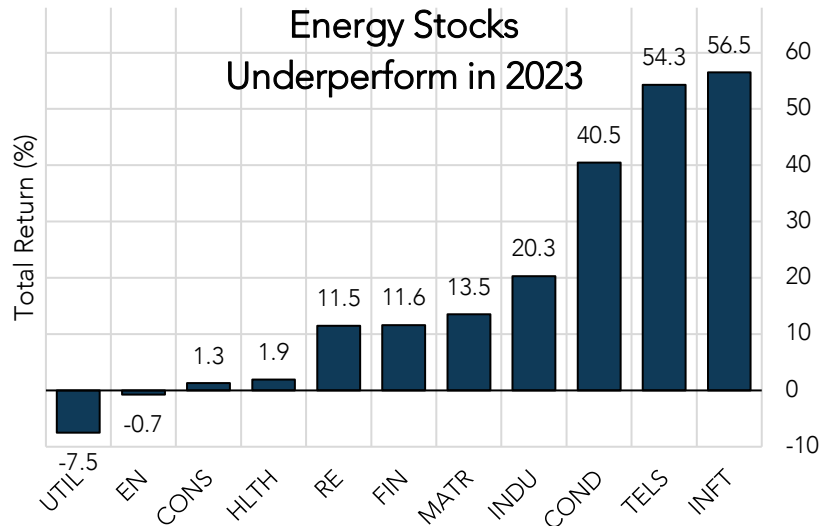


# COMMODITIES

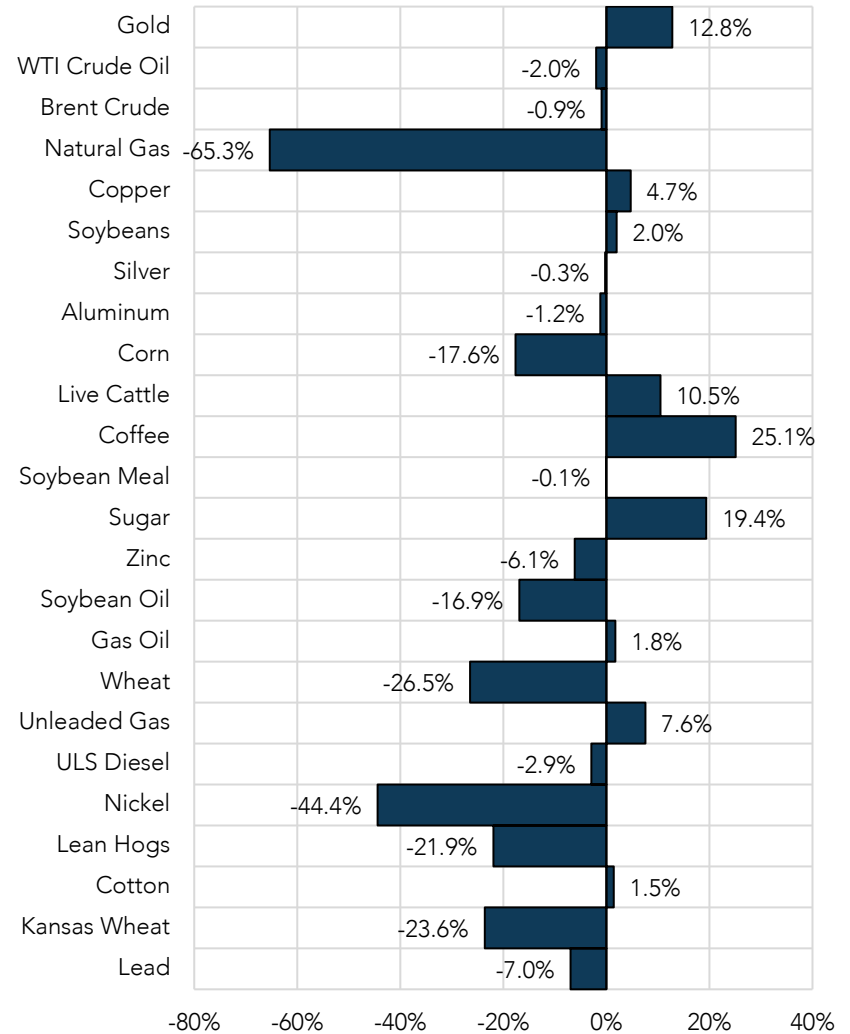
### Most Commodities Remain Elevated But Declined in 2023



### Energy Stocks Underperform in 2023



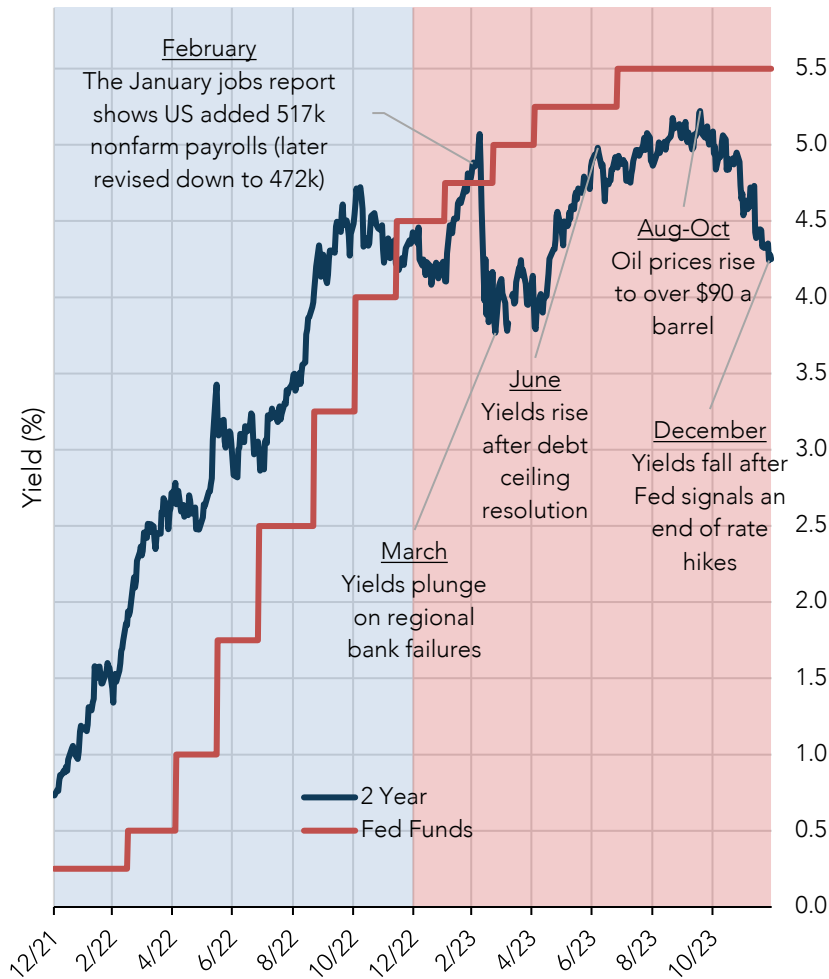
### Single Commodity 2023 Total Returns



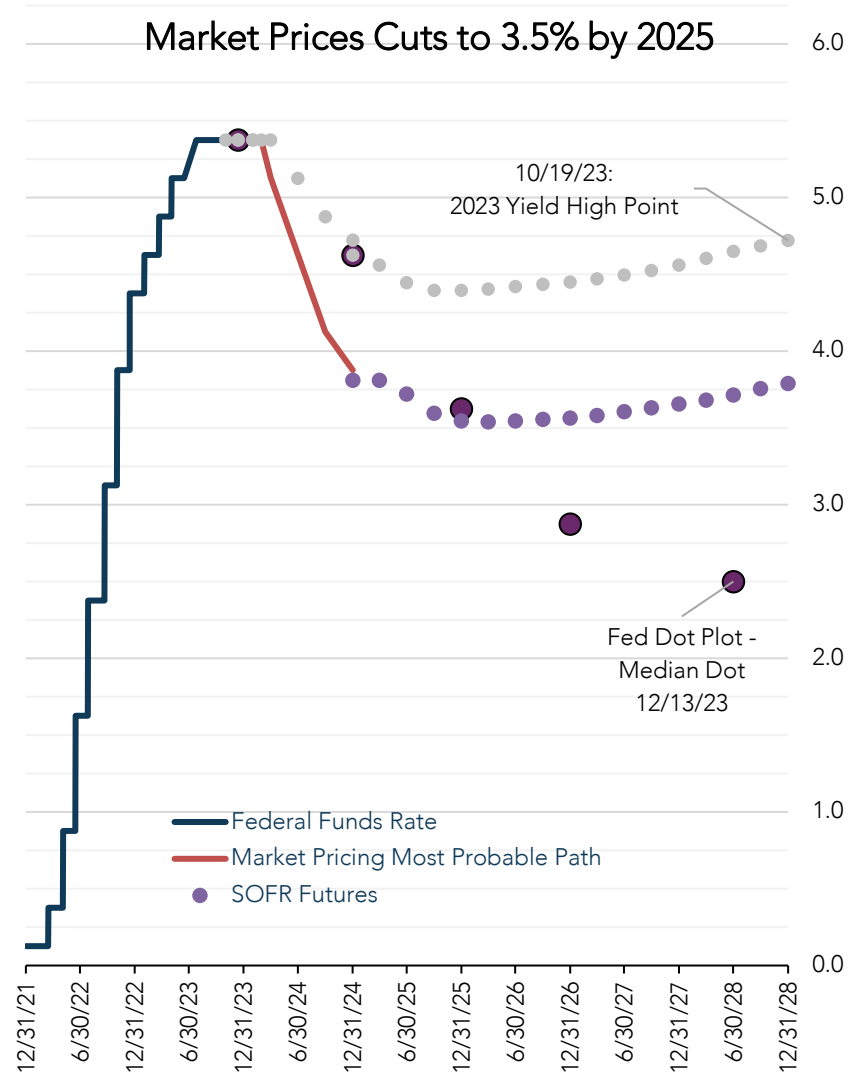


# MONETARY POLICY - RECAP

## Yields Finish 2023 Flat But With a Lot of Volatility



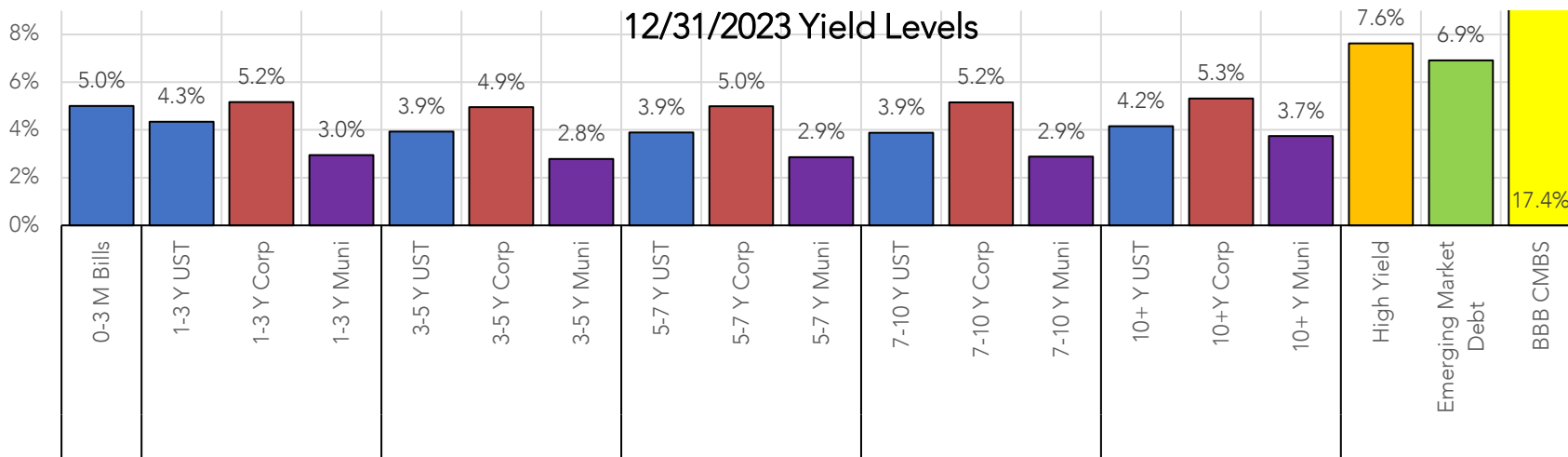
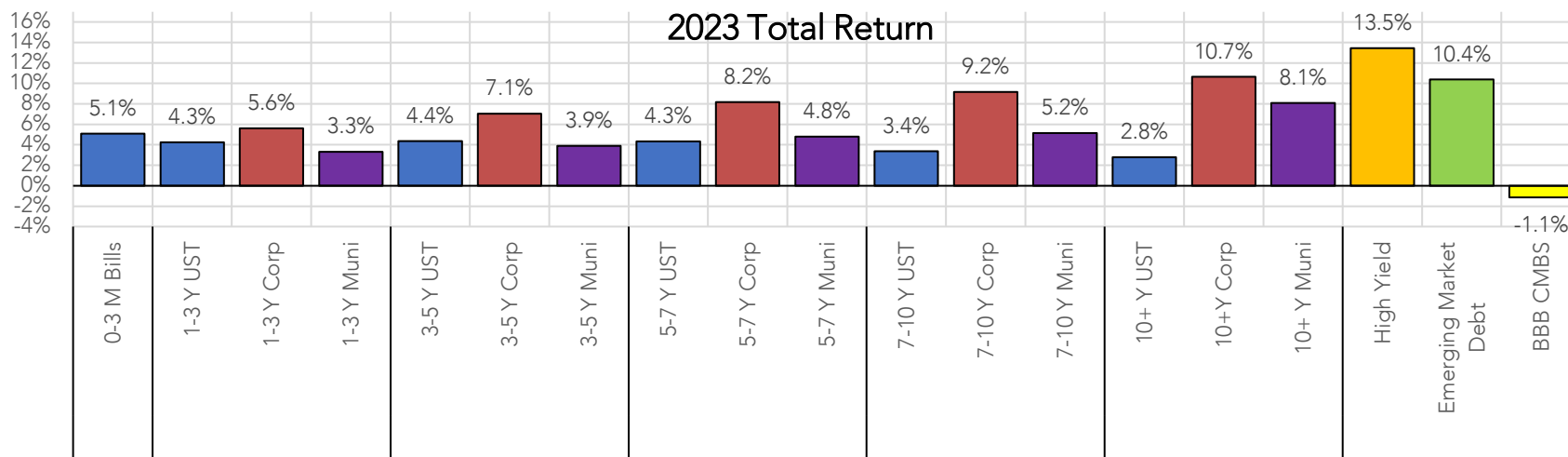
## 5.25-5.50% Current Rate Maintained Market Prices Cuts to 3.5% by 2025





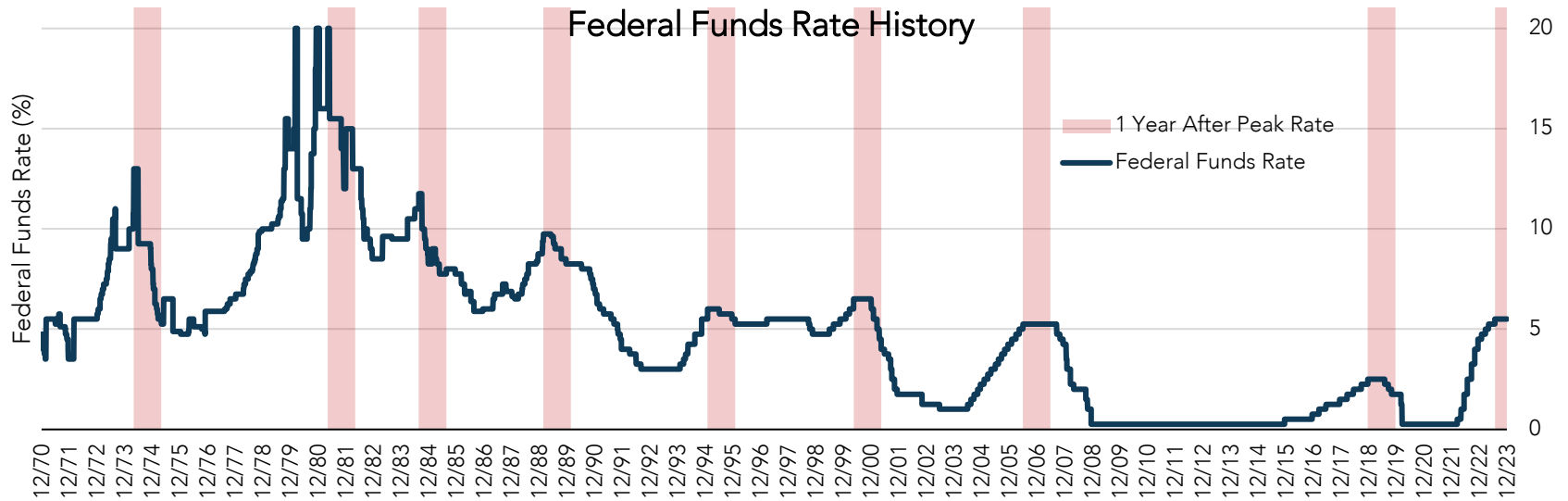


# MONETARY POLICY - FIXED INCOME





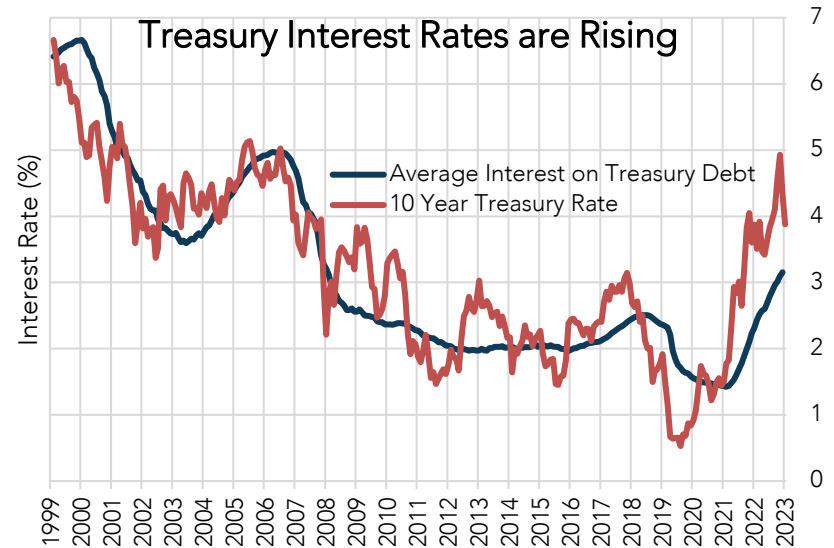
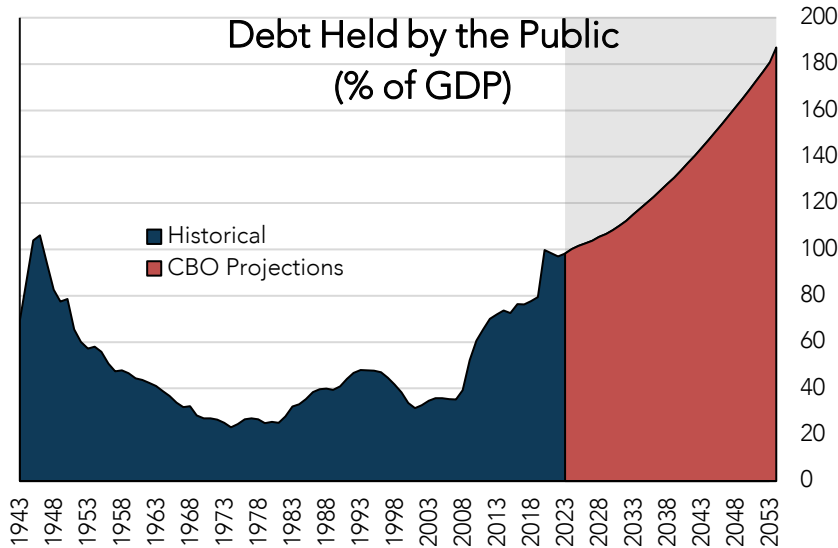
# MONETARY POLICY - MARKET IMPACT



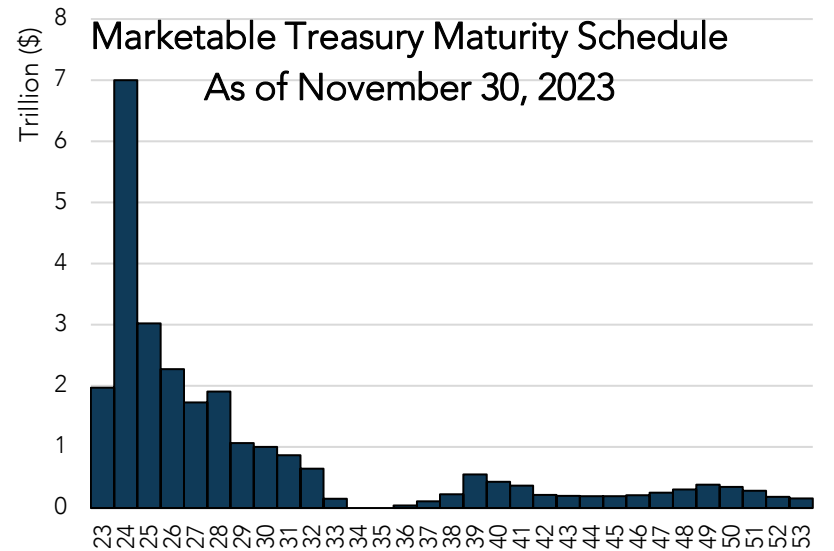
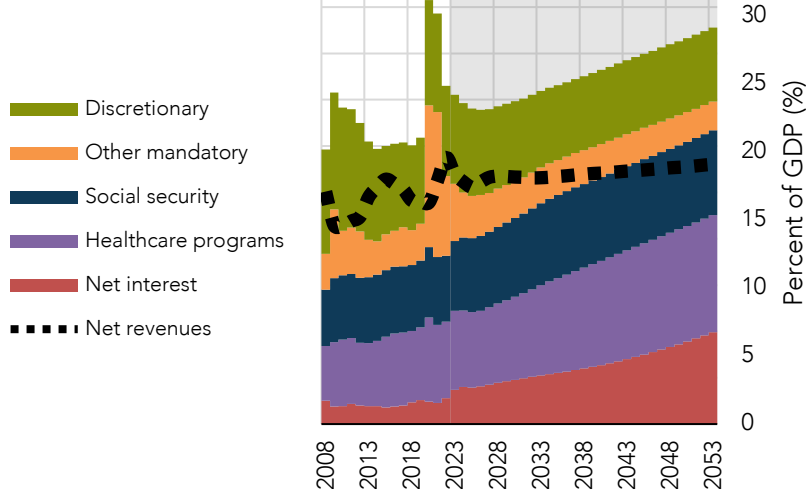
Policy Rate Data				Stock Market Impact		Bond Market Impact
Date	Peak Rate	Time Until First Cuts	Total Cuts	1 Year S&P 500 Return	Max Drawdown	1 Year Bond Returns
May-74	13.00%	2 months	8.25%	0.2%	-31.1%	3.9%
May-81	20.00%	1 month	11.50%	-4.1%	-14.7%	17.1%
Aug-84	11.75%	1 month	5.87%	17.8%	-2.5%	24.2%
Feb-89	9.75%	3 months	6.75%	16.8%	0.0%	12.9%
Feb-95	6.00%	5 months	1.25%	39.2%	0.0%	17.1%
May-00	6.50%	7 months	5.50%	-11.3%	-24.0%	13.7%
Jun-06	5.25%	15 months	5.00%	20.3%	-3.0%	6.5%
Dec-18	2.50%	7 months	2.25%	30.5%	-6.2%	8.8%
<b>Average</b>		<b>5 months</b>	<b>5.80%</b>	<b>13.7%</b>	<b>-10.2%</b>	<b>13.0%</b>
Jul-23	5.50%	5 months	N/A	5.2%	-9.5%	3.1%



# FISCAL POLICY - INTEREST COSTS INCREASE

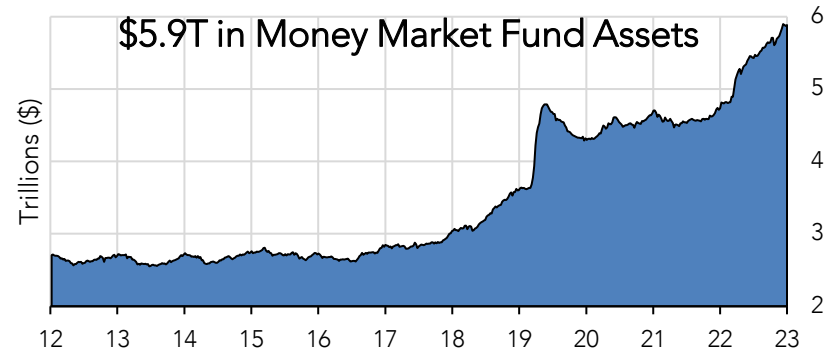
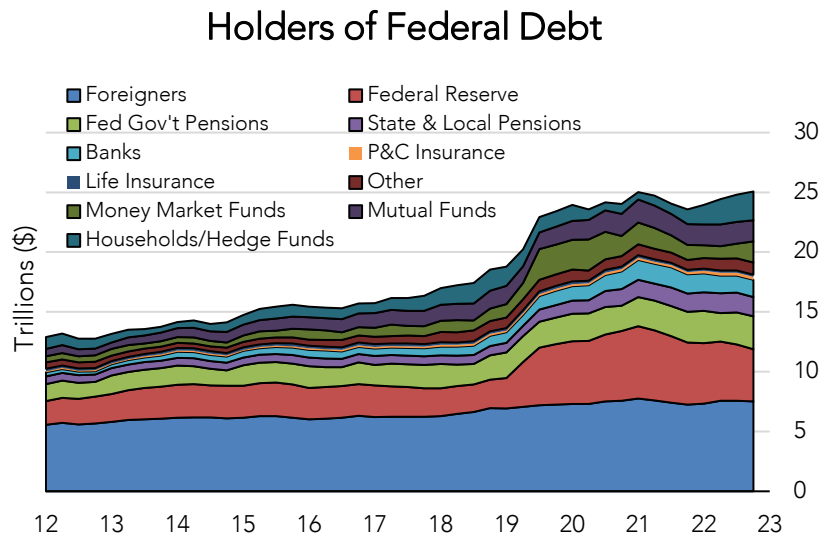
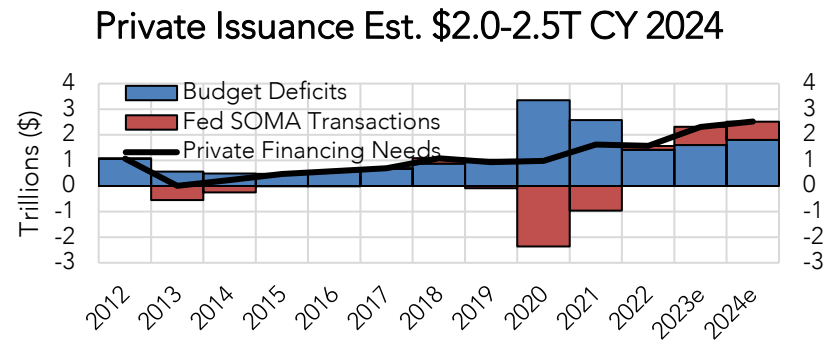
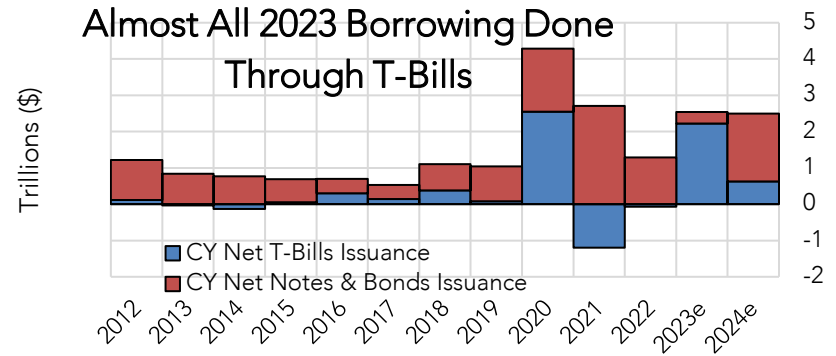
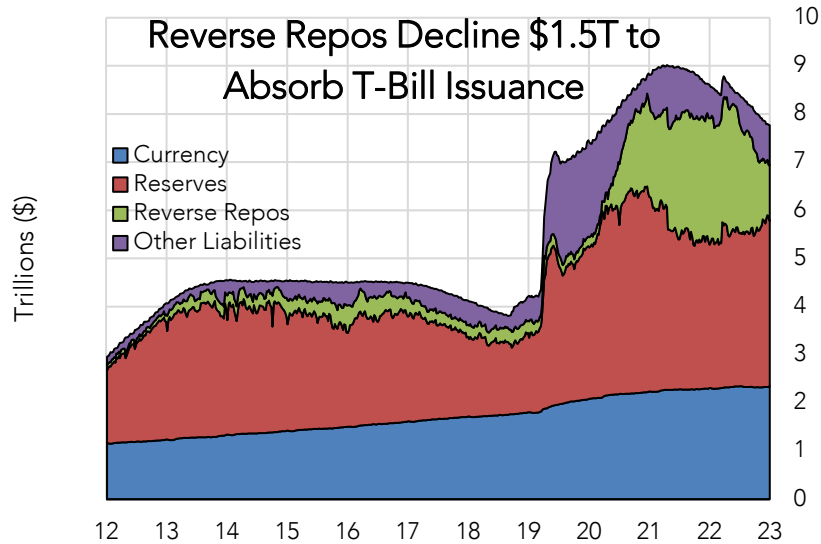


### Projected Budget Deficits Grow in Future





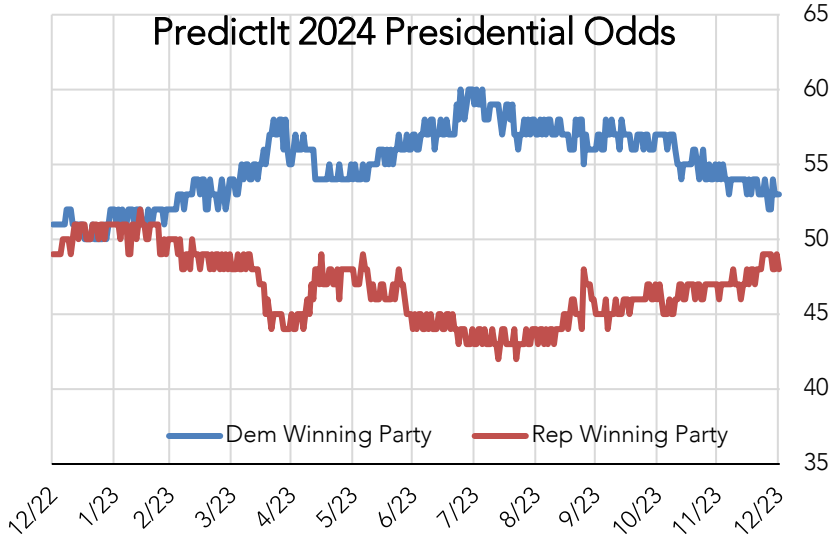
# FISCAL POLICY - GROWING DEBT ISSUANCE



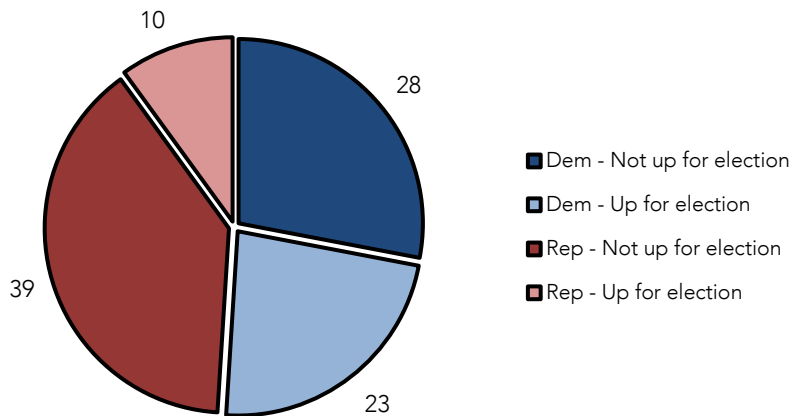


# ELECTION YEAR

PredictIt 2024 Presidential Odds



2024 Senate Elections



65  
60  
55  
50  
45  
40  
35

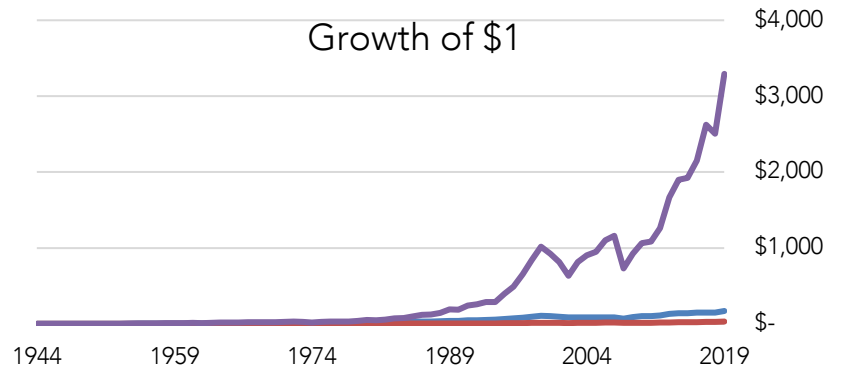
S&P 500 Total Return (1945-2019)

	Sample Size	Freq.	Average Return	Frequency of Gain	Frequency of Loss
All Years	n=75		12.8%	79%	21%
Presidency					
Democrat	n=36	48%	15.2%	84%	16%
Republican	n=39	52%	10.5%	72%	28%
Balance of Power					
Blue Wave	n=22	29%	14.8%	82%	18%
Red Wave	n=8	11%	16.1%	75%	25%
Blended Gov't	n=45	60%	11.2%	78%	22%

1945-2019 (75 Years)

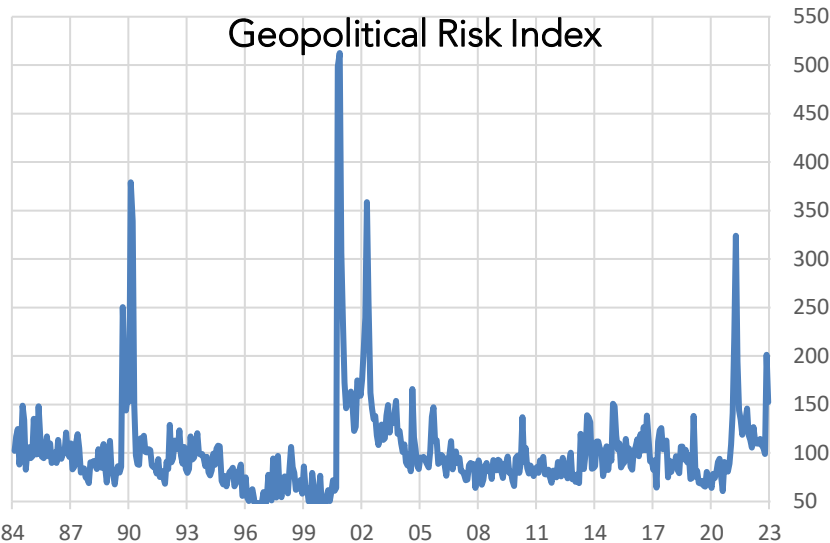
	Democrat Portfolio <sup>1</sup>	Republican Portfolio <sup>2</sup>	Non-Partisan Portfolio <sup>3</sup>
Ann. Return	7%	5%	11%
Growth of \$1	\$170	\$28	\$3,283

Growth of \$1





# FOREIGN AND DOMESTIC POLICY

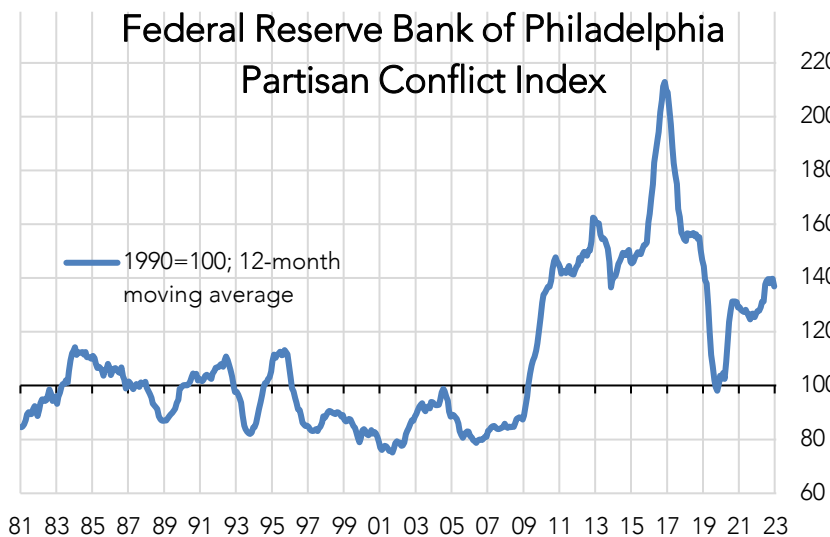


## Foreign Policy Considerations:

- Russia-Ukraine War
- Israel-Hamas War
- Houthi Red Sea vessel attacks
- US-China-Taiwan Relations

## Domestic Policy Considerations:

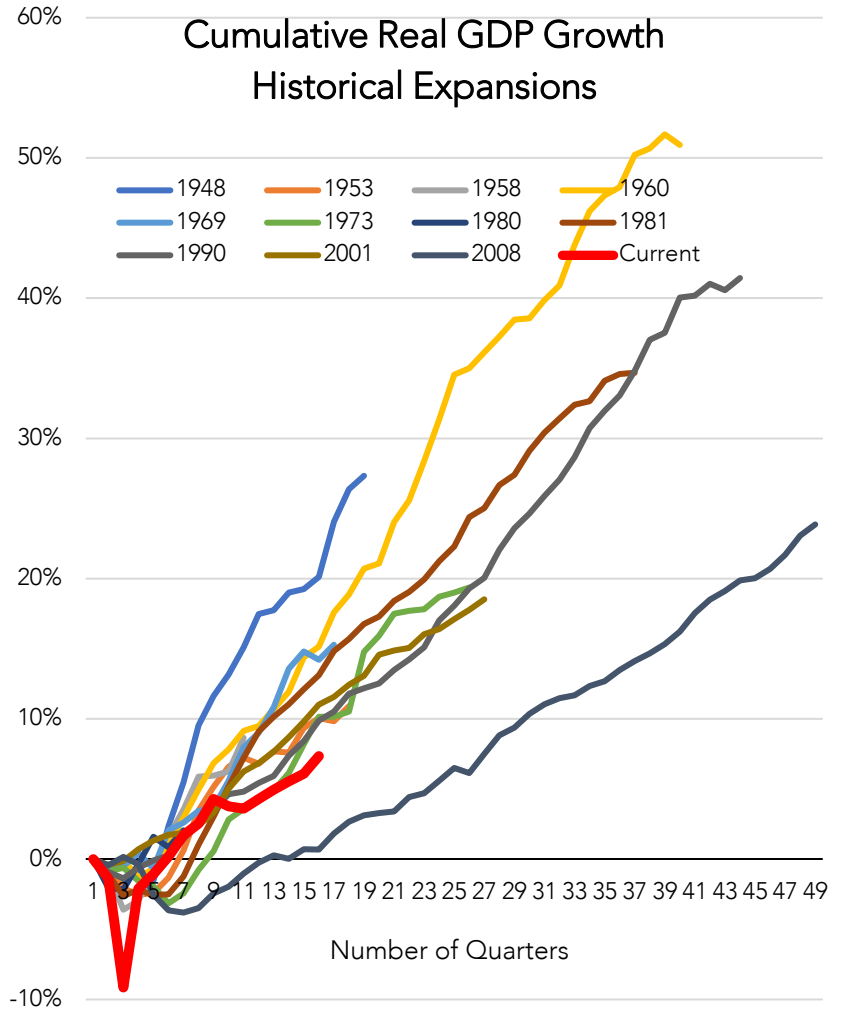
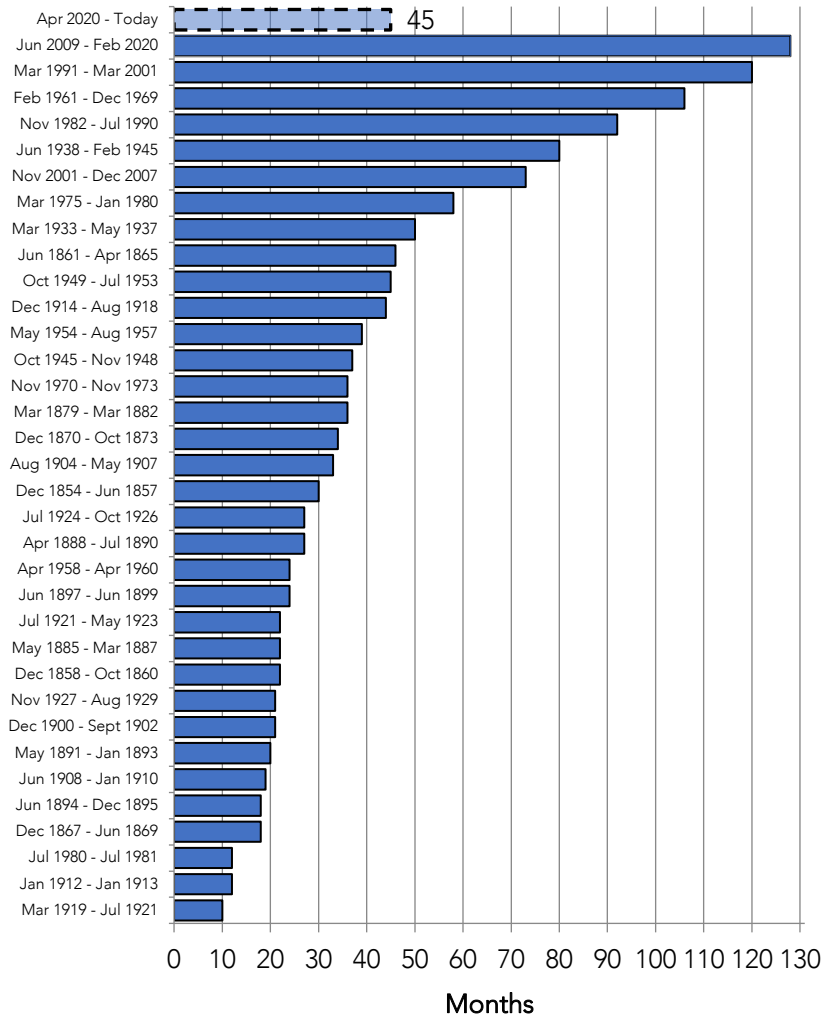
- January 2025 Debt Ceiling Expiration
- 2025 Expiration of Tax Cut and Jobs Act Provisions
- Industrial Policy; Onshoring Semiconductor Production
- Artificial Intelligence Regulation





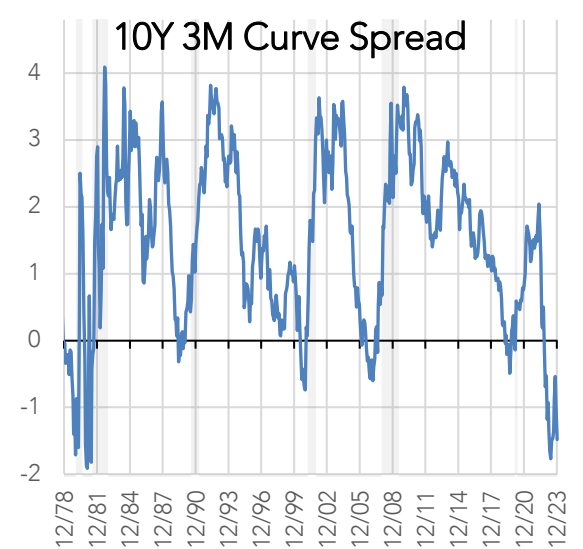
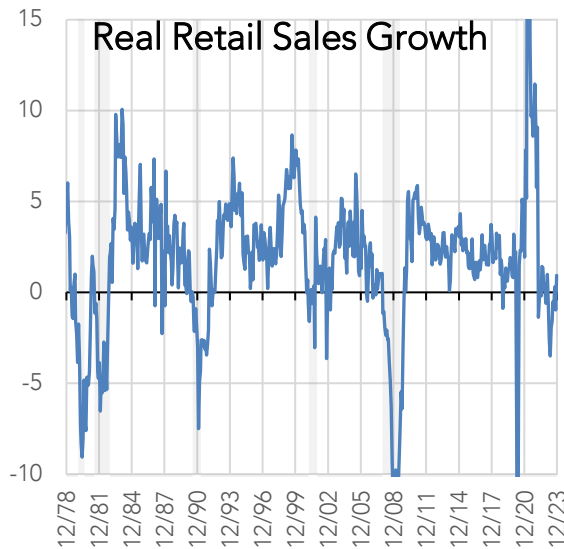
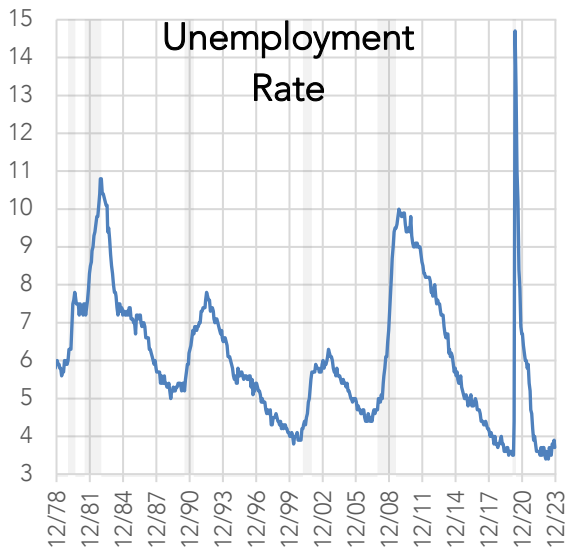
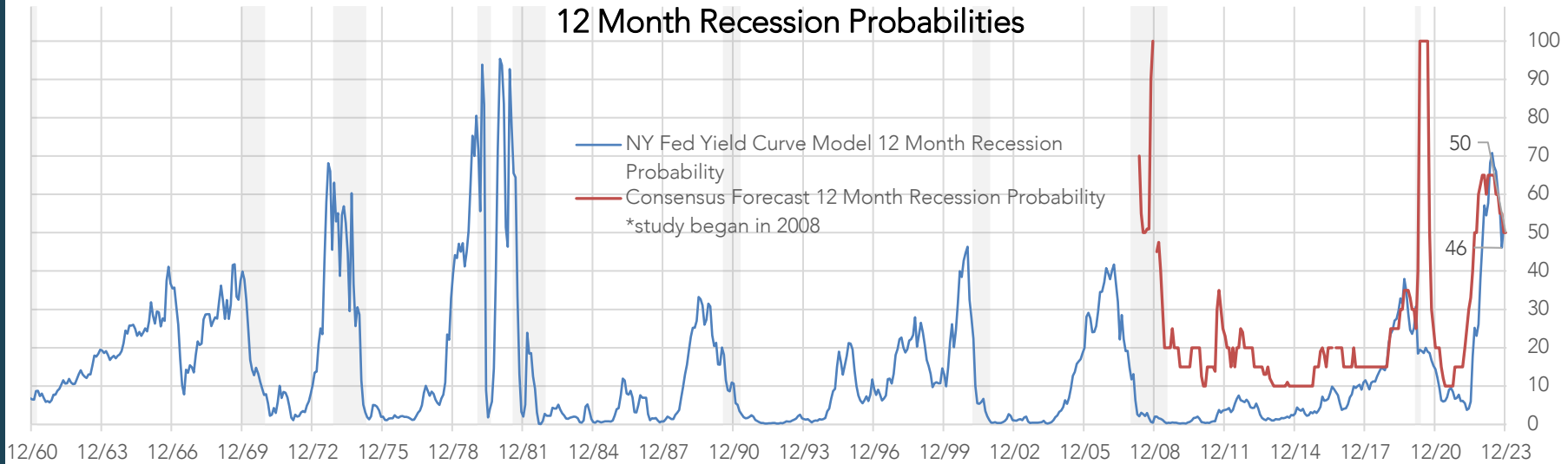
# THE BUSINESS CYCLE

## Around 3.5 Years into Current Expansion





# LOOKING AHEAD: THE NEXT RECESSION







# LOOKING AHEAD: THE NEXT RECESSION

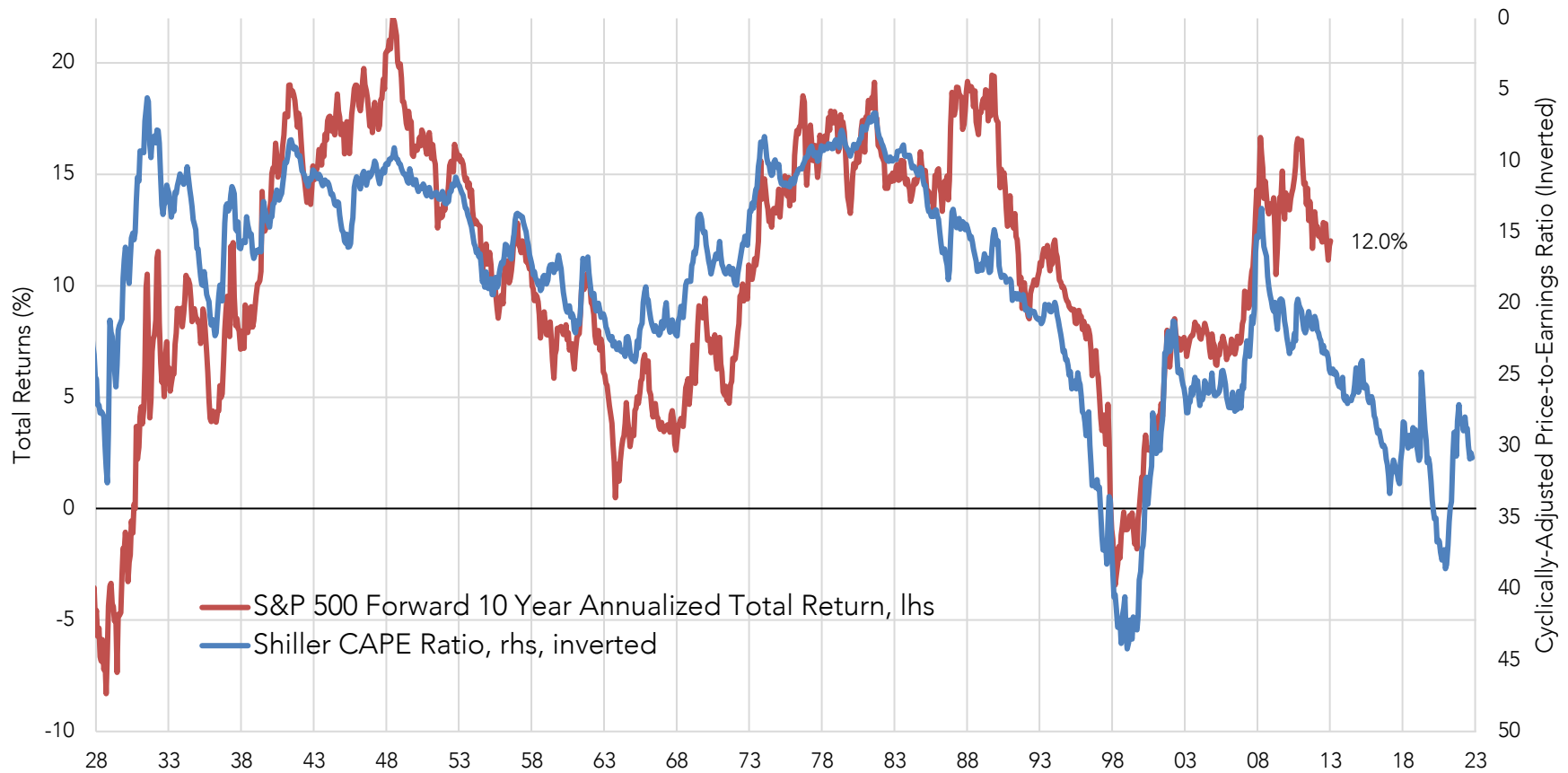
Recession			S&P 500 Total Return		
Start Date	End Date	Duration	1 Year Prior	During	1 Year After
August 1929	March 1933	3.7 Years	49.7%	-79.9%	81.5%
May 1937	June 1938	1.2 Years	24.0%	-23.6%	-1.7%
February 1945	October 1945	0.7 Years	19.9%	27.2%	-7.2%
November 1948	October 1949	1.0 Year	14.3%	5.1%	35.1%
July 1953	May 1954	0.9 Years	2.1%	25.5%	36.1%
August 1957	April 1958	0.7 Years	0.4%	-6.3%	37.2%
April 1960	February 1961	0.9 Years	2.9%	17.5%	13.6%
December 1969	November 1970	1.0 Year	-11.2%	-2.3%	11.2%
November 1973	March 1975	1.4 Years	-1.5%	-17.6%	28.3%
January 1980	July 1980	0.6 Years	18.6%	16.4%	13.0%
July 1981	November 1982	1.4 Years	18.6%	15.7%	25.6%
July 1990	March 1991	0.7 Years	16.4%	7.6%	11.0%
March 2001	November 2001	0.8 Years	-9.0%	-7.3%	-16.5%
December 2007	June 2009	1.6 Years	8.1%	-35.5%	14.4%
March 2020	May 2020	0.2 Years	8.2%	-1.1%	46.0%
<b>Average</b>		<b>1.1 Years</b>	<b>10.8%</b>	<b>-3.9%</b>	<b>21.8%</b>
<b>Median</b>		<b>1.0 Years</b>	<b>11.2%</b>	<b>-1.7%</b>	<b>18.1%</b>

- On average, investors would have captured **8.5% annualized returns** in the typical 3-year period beginning 12 months prior to recession and ended 12 months after recession.



# LONGER-TERM OUTLOOK: EQUITIES

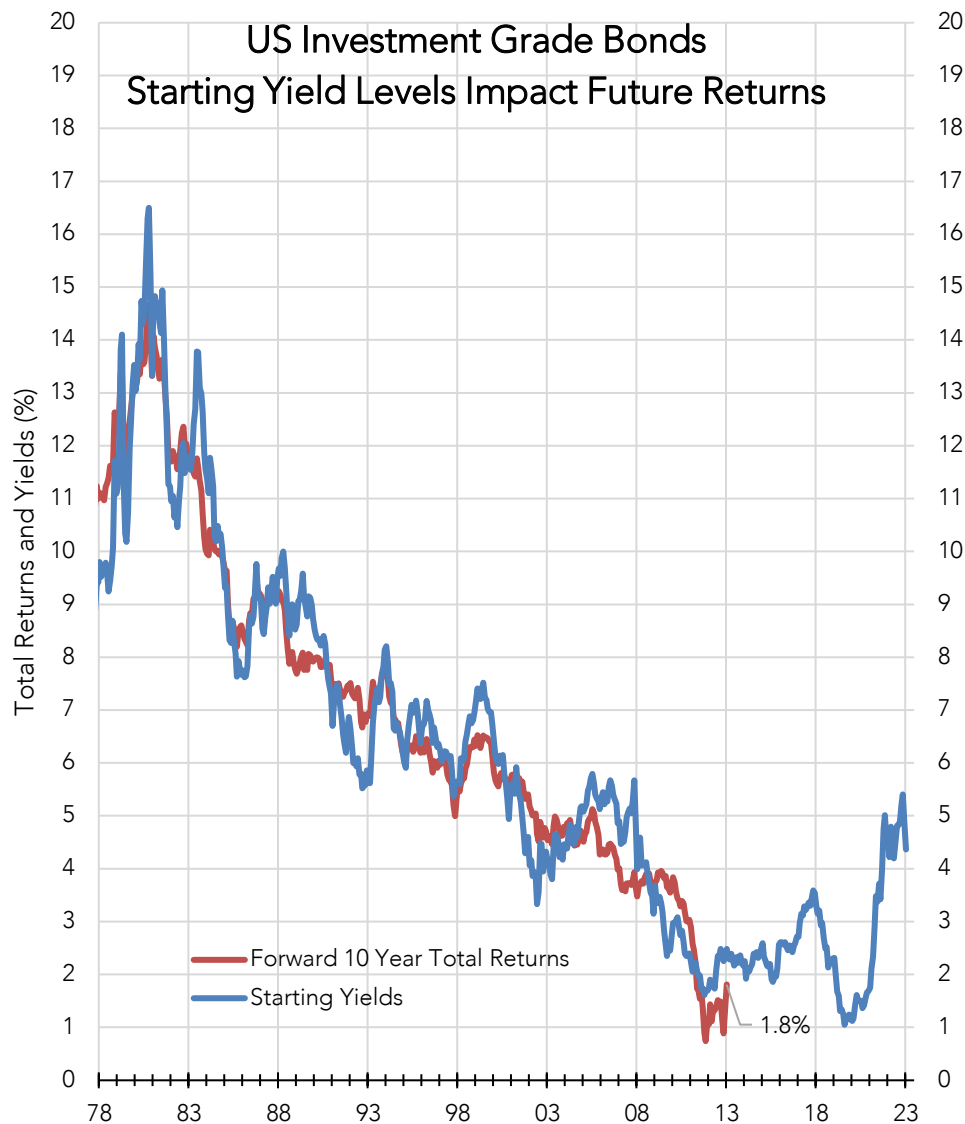
## Valuations Impact Future Returns



Greenleaf Trust Investment Committee US Large Cap  
10 year total return expectations: **6.50% annualized**



# LONGER-TERM OUTLOOK: BONDS

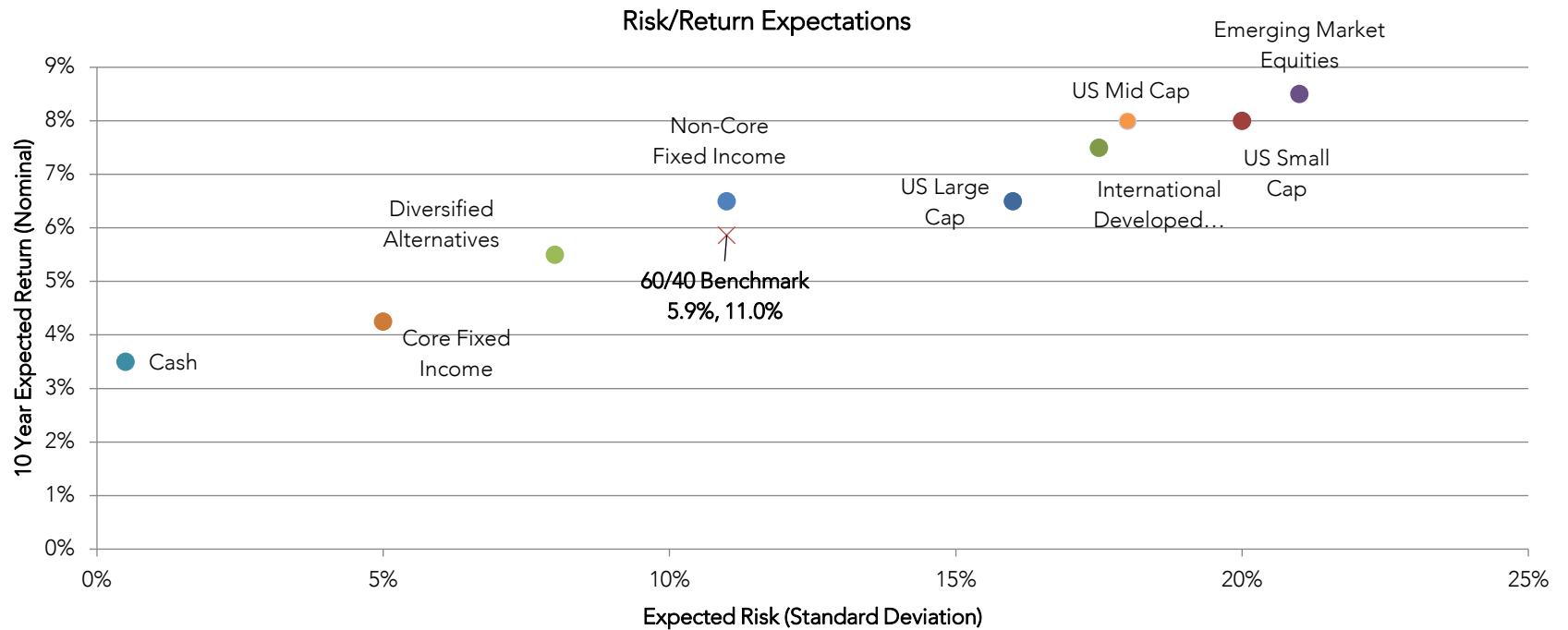


- The starting yield of the index has shown a high correlation to forward 10 year returns.
- As of December 2023, the yield on the index was 4.4%, similar to the end of 2022.

Greenleaf Trust Investment Committee Core Bond  
10 year total return expectations: **4.25% annualized**



# LONGER-TERM OUTLOOK



Asset Class	Historical Return (Dec 1993- Dec 2023)	10 Year Expected Return (Dec 2023)	10 Year Expected Risk (Standard Deviation)
US Large Cap	10.14%	6.50%	16.00%
US Mid Cap	11.15%	8.00%	18.00%
US Small Cap	10.21%	8.00%	20.00%
Developed International Equities	5.69%	7.50%	17.50%
Emerging International Equities	4.64%	8.50%	21.00%
Core Fixed Income	4.12%	4.25%	5.00%
Non-Core Fixed Income	7.02%	6.50%	11.00%
Diversified Alternatives	4.64%	5.50%	8.00%
Cash	2.37%	3.50%	0.50%
Inflation	2.52%	2.25%	1.50%

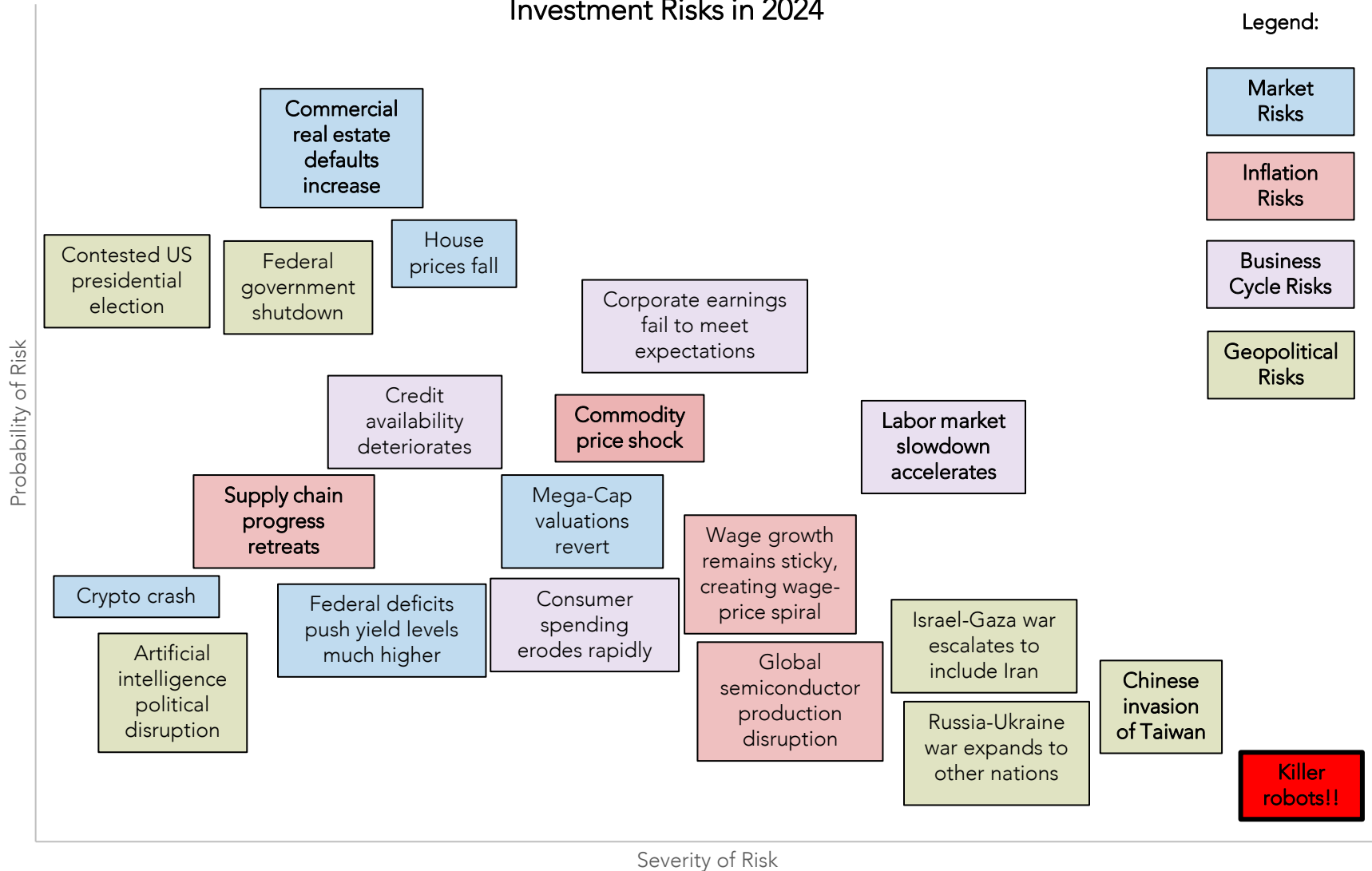


# RISKS

## Investment Risks in 2024

Legend:

- Market Risks
- Inflation Risks
- Business Cycle Risks
- Geopolitical Risks





# CONCLUSION

## We enter 2024 cautiously optimistic for a normal year

- 2021-2023 saw market returns of +/- 15-20% each year
- Markets appear to be priced to deliver more typical returns going forward
- While anything is possible in the short-term, we expect a return to more normal investment returns

## We build portfolios for the long term

- The investment solutions we build for clients are constructed with business cycles, recessions, geopolitical conflict and even black swan events in mind
- We manage so-called anomalistic events with diversification, discipline and the benefit of a long time horizon

## Discipline is key

- Maintaining discipline during periods of uncertainty is the most reliable course for growing and preserving wealth



# Q&A THANK YOU





# DATA SOURCES

Recession date source: National Bureau of Economic Research, Inc.

Slide 7 – “Markets Overview: 2023”;

Katz, Daniel Martin and Bommarito, Michael James and Gao, Shang and Arredondo, Pablo, GPT-4 Passes the Bar Exam (March 15, 2023). Available at SSRN: <https://ssrn.com/abstract=4389233> or <http://dx.doi.org/10.2139/ssrn.4389233>  
Retrieved from: <https://cdn.openai.com/papers/gpt-4.pdf>

Slide 8 – “Markets Overview”; Chart 1.

Retrieved from Bloomberg; Top 10 = S&P Top 10 Index; S&P 500 ex-Top 10 = author’s calculations; Mid Cap = S&P 400 Index; Small Cap = S&P 600 Index; Developed Markets = MSCI EAFE Index; Emerging Markets = MSCI Emerging Markets Index; dated December 31, 2023.

Slide 8 – “Markets Overview”; Chart 2.

Retrieved from Bloomberg; dated December 31, 2023.

Slide 9 – “Top 10 Stocks 1998 & 2003”; Chart 1.

Retrieved from Bloomberg; Top 10 = Author’s calculations; Mid Cap = S&P 400 Index; Small Cap = S&P 600 Index; dated December 31, 2023.

Slide 9 – “Top 10 Stocks 1998 & 2003”; Chart 2.

Retrieved from Bloomberg; Top 10 = S&P Top 10 Index; Mid Cap = S&P 400 Index; Small Cap = S&P 600 Index; dated December 31, 2023.

Slide 10 – “1998”.

Retrieved from [https://www.si.edu/object/america-online-aol-disc:nmah\\_1395721](https://www.si.edu/object/america-online-aol-disc:nmah_1395721).

Slide 12 – “1998: Top 10”.

Source: Intel 1998 Annual Report: <https://www.intel.la/content/dam/doc/report/history-1998-annual-report.pdf>; General Electric 1998 Annual Report: <https://archive.org/details/generalelectriccompanyannualreports/generalelectric1998/>; Lumen Technologies: 1998 American Chemical Society [https://doi.org/10.1021/cen-v076n048.p003open\\_in\\_new](https://doi.org/10.1021/cen-v076n048.p003open_in_new); Pfizer: <https://www.pfizer.com/about/history>

Slide 13 – “1998: Not Top 10”

Source: Amazon: <https://ir.aboutamazon.com/annual-reports-proxies-and-shareholder-letters/default.aspx>, Apple: <https://investor.apple.com/sec-filings/sec-filings-details/default.aspx?FilingId=107083>

Slide 14 – “1998 & 2003”.

Retrieved from Bloomberg, author’s calculations, dated December 31, 2023.

Slide 15 – “Large Cap vs Mid & Small Cap”

Retrieved from Bloomberg, Large Cap = S&P 500 Index, Mid Cap = S&P 400 Index, Small Cap = S&P 600 Index, P/E ratio source = Bloomberg; author’s calculations, dated December 31, 2023.

Slide 16 – “History Rhymes”

Source: Amazon: <https://ir.aboutamazon.com/annual-reports-proxies-and-shareholder-letters/default.aspx>; Microsoft: <https://www.microsoft.com/investor/reports/ar23/index.html>

Slide 18 – “Resilient US Consumer”

Retrieved from Bloomberg, Sources: Real Consumer Spending = US Personal Consumption Expenditures Chained Dollars SAAR, Source: Bureau of Economic Analysis; Consumer Sentiment = University of Michigan Consumer Sentiment Index, University of Michigan Consumer Sentiment Political Party Democrats & University of Michigan Consumer Sentiment Political Party Republicans, dated December 2023; Gas Prices = Weekly U.S. Regular Conventional Retail Gasoline Prices (Dollars per Gallon), source = U.S. Energy Information Administration, dated December 25, 2023; Savings Rates = US Personal Saving as a % of Disposable Personal Income, Source: Bureau of Economic Analysis, dated November 2023; Household debt balances from Household Debt and Credit Report, Source: New York Federal Reserve Bank, dated Q3 2023

Slide 19 – “Resilient US Labor Market”

Retrieved from Bloomberg, Sources: Unemployment = U-3 US Unemployment Rate Total in Labor Force Seasonally Adjusted, Source: Bureau of Labor Statistics, dated November 2023; Forecasts = median economist retrieved from Bloomberg, dated 12/31/2023; Job Opening per Unemployed Person = US Job Openings By Industry Total SA, Source: Bureau of Labor Statistics, dated November 2023 divided by US Unemployment Unemployed Workers Total in Labor Force SA, source: Bloomberg, dated November 2023, Atlanta Fed Wage Growth Tracker Overall 3 Month Moving Average, Source: Federal Reserve Bank of Atlanta, dated November 2023, Monthly Payroll Gains = US Employees on Nonfarm Payrolls Total MoM Net Change SA, Source: Bureau of Labor Statistics, dated November 2023; Nonfarm Payrolls = Us Employees on Nonfarm Payrolls Total, Source Bureau of Labor Statistics, dated November 2023.





# DATA SOURCES

Recession date source: National Bureau of Economic Research, Inc.

Slide 20 – “Resilient US Housing Market”;

Retrieved from Bloomberg; 30 Year Fixed Mortgage Rate = Freddie Mac US Mortgage Market Survey 30 Year Homeowner Commitment National, Source: Freddie Mac, dated 12/28/23; Effective Rate of Interest on Mortgages = US Effective Rate of Interest on Mortgage Debt Outstanding, Source: Bureau of Economic Analysis, dated Q3 2023; Existing Home Price Sources = US NAR Total Existing Homes Sales SAAR, National Association of Realtors, Freddie Mac House Price Index United States, Freddie Mac, & S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index YOY%, S&P & Case-Shiller, dated November & October 2023, Mortgage Originations = Andrew Haughwout, Donghoon Lee, Daniel Mangrum, Joelle Scally, and Wilbert van der Klaauw, “The Great Pandemic Mortgage Refinance Boom,” Federal Reserve Bank of New York Liberty Street Economics, May 15, 2023, <https://libertystreeteconomics.newyorkfed.org/2023/05/the-great-pandemic-mortgage-refinance-boom>, Commercial Real Estate Prices = Real Capital Analytics, dated November 2023, author’s calculations

Slide 21 – “Inflation Decelerates”;

Retrieved from Bloomberg; CPI = US CPI Urban Consumers YoY NSA, Source: Bureau of Labor Statistics, dated November 2023; Forecasts = Consensus economist forecasts per Bloomberg, dated December 31, 2023; TIPS implied inflation = TIPS breakeven rates, author’s calculations, dated December 31, 2023.

Slide 22 – “Commodities”;

Retrieved from Bloomberg; Agriculture = BCOM Agri TR, Energy - BCOM Energy TR, Grains = BCOM Grains TR, Industrial Metals = BCOM Ind Mtl TR, Livestock = BCOM Livestock TR, Petroleum = BCOM Petroleum TR, Precious Metals = BCOM Prec Mtl TR, Softs = BCOM Softs TR; Energy Stocks Underperform: Util = S&P Composite 1500 Utilities (Sector), EN = S&P Composite 1500 Energy (Sector), CONS = S&P Composite 1500 Consumer Staples (Sector), Hlth = S&P Composite 1500 Health Care (Sector), RE = S&P Composite 1500 Real Estate (Sector), FIN = S&P Supercomposite Financials Sector GICS Level 1 Index, MATR = S&P Composite 1500 Materials (Sector), INDU = S&P Composite 1500 Industrials (Sector), COND = S&P Composite 1500 Consumer Discretionary (Sector), TELS = S&P Composite 1500 Communication Services (Sector), INFT = S&P Composite 1500 Information Technology (Sector); Single Commodity: Gold = BCOM Gold TR, WTI Crude Oil = BCOM WTI Crude Oil TR, Brent Crude = BCOM Brent Crude TR, Natural Gas = BCOM Natural Gas TR, Copper = BCOM Copper TR, Soybeans = BCOM Soybeans TR, Silver = BCOM Silver TR, Aluminum = BCOM Aluminum TR, Corn = BCOM Corn TR, Live Cattle = BCOM Live Cattle TR, Coffee = BCOM Coffee TR, Soybean Meal = BCOM Soybean Meal TR, Sugar = BCOM Sugar TR, Zinc = BCOM Zinc TR, Soybean Oil = BCOM Soybean Oil TR, Wheat = BCOM Wheat TR, Unleaded Gas = BCOM Unleaded Gas TR, ULS Diesel = BCOM ULS Diesel TR, Nickel = BCOM Nickel TR, Lean Hogs = BCOM Lean Hogs TR, Kansas Wheat = BCOM Wheat TR, Lead = BCOM Lead TR, dated December 31, 2023

Slide 23 – “Monetary Policy - Recap”;

Retrieved from Bloomberg; Fed Funds = Federal Funds Target Rate - Upper Bound, Source: Federal Reserve, 2 Year = US Generic Govt 2 Yr, Source: Bloomberg, dated December 31, 2023; Market Pricing Most Probable Path = US Federal Funds Futures; SOFR Futures = United States SOFR Secured Overnight Financing Rate Futures, Source: Federal Reserve Bank of New York, dated December 31, 2023

Slide 24 – “Monetary Policy - Fixed Income”;

Retrieved from Bloomberg; 0-3 M Bills = ICE BofA 0-3 Month US Treasury Bill Index, 1-3 Y UST = ICE BofA 1-3 Year US Treasury Index, 1-3 Y Corp = ICE BofA 1-3 Year US Corporate Index, 1-3 Y Muni = ICE BofA 1-3 Year US Municipal Securities Index, 3-5 Y UST = ICE BofA 3-5 Year US Treasury Index, 3-5 Y Corp = ICE BofA 3-5 Year US Corporate Index, 3-5 Y Muni = ICE BofA 3-5 Year US Municipal Securities Index, 5-7 Y UST = ICE BofA 5-7 Year US Treasury Index, 5-7 Y Corp = ICE BofA 5-7 Year US Corporate Index, 5-7 Y Muni = ICE BofA 5-7 Year US Municipal Securities Index, 7-10 Y UST = ICE BofA 7-10 Year US Treasury Index, 7-10 Y Corp = ICE BofA 7-10 Year US Corporate Index, 7-10 Y Muni = ICE BofA 7-10 Year US Municipal Securities Index, 10+ Y UST = ICE BofA 10+ Year US Treasury Index, 10+Y Corp = ICE BofA 10+ Year US Corporate Index, 10+ Y Muni = ICE BofA 10+ Year US Municipal Securities Index, High Yield = ICE BofA US High Yield Index, Emerging Market Debt = ICE BofA US Emerging Markets External Sovereign Index, BBB CMBS = ICE BofA BBB US Fixed Rate CMBS Index, dated December 31, 2023

Slide 25 – “Monetary Policy - Market Impact”;

Retrieved from Bloomberg, Fed Funds Rate = Federal Funds Target Rate, ‘Bond Returns’ = Bloomberg U.S. Aggregate Index, dated December 31, 2023, author’s calculations

Slide 26 – “Fiscal Policy - Interest Costs Increase”;

Retrieved from Bloomberg, CBO = Congressional Budget Office, source: <https://www.cbo.gov/publication/59331>, Average Interest on Treasury Debt = US Treasury Interest Bearing Debt Total Marketable Average Interest Rate, Source: US Treasury Department, Maturity Schedule Source = Monthly Treasury Statement, Source: Bureau of Fiscal Services



# DATA SOURCES

Recession date source: National Bureau of Economic Research, Inc.

Slide 27 – “Fiscal Policy - Growing Debt Issuance”;

Retrieved from Bloomberg; Currency = Currency in Circulation, Reserves = Reserve Balances with Federal Reserve Banks, Reverse Repos = Reverse Repurchase Agreements, Other Liabilities = Factors Absorbing Reserve Funds, Source = Federal Reserve, dated December 29, 2023, CY Net T-Bills & Bonds Issuance Source = SIFMA, dated December 2023, Deficit data Source = US Treasury, dated December 2023, SOMA transaction source = NY Federal Reserve Bank, author’s calculations; Money Market Fund Assets Source = ICI Money Market Funds Assets, dated December 27, 2023, Debt Holders Source = Federal Reserve Z1 Table, dated Q3 2023

Slide 28 – “Election Year”;

Retrieved from Bloomberg; Source: PredictIt, Senate Elections Source = Balletopedia; author’s calculations.

Slide 29 – “Foreign and Domestic Policy”;

Source: Data downloaded from <https://www.matteociacoviello.com/gpr.htm> on December 31, 2023, Partisan Conflict Index Source = Philadelphia Federal Reserve, dated November 2023, retrieved from Bloomberg

Slide 30 – “The Business Cycle”;

Source: Bureau of Economic Statistics, National Bureau of Economic Research, Inc.

Slide 31 – “The Business Cycle”;

Retrieved from Bloomberg, Source: Bureau of Economic Analysis, Bureau of Labor Statistics, NY Federal Reserve & Bloomberg, dated November & December 2023

Slide 33 – “Longer-Term Outlook: Equities”;

Sources: Dr. Robert Shiller & Bloomberg, dated September & December 2023

Slide 34 – “Longer-Term Outlook: Bonds”;

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Slide 35 – “Longer-Term Outlook”;

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