

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

The Government is Shutdown
The Fed Cut Rates
Al, Al, Al
and more Al
Why Do Stocks Go Up?



What Happened



The Government is Shutdown

Find the US government has closed as Democrats and Republicans failed to reach an agreement on the spending bill. The primary sticking points are demands from the Democrats to extend the ACA premium tax credits that were expanded during COVID and expire at the end of 2025. Additionally, they are demanding a reinstatement of the health care subsidies that were cut in the new "Big Beautiful Bill".

This marks the first full government shutdown since 2019. Starting today, several parts of the government will begin to shutdown, either partially or fully. The Congressional Budget Office estimates that roughly 750,000 federal workers could be furloughed (or fired). Important data releases (CPI, GDP, etc.) will likely be delayed.

Since the mid-1970s, the average government shutdown has lasted about 7.5 days. Economic costs tend to be minimal, largely because they have tended to be short and furloughed employees still get paid. However, for shutdowns that last several weeks, the near-term economic impact can be more significant. One estimate suggests a partial government shutdown reduces GDP growth by about 0.1–0.2 percentage points per week.

The table shows the effect on stocks, the dollar and interest rates, which on average have been muted.



Figure 1. Historical US government shutdowns and effect on certain markets

Start	Start Length (Full S&P : Days) C		US Dollar Index Change	x US 10 Year Yield Change (bps)		
30 Sep 76	10	-3.4%	-0.1%	-17		
30 Sep 77	12	-3.2%	-0.8%	13		
31 Oct 77	8	0.7%	0.4%	-2		
30 Nov 77	8	-1.2%	-0.9%	8		
30 Sep 78	17	-2.0%	-3.2%	6		
30 Sep 79	11	-4.4%	2.3%	71		
20 Nov 81	2	-0.1%	-0.3%	30		
30 Sep 82	1	1.3%	0.0%	-22		
17 Dec 82	3	0.8%	-0.6%	-10		
10 Nov 83	3	1.3%	0.4%	7.5		
30 Sep 84	2	-2.2%	-1.4%	14.4		
03 Oct 84	1	0.1%	0.9%	-22.2		
16 Oct 86	1	-0.3%	0.0%	3.3		
18 Dec 87	1	0.0%	0.0%	0		
05 Oct 90	3	-2.1%	-1.2%	16.5		
13 Nov 95	5	1.3%	-0.5%	-5.1		
15 Dec 95	21	0.1%	-0.1%	-8.6		
30 Sep 13	16	3.1%	-0.7%	-2.06		
19 Jan 18	2	0.8%	-0.2%	-0.92		
09 Feb 18	0	0.0%	0.0%	0		
21 Dec 18	35	9.3%	-0.4%	-7.45		
Average	7.7	0.0%	-0.3%	3.4		

Source: Bloomberg, Mercer. Index is unmanaged and not investable. Past performance does not guarantee future results.

The Fed Cut Rates

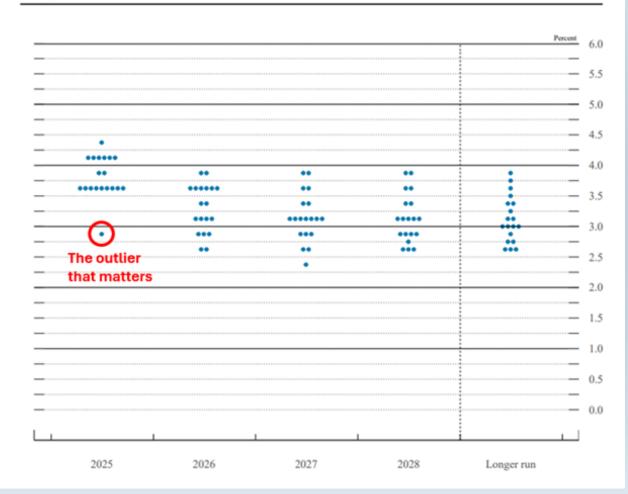
For the 1st time in about 9 months, the Fed has cut the Fed Funds rate 0.25%, down to 4%. Despite the controversy surrounding the Fed, including political pressure to lower interest rates aggressively, attempts to fire an appointed Fed board member, and instillation of a loyalist pushing aggressive cuts (though less than a year ago he suggested raising rates)...this cut was widely expected, and the reaction was relatively benign.

The Fed has a dual mandate, stable inflation and low unemployment. Though inflation has ticked up since the tariffs were put into affect, it's expected to be a one time "price-hike" rather than a sustained inflationary spiral. In addition, the labor market has weakened considerably, though it's unclear how much of that is the result of economic weakness vs. changes in immigration.

The "dot plot" shown here shows 1 "dot" for every Fed participant's estimate of what interest rates will be at different points in time. In general, everyone agrees rates are headed moderately lower over the next few years.

There is one outlier, however, that may be a pretty good indication of where rates are headed if there is more turnover at the Fed i.e. Supreme Court allows Lisa Cook to be fired and Chairman Powell leaves his post.

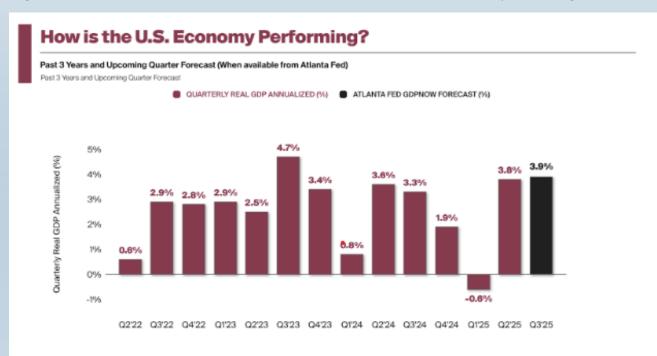
Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate





The Economy is Resilient

The Fed cutting indicates they are somewhat worried about declining economic growth. However, the economy and markets have been resilient. Last quarters GDP was recently revised UP to 3.8% (from 3%), fueled by an increase in consumer spending (right chart). The maroon chart shows the big bounce from Q1's negative GDP. In addition, the FED GDPNOW forecast of Q3 GDP is predicting 3.9% GDP growth, shown by the black bar.

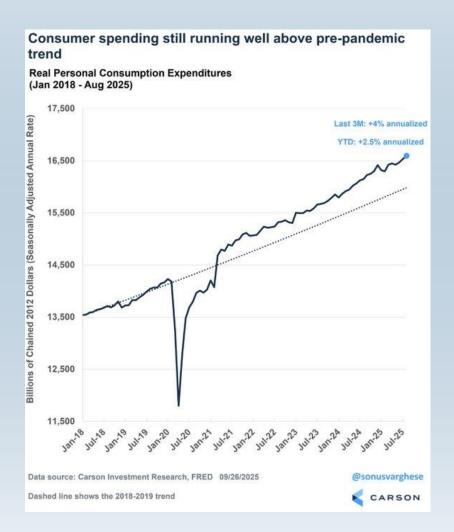


Source: ⊕ Exhibit A, U.S. Bureau of Economic Analysis, Federal Reserve Bank of Atlanta via FRED | Latest: 2025-07-01

This side is for informational and illustrative purposes only. The data provided is believed to be accusite, but there is no quarantee of its accusicy, completeness, or timeliness. This is not a recommendation or offer of any financial product. Past performance is not indicative of future results, and investors should consider their own objectives and risk tolerance, indices, if presented, do not include foce, are unmanaged, and not available for direct investment. Definitions & Methodology. Real GDP is Gross Domestic Product adjusted for initiation, representing the total value of all goods and services produced in the U.S. economy, serving as a measure of economic growth. The Atlanta Fed GDPNow Forecast is a real-time estimate of U.S. GDP growth provided by the Federal Reserve Bank of Atlanta. It uses a dynamic model to update projections for real GDP growth as new economic date is released, offering a timely and data-driven outlook on the economy's performance, it can be found here. https://www.atlantafed.org/cgen/research/gdpnox. The chart shows the quarter over quarter annualized change in Real GDP along with the Atlanta Fed GDPNowly forecast for the updater growth.







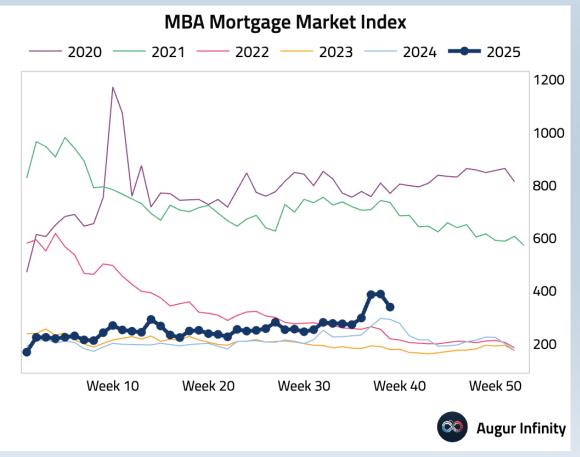
Mortgage Rates are Coming Down

Mortgage rates have fallen sharply in the last few months to about 6.35%, down from around 7% (though they've bounced back to 6.45%). The first chart shows that this rate is well above the effective rate on outstanding mortgages, still barely above 4%.

The 2nd chart illustrates how sensitive mortgage applications are to declining interest rates. After a sharp decrease in mortgage rates, applications spiked about 50%, especially in refinances, only to decline quickly with last weeks bump up in rate. This may indicate pent up demand for

purchases/refinances waiting for rates to fall further.

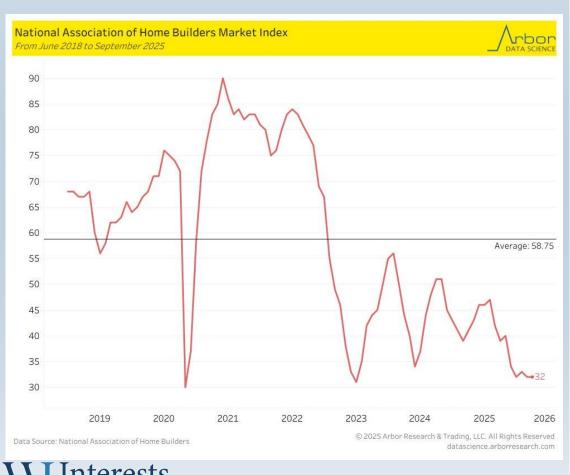


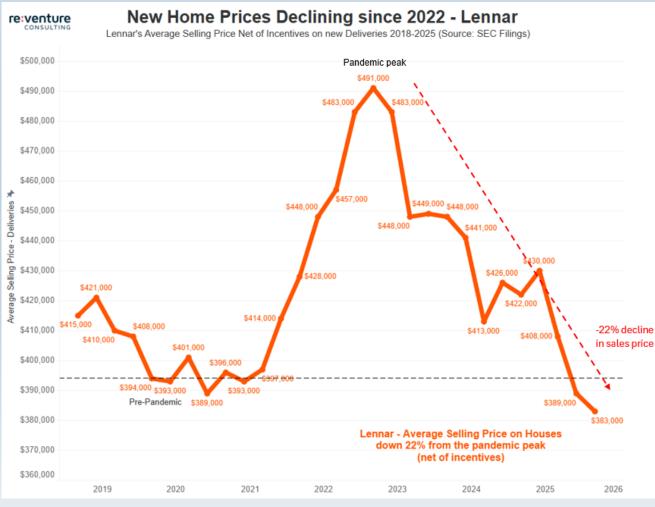




But Homebuilders Aren't Excited Yet

Despite lowering interest rates, homebuilder sentiment is still near all time lows (left chart). The 2nd chart may indicate why. Lennar, America's 2nd largest builder, has cut their average selling price 22% from the pandemic peak. And their most recent quarter's net sales price is now lower than prepandemic, though that's including incentives such as rate buy downs.



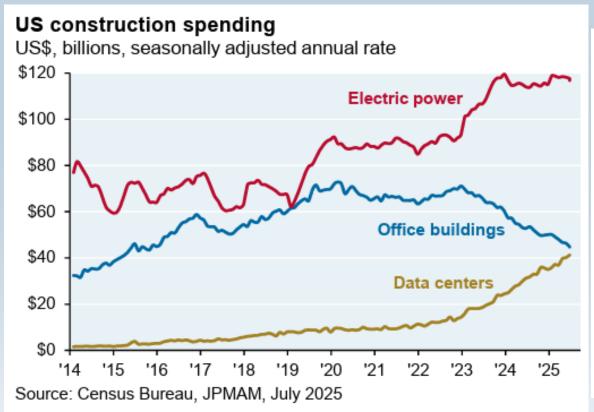


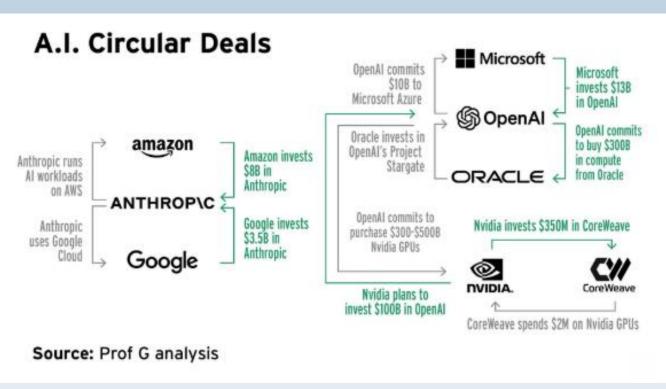
AI, AI, AI

Al is supporting the entire market right now, so it demands attention. The question is not whether it's an amazing technology. It obviously is and will likely continue to improve and become ubiquitous in our lives with time. But time is the trillion-dollar word here. Companies are investing incredible amounts of money in a race to build the most infrastructure for their Al models. The first chart shows the amount being spent on data centers and electric power, with office buildings as comparison. This number is small compared to what is forecasted in the years ahead.

Maybe more interesting is the circular spending as AI alliances are being formed. From Professor Scott Galloway, "OpenAI is promising Oracle \$60 billion a year for compute it doesn't use, on infrastructure Oracle hasn't built, powered by energy it doesn't have, running on chips from Nvidia — which is investing \$100 billion into OpenAI. Microsoft, Oracle, Nvidia, OpenAI are all simultaneously one another's customers, investors, and suppliers...

The question isn't whether AI is transformative — it almost certainly is. The question is whether the financing loops can hold long enough for revenues to catch up."





More on Al

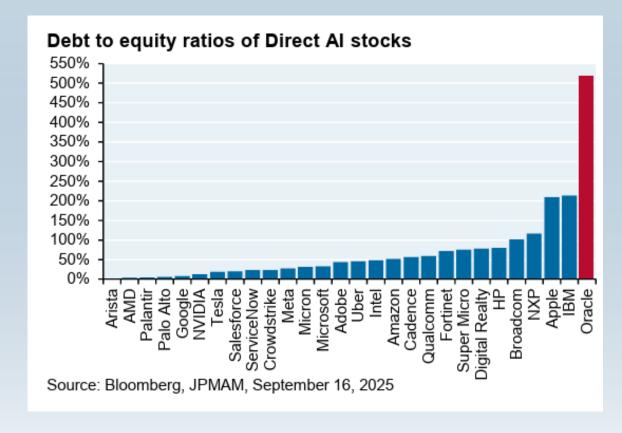
To quote Michael Cemblest from JP Morgan: Al related stocks have accounted for 75% of S&P 500 returns, 80% of earnings growth and 90% of capital spending growth since ChatGPT launched in November 2022. Data centers are eclipsing office construction spending and are coming under increased scrutiny for their impact on power grids and rising electricity prices. Specialized power rates for most data centers aren't enough to cover costs of a new natural gas plant (leaving other customers to foot part of the bill), and in the PJM region, 70% of last year's increased electricity cost was the result of data center demand.

Other recent AI news: Oracle's stock jumped by 25% after being promised \$60 billion a year from OpenAI, an amount of money OpenAI doesn't earn yet, to provide cloud computing facilities that Oracle hasn't built yet, and which will require 4.5 GW of power (the equivalent of 2.25 Hoover Dams or four nuclear plants), as well as increased borrowing by Oracle whose debt to equity ratio is already 500% compared to 50% for Amazon, 30% for Microsoft and even less at Meta and Google. Read more in this fantastic paper here.

Returns, earnings, capex/R&D growth and contributions of Al-related stocks in the S&P 500 since ChatGPT launch

	Al:	Al:	Al:	S&P 500			
	Direct	Utilities	CapEquip	ex-Al			
Performance since November 2022							
Price return	181%	65%	138%	25%			
Earnings growth	124%	15%	58%	9%			
EBIT growth	98%	11%	71%	16%			
Capex + R&D growth	63%	21%	-14%	4%			
Contributions to S&P 500 since November 2022							
Price return	75%	0.9%	0.9%	23%			
Earnings growth	79%	0.5%	0.8%	20%			
EBIT growth	62%	0.4%	0.9%	36%			
Capex + R&D growth	90%	2%	-0.1%	8%			

Source: Bloomberg, JPMAM, September 22, 2025



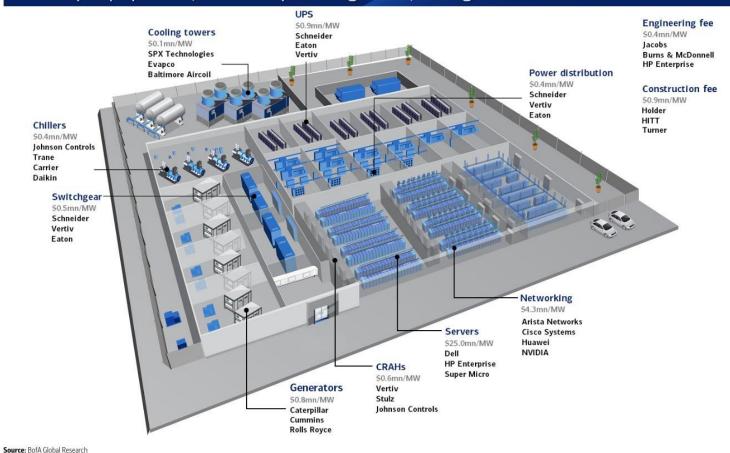
And More Al

If, like me, you aren't really sure what goes into building all of these data centers, this map from BofA helps clear things up. Exhibit 1: Who Makes the Data Center - 2025

Estimated capex costs of \$39mn per megawatt

Who Makes the Data Center - 2025

Key equipment, content per megawatt, and global vendors





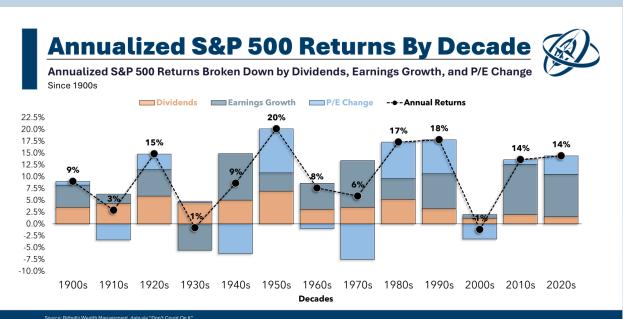
BofA GLOBAL RESEARCH

Why Do Stocks Go Up?

While this isn't a current event, I found these graphics to be very well done on a topic that is commonly misunderstood. "Stocks" the way most people think of them are an abstraction. A bunch of randomly moving lines on a chart that hopefully go up over time. What lies underneath isn't intuitive to most people, so I felt it was worth reviewing why stocks have gone up over the last century.

There are 3 variables that make up a stocks return: **Dividend + Earnings growth + P/E change aka the "valuation"**. The first two are up to the company. They decide how much to pay out, and how well they operate determines profitability. The last is determined by investors. If they are excited about a company, they will pay a higher valuation, and vice versa. The first chart shows the return of the S&P 500 by decade broken up by these 3 inputs. While investors are paying higher multiples today, most of the increase of the last 15 years has come from earnings growth, which is good.

The second chart partially illustrates why. Earnings are what you make after expenses. With the same sales, if you can lower expenses, your "profit margin" will improv, and US stocks have **doubled** their profit margins over the last 25 years.



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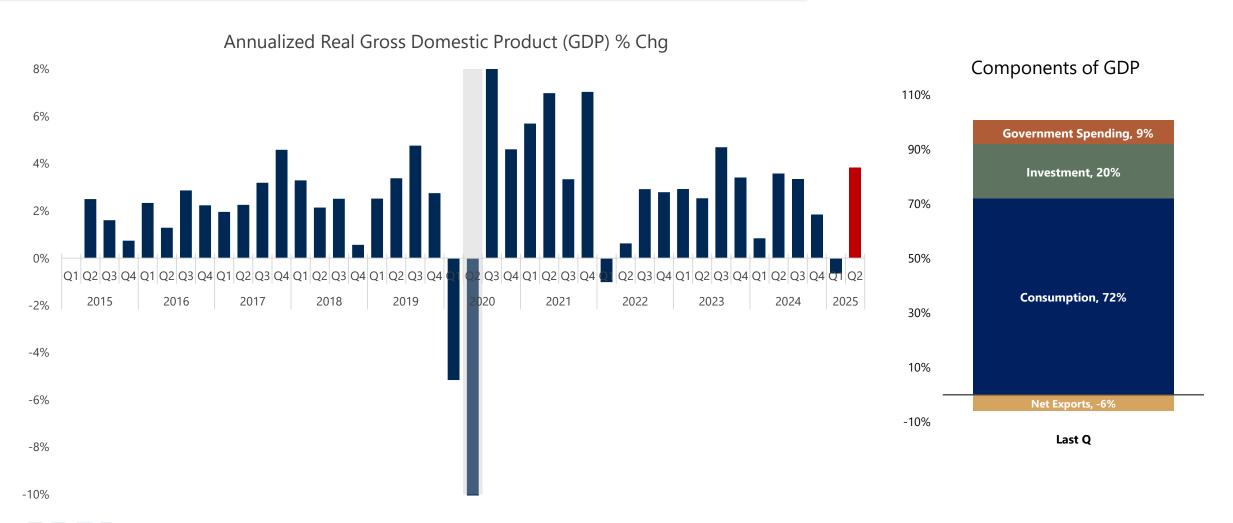
Margins Continue To Improve S&P 500 Net Income Margin and Average by Decade Since 1991 14 12 2010s avg 10.3% 10.3% 11.3% 2000s avg 2010s avg 2010s avg 2010s avg 10.3% 10.3



WJ State of the Economy



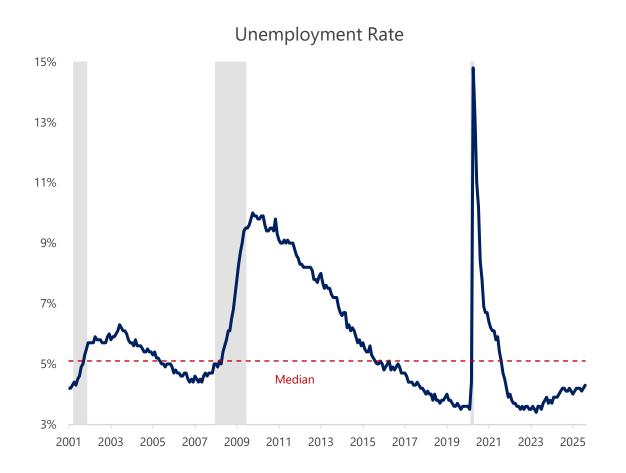
Q2 GPD Revised Higher to 3.8%





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

Employment Situation Still Solid

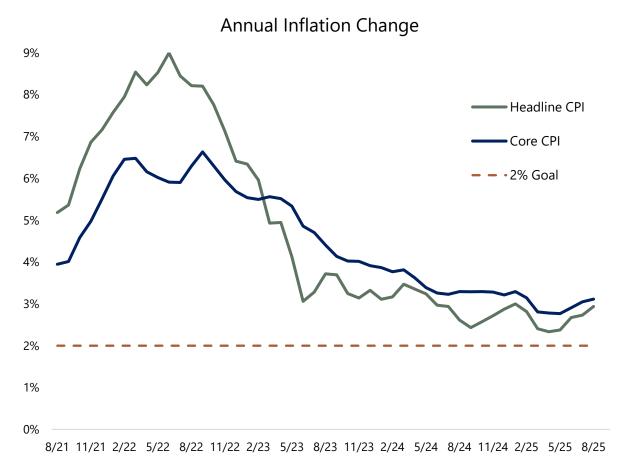


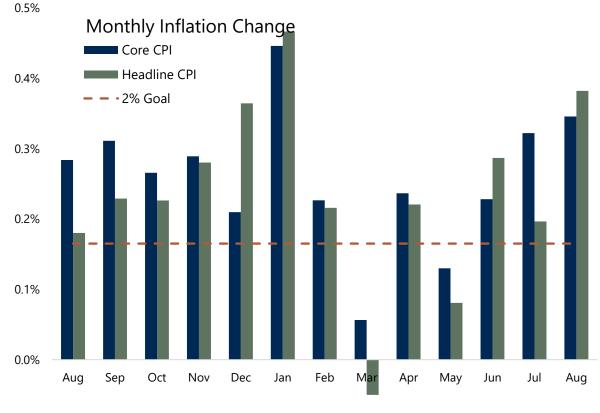




Source: Federal Reserve Economic Database (FRED). Unemployment Rate (left) and Job Openings: Total Nonfarm divided by Unemployment Level as well as Quits: Total Nonfarm (right). Recessions from NBER based Recession Indicators for the United States from the Period following the Peak through the Trough

Inflation Reaccelerating

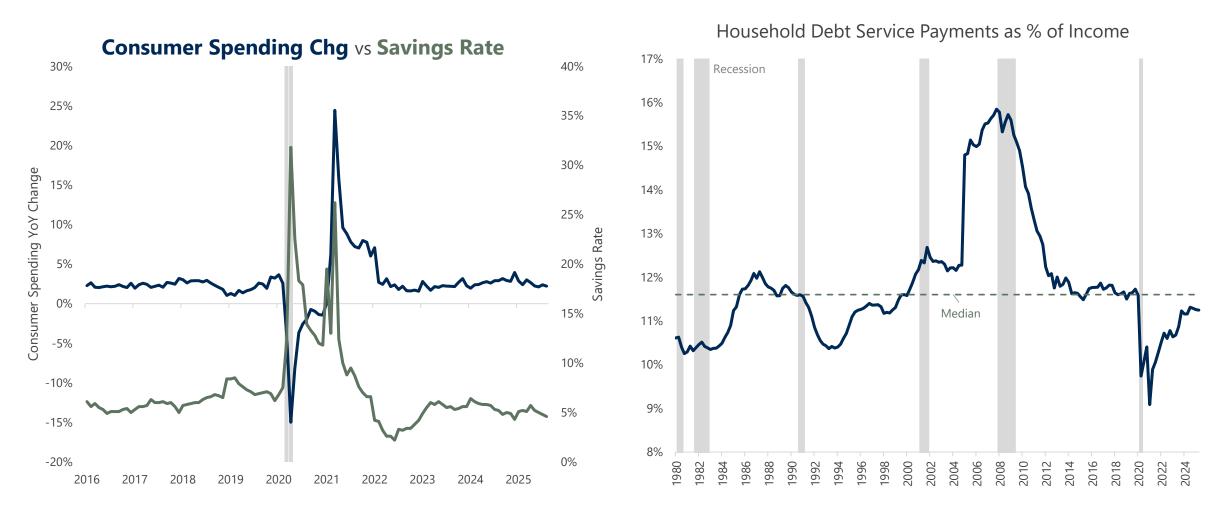






-0.1%

Consumer is Still Strong

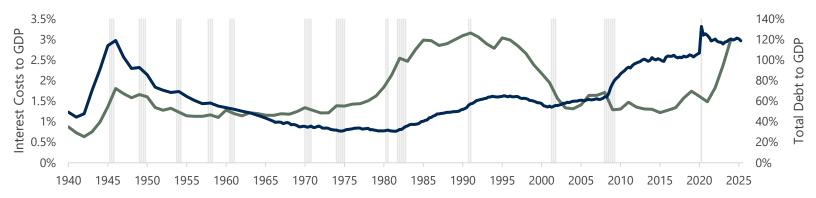




Source: Federal Reserve Economic Database (FRED). Personal Saving Rate plus Real Personal Consumption Expenditures (left) and Household Debt Service Payments as a Percent of Disposable Personal Income (right). Recessions from NBER based Recession Indicators for the United States from the Period following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

Interest Costs and the Deficit Rising





Federal Budget Surplus/Deficit

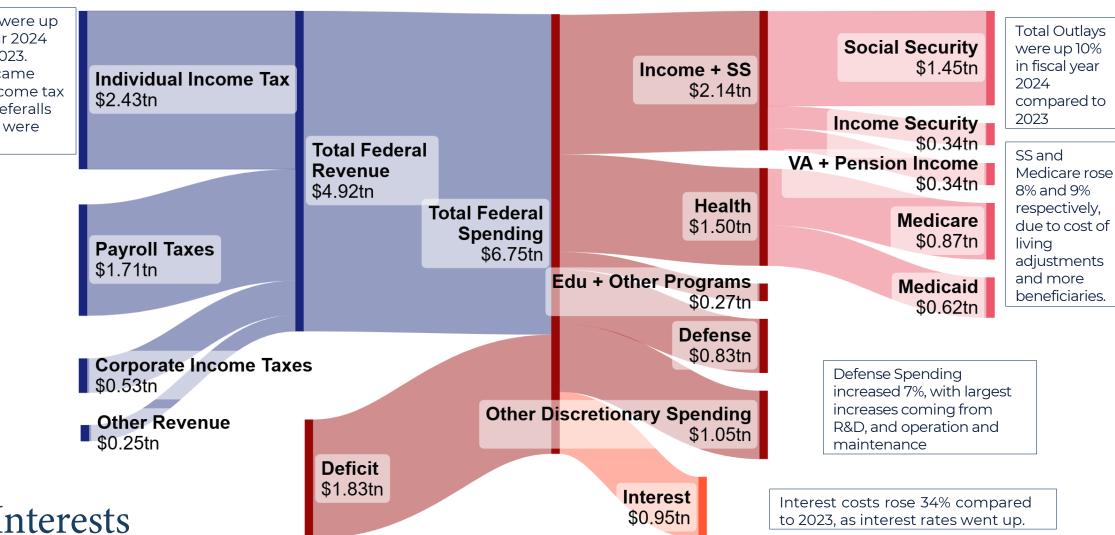




Government Expenditures 2024

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.

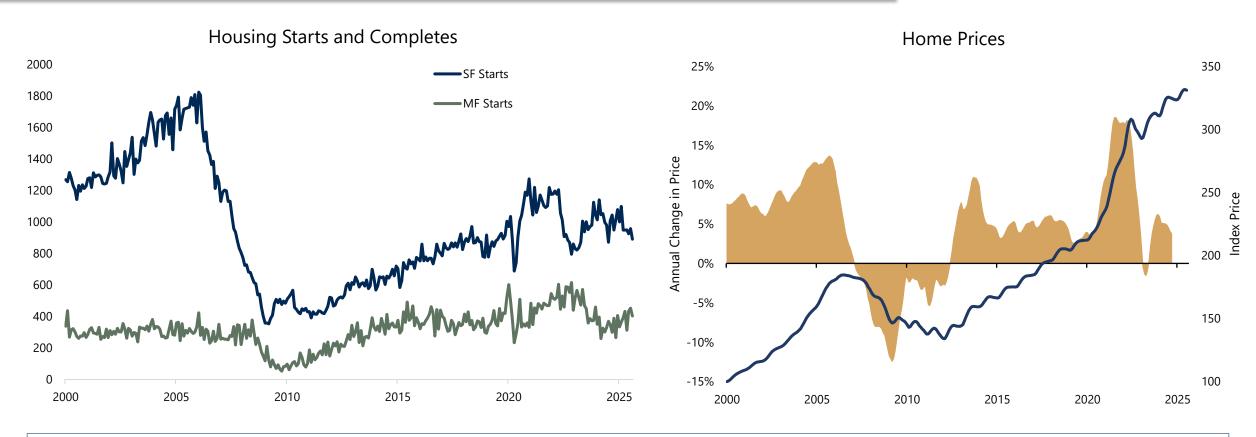
Total Receipts were up 11% in fiscal year 2024 compared to 2023. Most of these came from higher income tax receipts, and deferalls from 2023 that were paid in 2024.



Made at SankevMATIC.com

Source: https://www.cbo.gov/publication/59544/html

SF and MF Starts Drop



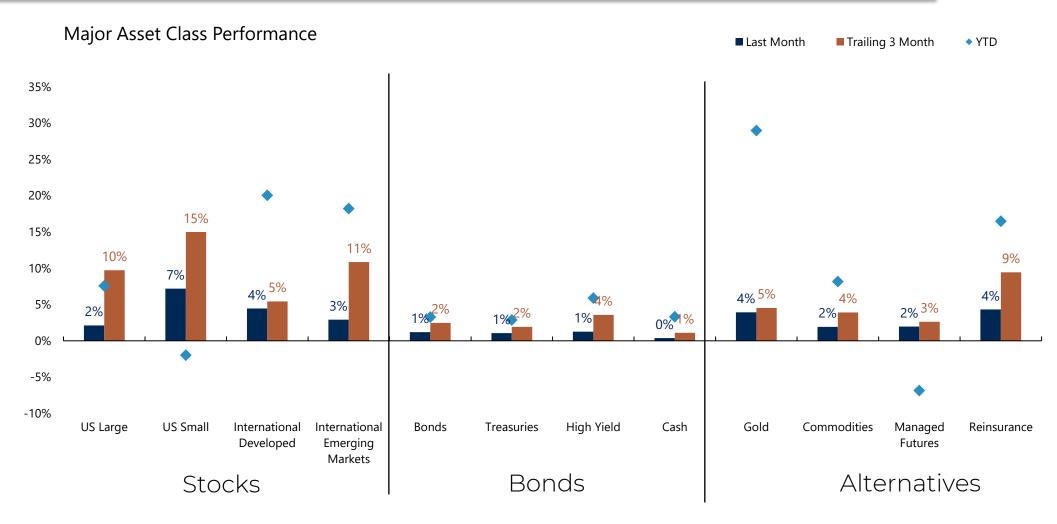
A housing start is the beginning of construction on a new residential housing unit and indicates how much new housing supply is on the horizon. On the right we show home prices over time, as well as the annual rate of change. Prices surged in 2021-2022 but have stopped growing altogether. What they do next will depend on how much pent-up demand there is, and how much housing we build going forward. Note of how significantly starts dropped after the 2008 crisis, and led to the undersupply we have today.



WJ State of the Markets



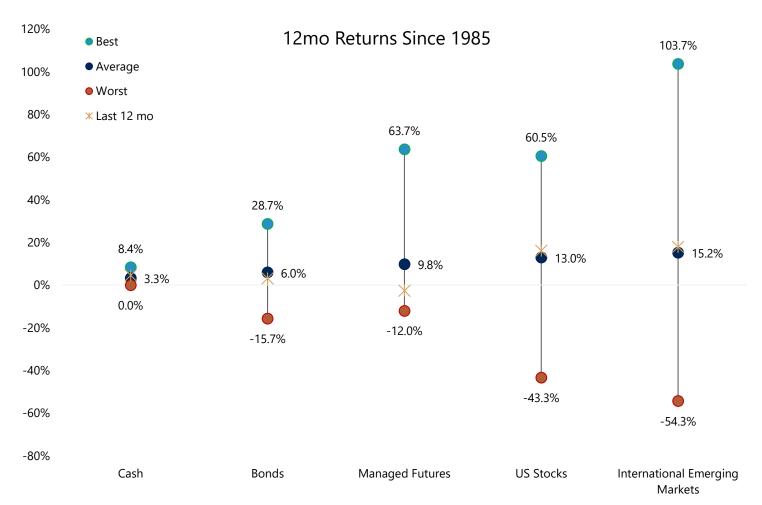
Strong Year Across Most Assets so Far





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



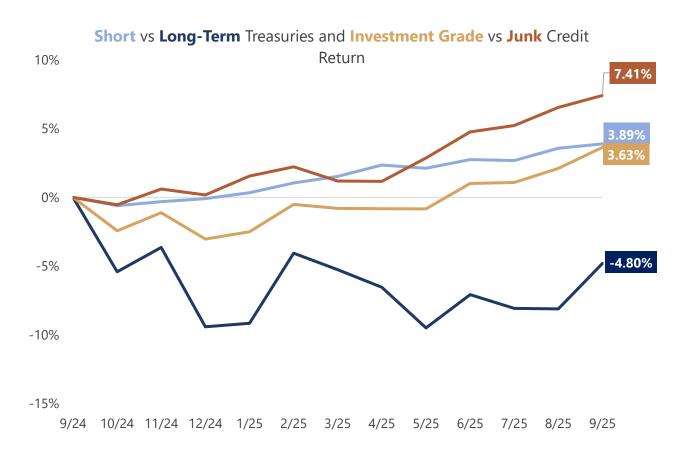
This chart shows the range of 12 month returns historically, by asset class. As you'd expect, the riskier investment leads to a greater potential gain, as well as loss.

The X on the line represents the last 12 months.



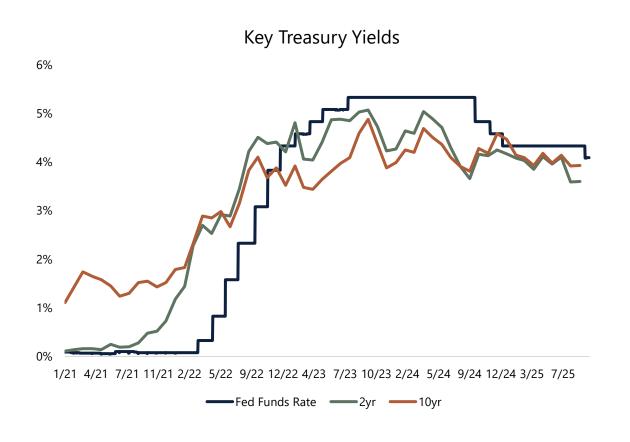
Strong Junk Bond Returns, but Yields are Low

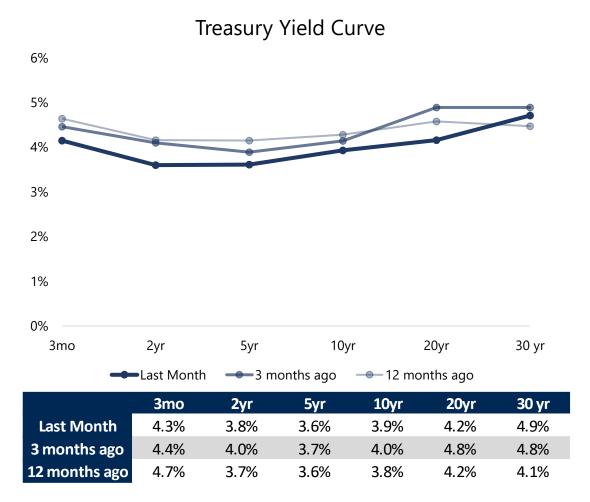






The Fed Finally Cuts



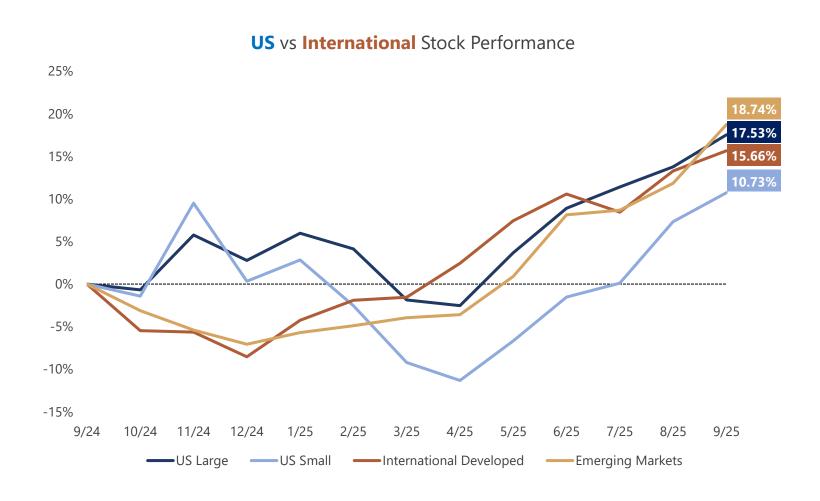




Source: Morningstar Direct. USTREAS T-Bill Cnst Mat Rate 3mo, USTREAS T-Bill Cnst Mat Rate 2 yr, USTREAS T-Bill Cnst Mat Rate 5yr, USTREAS T-Bill Cnst Mat Rate 10 Yr, USTREAS T-Bill Cnst Mat Rate 30 Yr. Effective Fed Funds Rate from FRED Database.

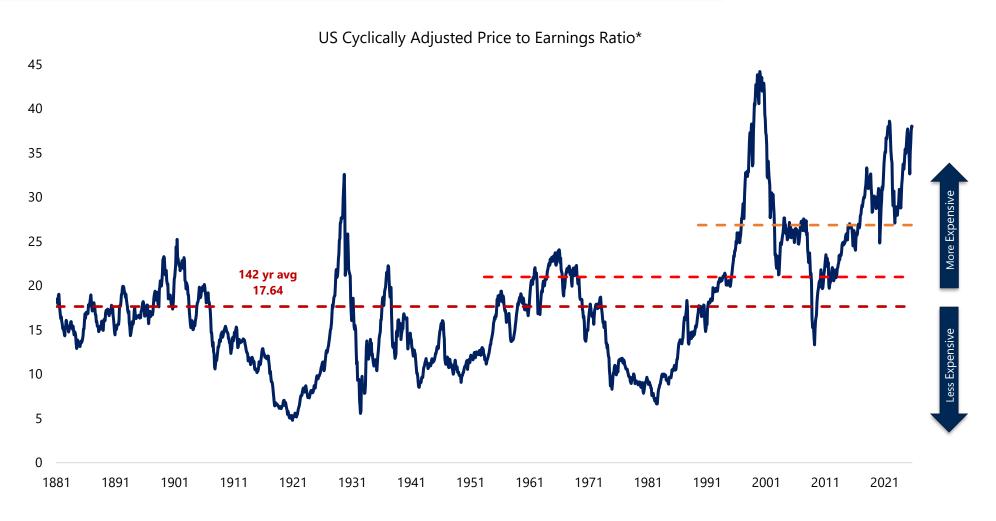
Emerging Markets Lead Last 12 Months

Stock Type		Last Month	Last 3 Months	Last 12 Months	
	US Large	3.3%	7.9%	17.5%	
Core	US Small	3.2%	12.4%	10.7%	
ပိ	International Developed	2.1%	4.6%	15.7%	
	International Emerging	6.2%	9.8%	18.7%	
	US Value	1.5%	5.3%	9.2%	
Other	US Growth	5.3%	10.5%	25.3%	
	Nasdaq	5.4%	8.9%	23.7%	





US Stock Valuations Remain High





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.

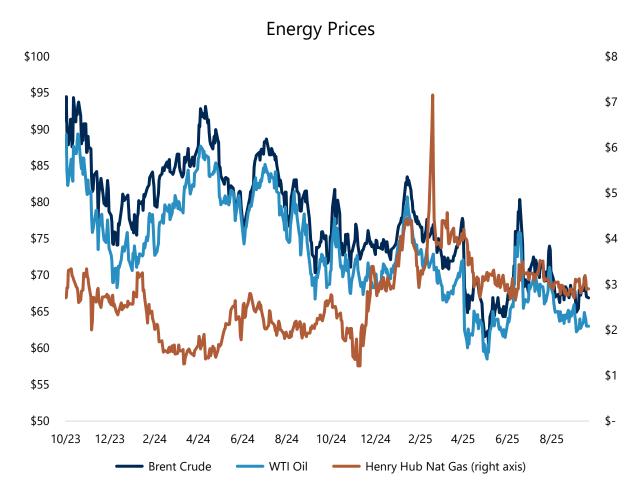
Oil Prices Continue to Fall

Bloomberg Commodity Index



Oil and Natural Gas prices are falling quickly on a combination of things. First, oil prices tend to fall as expected demand weakens, as is the case during a recession.

In addition, OPEC+ has also announced they are increasing production for the second month in a row. The combination of weak demand and increased supply could mean low energy prices for the foreseeable future. This is of course good for the consumer, but bad for energy companies.





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.

Periodic Table of Asset Class Returns

InterestsWEALTH ADVISORS

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025 YTD
Reinsurance	US Small Stock	Intl Emerging Stk	Cash	US Large Stock	US Large Stock	US Large Stock	Trend Following	Reinsurance	Reinsurance	Intl Emerging Stk
8%	22%	37%	2%	31%	21%	26%	22%	44%	31%	28%
Bonds	US Large Stock	Intl Developed Stk	Bonds	US Small Stock	US Small Stock	US Small Stock	Reinsurance	US Large Stock	US Large Stock	Intl Developed Stk
2%	12%	27%	0%	25%	20%	15%	3%	26%	24%	26%
US Large Stock	Intl Emerging Stk	US Large Stock	US Large Stock	Intl Developed Stk	Intl Emerging Stk	Intl Developed Stk	Cash	Intl Developed Stk	TAA	Reinsurance
1%	10%	22%	-5%	23%	18%	12%	2%	18%	12%	16%
Cash	Reinsurance	TAA	Reinsurance	TAA	Moderate Blended Port	Moderate Blended Port	Bonds	US Small Stock	US Small Stock	Moderate Blended Port
0%	6%	19%	-6%	20%	13%	11%	-12%	17%	11%	15%
Intl Developed Stk	Moderate Blended Port	Moderate Blended Port	Moderate Blended Port	Moderate Blended Port	Intl Developed Stk	TAA	TAA	Moderate Blended Port	Moderate Blended Port	US Large Stock
0%	6%	17%	-7%	20%	8%	10%	-12%	17%	10%	14%
Trend Following	TAA	US Small Stock	TAA	Intl Emerging Stk	Reinsurance	Trend Following	Moderate Blended Port	Intl Emerging Stk	Intl Emerging Stk	TAA
0%	5%	15%	-8%	18%	7%	5%	-15%	12%	7%	11%
Moderate Blended Port	Intl Developed Stk	Bonds	US Small Stock	Bonds	Bonds	Cash	Intl Developed Stk	TAA	Cash	US Small Stock
0%	2%	5%	-11%	8%	7%	0%	-15%	12%	5%	10%
TAA	Bonds	Trend Following	Trend Following	Trend Following	Trend Following	Bonds	US Large Stock	Bonds	Intl Developed Stk	Bonds
-4%	1%	2%	-13%	4%	3%	-1%	-19%	6%	3%	6%
US Small Stock	Cash	Cash	Intl Developed Stk	Cash	Cash	Intl Emerging Stk	Intl Emerging Stk	Cash	Trend Following	Cash
-4%	0%	1%	-14%	2%	0%	-1%	-20%	5%	3%	3%
Intl Emerging Stk	Trend Following	Reinsurance	Intl Emerging Stk	Reinsurance	TAA	Reinsurance	US Small Stock	Trend Following	Bonds	Trend Following
-14%	-6%	-11%	-15%	-4%	-2%	-5%	-20%	-3%	1%	-5%

Through Last Month End					
9/30/2025					
5 Yr	10 Yr				
Reinsurance	US Large Stock				
17%	15%				
US Large Stock	US Small Stock				
16%	10%				
US Small Stock	Moderate Blended Port				
11%	8%				
Intl Developed	Intl Developed				
Stk	Stk				
11%	8%				
Moderate Blended Port	Intl Emerging Stk				
	8%				
9%	070				
TAA	Reinsurance				
8%	7%				
Intl Emerging Stk	TAA				
8%	6%				
Trend Following	Cash				
5%	2%				
Cash	Bonds				
3%	2%				
Bonds	Trend Following				
0%	1%				

Disclaimer

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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:

```
US Large StockiShares Russell 1000 (IWB)
US Small StockiShares Russell 2000 (IWM)
Intl Developed Stock iShares Core MSCI EAFE (IEFA)
Intl Emerging Stock iShares Core MSCI Emerging Markets (IEMG)
Bonds Vanguard Total Bond Market (BND)
Cash Morningstar USD 1M Cash TR USD
Reinsurance Stone Ridge Reinsurance Fund (SRRIX)
Managed Futures SG Trend Index, PIMCO Trends (PQTIX), Virtus Alphasimplex (ASFYX), Standpoint (BLNDX)
TAA GMO Benchmark Free (GBMIX) and Strategy Shares Nwfnd/Rslv Rbt ETF (ROMO)
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Assumes annual rebalancing. All data represents total return for stated period.

