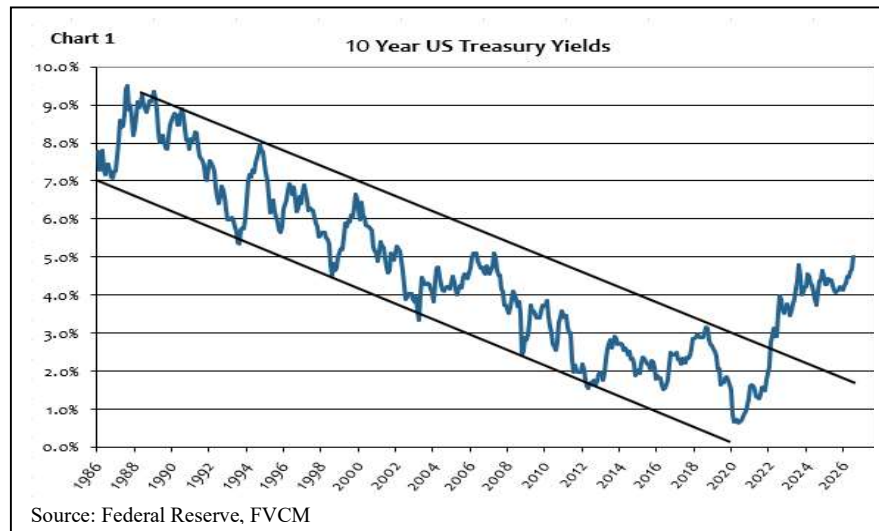


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September 21, 2026

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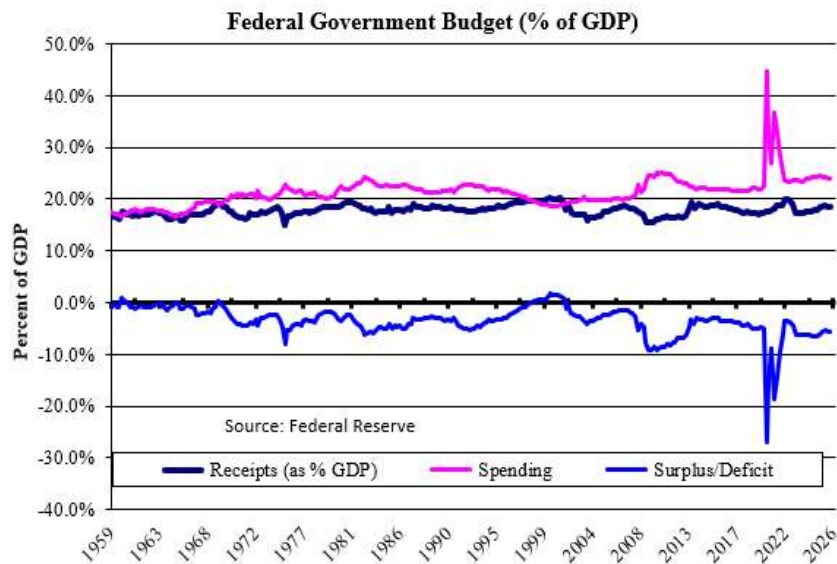
Interest Rates on the Rise

With the 10-year U.S. treasury bond yield recently hitting a high of around 5%, there has been much discussion about the cause of rising rates. As you would expect, rising debt levels are frequently cited, but there are multiple factors involved:

- The U.S. has continued to run Federal budget deficits at around 5.5% of GDP. While not particularly problematic now, it's a bad starting point considering future strains on the budget due to a growing number of retirees collecting Social Security (the universal government pension system) and Medicare (healthcare for retirees). We will review some budget and debt data later.
- There is a boom in capital spending by the big U.S. tech companies and that spending is reverberating outward from semiconductors into the general economy to include everything from equipment for the provision of electricity, to earth moving equipment, to copper mining for tubes and wiring manufacturers. That capital spending, to some degree, is being financed via bond offerings.
- This past week the Federal Reserve started raising interest rates and signaled that more increases are to come. The Fed has expressed dissatisfaction with the progress being made in reducing inflation. We are pleased with the Fed's rate rise and the commitment to reducing inflation, but clearly money and credit will become more scarce and higher bond yields are one result.
- The capital markets are global. The government budget problems facing the U.S. due to retirements and public pensions is even worse in Europe and Asia. Countries including Japan, South Korea and China are facing demographic implosions that will severely stress budgets in the years ahead.

The U.S. Federal Government budget deficit was 5.5% of GDP in the 2026 second quarter, down from 6.5% of GDP at the end of 2024. Interestingly, the so-called One Big Beautiful Bill was signed on July 4, 2025, and most of the tax cuts were made retroactive to the beginning of that year, including the full expensing of R&D, an increase in the standard deduction for personal income taxes, higher deductions for state and local taxes, no tax on tips, no tax on overtime pay, extra deductions for senior citizens, a \$200 increase in tax credits for children, and the full expensing of equipment and factory structures, among other cuts. As seen in Table 1 below, tax receipts increased 11.2%, year-over-year, in the quarter after the law was passed. During the year ended June 30, 2026, tax revenues increased 6.7%, even faster than the 6.6% increase in nominal GDP despite the tax cuts. The strength in tax collections reflects a number of factors including massive investments and growth in artificial intelligence (AI) and data centers, tax collections from booming investment markets, as well as revenues from tariffs. At the same time, Federal government regulations and employment have been reduced, and spending has been restrained. For the previous 12 months, Federal spending was up only 3.6%.

Chart 2



Source: National Income and Product Accounts, the Federal Reserve, FVCM

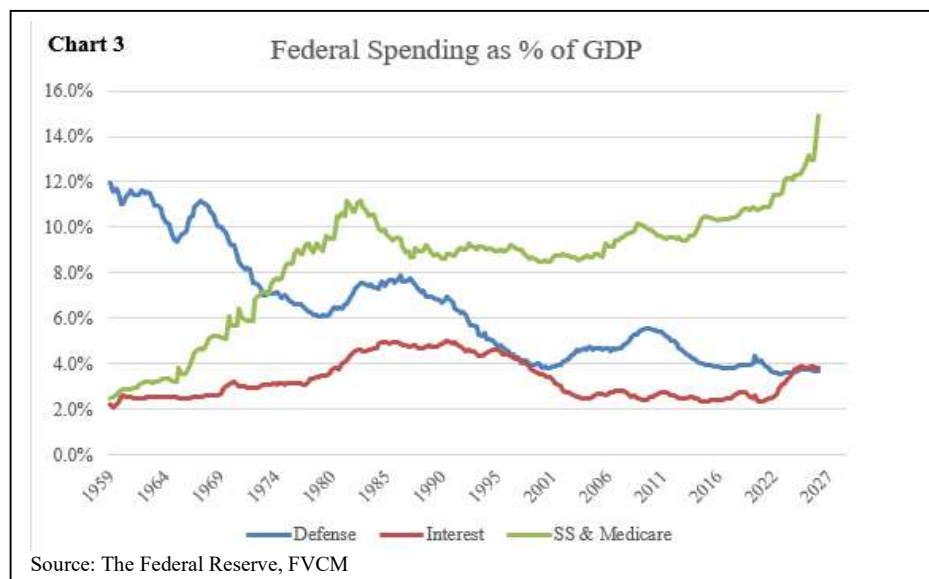
Table 1 % Change Year/Year

	N. GDP	Federal Tax Receipts	Federal Spending
2019.12	4.9%	4.0%	4.4%
2020.03	3.0%	3.8%	3.8%
2020.06	-6.7%	-3.9%	87.8%
2020.09	-0.1%	2.4%	50.3%
2020.12	0.7%	4.4%	23.6%
2021.03	4.3%	9.1%	71.5%
2021.06	17.4%	23.6%	-12.8%
2021.09	10.5%	19.1%	-5.3%
2021.12	12.3%	18.9%	5.3%
2022.03	11.3%	22.7%	-28.1%
2022.06	10.4%	17.5%	-21.6%
2022.09	9.8%	13.8%	-9.1%
2022.12	7.9%	8.8%	1.3%
2023.03	7.8%	-6.4%	7.2%
2023.06	6.5%	-7.1%	6.8%
2023.09	6.6%	-6.1%	6.1%
2023.12	6.2%	-3.5%	5.5%
2024.03	5.5%	6.2%	6.4%
2024.06	5.9%	7.9%	7.1%
2024.09	5.1%	7.7%	9.3%
2024.12	4.9%	7.8%	8.7%
2025.03	4.6%	6.9%	6.8%
2025.06	4.6%	8.9%	7.8%
2025.09	5.4%	11.2%	5.8%
2025.12	5.4%	11.0%	4.6%
2026.03	6.1%	8.9%	5.0%
2026.06	6.6%	6.7%	3.6%

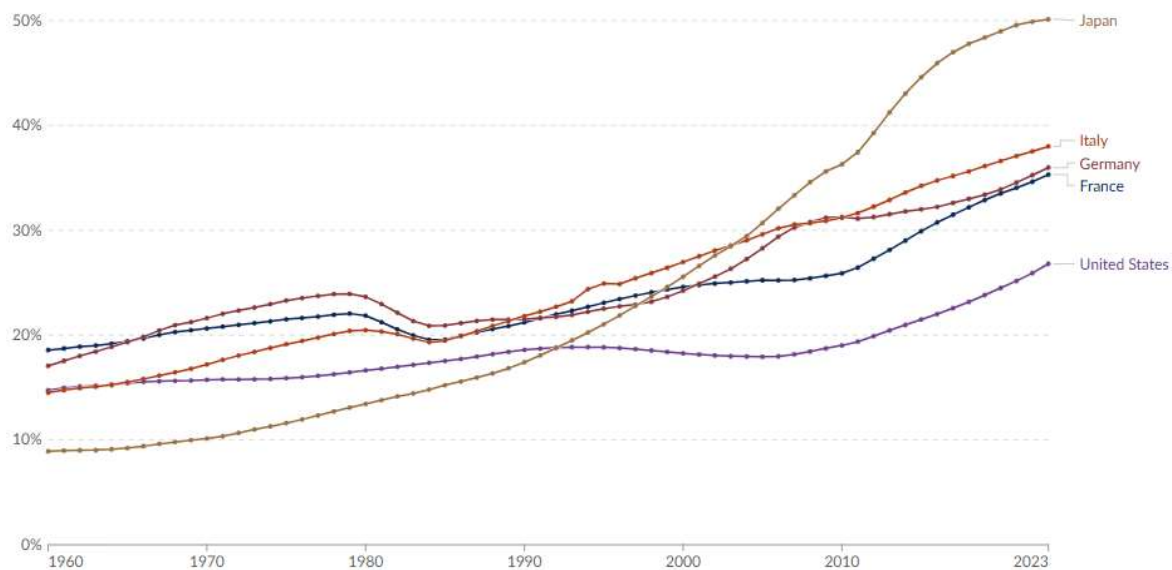
For perspective, there are a few other numbers that help us understand the current budget deficit. Since 1959, federal government spending has averaged 21.4% of GDP, while government revenues have averaged 17.8%. Deficits have averaged about 3.5% of GDP. Currently, spending and revenues are both above average. Spending is now running at 23.9% of GDP while tax revenues are 18.4%. So, if you use the historical averages as a benchmark, the current deficit is due to expansive government spending, not a lack of taxation. Even with the rise in spending and tax revenues versus the historical averages, these numbers are well below comparable statistics in Europe. It has long been a common American philosophy that it's better for government to take a small part of a big pie, rather than a large part of a small pie. The thought is that government spending is a burden to the private sector that finances such spending through taxation and lending to government, and that such burdens stifles growth of "the pie."

The federal budget is not problematic today, yet there are warning signs. But those signs are not those frequently cited in the foreign press. A common refrain we hear from Europe is that American deficits are driven by huge defense spending and a growing burden from interest payments on debt. The U.S. does spend far more on defense than any other country in an absolute sense, but relative to the overall economy, defense spending has been mostly declining for decades (see Chart 3 below). When the U.S. began troop withdrawals from Vietnam in 1969, defense spending started to fall from more than 10% of GDP to about 6% in 1980, when the so-called Reagan defense buildup began. But the decline became more precipitous around 1990 after the fall of the Soviet Union. The so-called “Peace Dividend” brought defense spending down to 4% by the last quarter of 1999 at the end of the Clinton administration. Today, defense is only 3.7% of GDP.

Interest payments on the Federal debt have been rising but remain within historical norms. Today interest on the federal debt costs the U.S. federal government an amount equal to 3.8% of GDP, or just above defense spending. However, this cost is still below the peaks of the past. For example, in 1990, at a time when interest rates were higher, interest costs were as much as 5% of GDP. Is today’s interest cost a problem? It’s not great, but it’s also not the emergency implied by some press reports when they talk about interest costs now exceeding the defense budget.



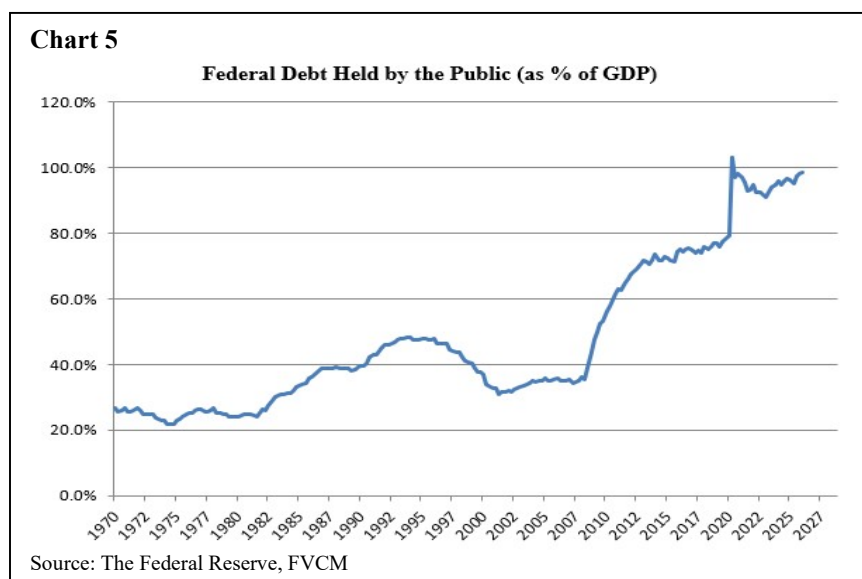
Like many industrialized nations today, the U.S. federal budget is under stress because of changing demographics and a growing number of retirees. As the post-world war “baby boom” generation has now mostly retired, spending on social security (government pension) and Medicare (government healthcare) has exploded to about 15% of GDP. While the number of retirees has grown, births have slowed and the number of retirees has risen sharply compared to the working age population. As shown in Chart 4, the so-called dependency ratio has been rising significantly and is creating budget stress around the globe.

Chart 4**Old-age Dependency Ratio 1960 to 2023: Number of people aged 65+ per 100 people aged 15 -64**

Source: "Data Page: Old-age dependency ratio". Our World in Data (2026). Data adapted from United Nations. Retrieved from <https://archive.ourworldindata.org/20260910-003655/grapher/age-dependency-ratio-old.html> [online resource] (archived on September 10, 2026).

These budget problems appear intractable because, in democratic nations, changes to social spending programs, especially transfers to retirees, has become politically untouchable. Retirees have so much political power, neither party in the U.S. wants to step forward and suggest changes because the other party would use such positions, no matter how sensible, to hammer the other in an election. We see similar dynamics in France and elsewhere. What might be sensible? Consider that in 1935 when social security was created, the retirement age was established at 65. However, men at that time were only expected to live to 61/62 and women were expected to live to 63/64. Since the system's creation, the retirement age was raised only once, to 67. The change was passed in the 1980s but wasn't fully phased in until 2025. The politicians in the '80s had the will for that small change but only by delaying the move for many years. With life expectancy now 77 for males and 81 for females, the argument could logically be made that the retirement age should be raised further.

From a political and budget perspective, the U.S. is in a better position than other countries. The U.S. social security system has a "reserve" invested in government securities. Since retirement payments have exceeded the payroll taxes currently being made by workers and employers into the system, the reserve is being depleted. By law, the Social Security Administration must reduce retirement payments to the amount equal to tax collections after that reserve runs out. The reserve is currently estimated to run out in 2032 and will cause a 22% cut in payments to seniors. Is that going to happen? Probably not because the looming threat of such a cut will force politicians to make changes to the system. Changes will likely include some increase in payroll taxes, changes to the upward adjustments for inflation each year, and some increase in the retirement age. The current law is like a guillotine hanging over the system since the cuts, if nothing is done, are guaranteed. This mechanism, to force change, exists nowhere else.

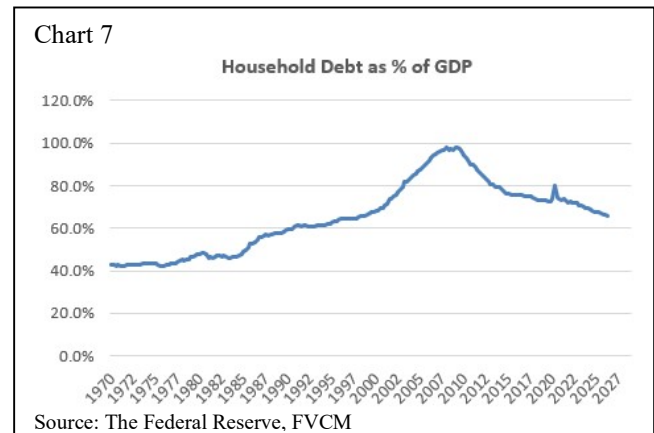
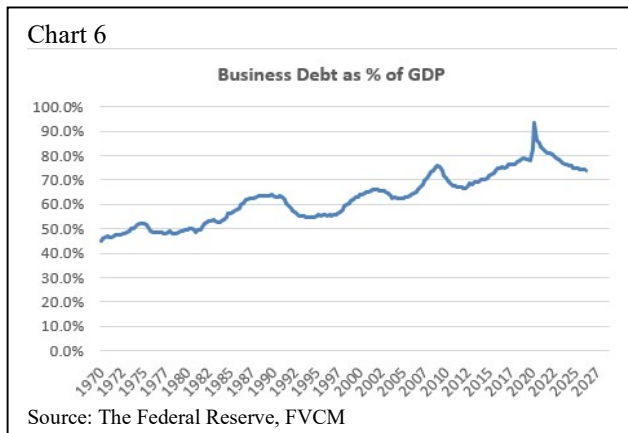


Are rising bond yields the result of high Federal debt? Ironically, evidence points to the opposite. Ten-year U.S. treasury yields fell to their lowest point of 0.6% in 2020. That is the same year that federal debt spiked due to spending related to covid. Federal debt hit a peak of 103% of GDP that year. Thanks to rapid nominal economic growth in the U.S., Federal debt in the first quarter of 2026 is at 98.7% of GDP, down from the 2020 peak. And, yet, yields are now up near 5%. How does this make sense? It's interesting and helpful to review some of the ideas being discussed between the years from 2009 to 2022 when bond yields were at such low levels. There were two prevailing theories:

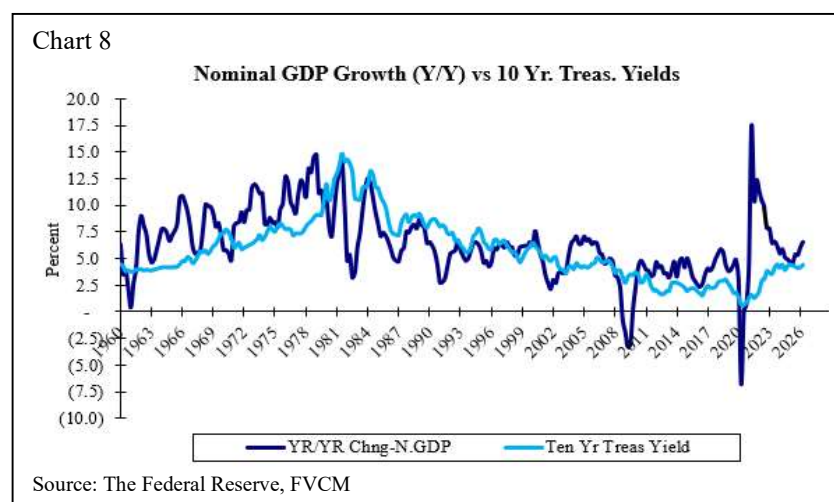
1. The Global Savings Glut – The former Chairman of the Federal Reserve Ben Bernanke was among those that believed that there were vast cash savings in Asia and the Middle East looking for safe investment opportunities. Such capital was thought to be flowing into the United States and depressing bond and other investment yields.
2. Secular Stagnation – Some well-known economists, including Larry Summers, the former Treasury Secretary under Bill Clinton and the Director of the National Economic Council under Barack Obama, was a proponent of the idea that there was a business malaise of sorts and companies had little desire to invest in new opportunities or factories and equipment, and so the demand for capital was low. As the demand for capital fell, so did interest rates.

There was certainly some truth in those two theories, and it may help explain conditions today: We would have to go back to the 1990s during the Internet buildout to find a time similar to today in terms of excitement about investment opportunities. The five major tech “hyperscalers” are expected to issue between \$250 billion and \$300 billion in debt securities this year in order to finance the data center buildout. It's been in the news and the spending has drawn amazement. But is the rise in yields more about investment spending and debt, or is it the excitement and expectations about the future? According to the Federal Reserve, total business debt in the U.S. peaked at 93.6% of GDP back in 2020 and has since declined to 73.8% as of the second quarter of 2026 (see Chart 6). So, what about that new debt from the hyperscalers? Well according to the data, \$300 billion in new debt amounts to a mere 1.25% of total U.S. business debt.

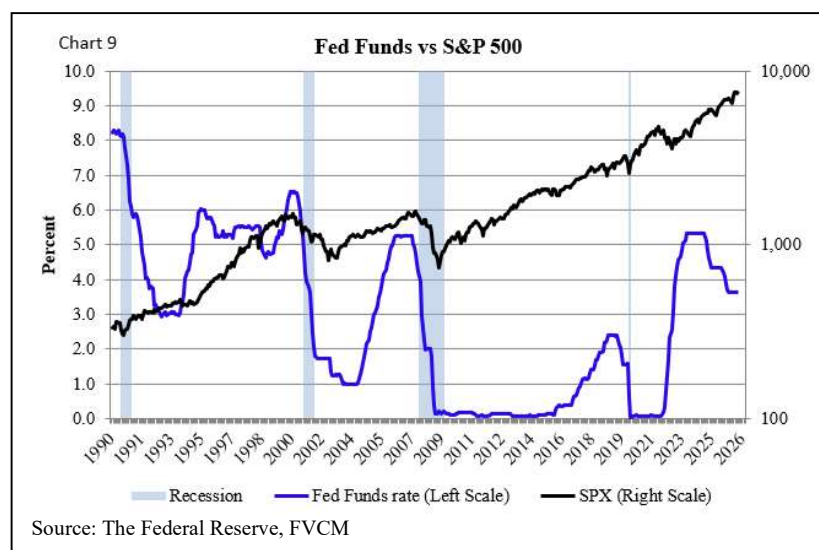
The amounts are exciting, but they're not moving the needle much nor a very good explanation of the recent rise in bond yields. Similarly, U.S. households have been trimming debt relative to income/GDP since the Great Financial Crisis of 2008-9. Newspaper headlines are exciting, but the data tells a different story.



If the rise in bond yields is not due to the federal budget deficit, and it's not due to debt levels, why are yields rising? They are rising because the growth rate of total spending is rising. Nominal GDP is equal to the sum of all spending, and bond yields follow. The 1960s and 1970s were a bad time for bondholders because spending growth and inflation were unexpectedly trending upward. Bond holders were under compensated as yields were behind the curve (the light blue line below was below the dark blue line). However, Paul Volker became Fed Chairman in 1979 and he sharply tightened monetary policy to get spending and inflation under control. From that point until the early 2000's, bonds performed very well because of declining rates of spending, declining inflation, and yields above the growth rate of spending (light blue higher than dark blue). The story has since changed again with spending growth now exceeding bond yields. Naturally, the broad trend in yields is, again, upward.



On September 16, 2026, the Federal Reserve raised its short-term interest rate target 0.25% to a range of 3.75% to 4.0%. To get spending growth down, that rate increase is a start in the right direction, but there are factors out of the Fed's control. It is notable that since the middle of 2021, a year before the artificial intelligence (AI) boom started, nominal spending has grown at a 6.6% annual rate. It is also notable that the Fed has allowed the M2 money supply to grow at only a 2.1% rate during that time. What happened during that period is that the velocity of money, which is the rate at which money is transferred via spending, has accelerated at a 4.4% rate. When people are worried, they want to hold more cash in their bank accounts and velocity slows. When they are confident, velocity accelerates. It is arguable, but not provable, that with unemployment low, and because of the pure excitement about future growth thanks to AI, people have been willing to draw down their cash balances and accelerate spending. This factor is not in the Fed's control, and it could continue. M2 velocity was 1.41 in the second quarter of 2026, far below its peak of 2.19 in 1997. There is plenty of room for spending to accelerate even if the Fed doesn't allow the money supply to expand at all. This reality, unfortunately, means that we really can't predict the future rate of spending growth. Hence, trends in inflation and bond yields are obscured by uncertainty about how people feel about maintaining cash balances.



The performance of the stock market is driven primarily by earnings growth, and on that basis we should remain positive. Over the past five tightening cycles—in terms of rate increases, the S&P 500 was higher in four out of those five periods during the following 12 months. On average, stocks were up 6%. Furthermore, according to consensus estimates from Factset, the information technology tool widely used in the investment field, earnings for the S&P 500 are expected to rise 15% in 2027 on top of the incredible 33% rise estimated for 2026. We are clearly in a period of great innovation and change. Price volatility is the price equity investors must pay to earn high returns. Despite the monetary uncertainty that the Fed is addressing through higher rates, the outlook for stock returns appears good.

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