CARLYLE

September 2025

Through the Looking Glass

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EXECUTIVE SUMMARY

- In the slump that followed the 2008 financial crisis, the Fed expanded its remit in ways that often blurred the lines between fiscal and monetary policy. It now appears to be the Treasury Department's turn to do some "blurring" of its own as it enlists the help of the Fed to drive down interest payments on the federal debt.

- While this strategy could prove a smashing success, it could also destabilize Treasury markets if bondholders perceive that monetary policy has been suborned to stabilize public finances rather than defend the real value of their principal.

- Proponents of sharply lower rates laugh off inflation concerns by pointing to the disinflationary force of AI. Yet the last three years have taught that the road to that agentic AI future is paved with trillions of dollars of *annual* investment, driving up demand for construction workers, power, and capital. Real interest rates averaged nearly 4% during the last concentrated capex boom of comparable magnitude.

- It is hardly obvious that AI-related revenues will arrive at the scale and time horizon necessary to validate these enormous outlays. Yet the U.S. stock market looks like a concentrated bet on the best-case outcome, with total market capitalization dominated by a handful of richly-valued companies exposed to the same risk.

- A stock market in thrall to "themes and memes" drives home the distinction between *trading*—buying assets to sell—and *investing*—buying assets to own. With transaction prices based on underwritten return expectations over multiyear holding periods, private markets have largely avoided the liquidity-driven froth observed in public markets. While the discipline enforced by private markets' arithmetic constraints has depressed transaction volumes in recent years, it also raises the prospect of attractive, market-neutral returns going forward.

I. THIS TIME IS DIFFERENT

Though Fed officials continue to describe policy as "restrictive" and have expressed openness to cuts,[1] the main impetus for easier policy today comes from the Administration, which has pushed for six to seven rate cuts[2] and will soon nominate a new Fed Chair.

The Fed is generally understood by legal scholars, courts, and market participants as the most independent of the many independent agencies created by federal statute.[3] But the practical meaning of "independence" is a complex topic, whether considered in terms of (1) legal questions, such as removability protections afforded Governors; (2) the history of the institution, which has oscillated between periods when it appeared largely private and those when it seemed a mere appendage of the Treasury Department; (3) the scope of its responsibilities, which have expanded to include financial-sector regulation and market interventions such as large-scale asset purchase programs (aka "QE"); or, most importantly, (4) the stability of government funding markets, which depends on investors' willingness to lend to one arm of the government (the Treasury) in a currency whose real value is determined by another arm of the same government (the Fed).

Many observers saw the seeds of the current tumult planted in the years after the 2008 crisis. With fiscal policy bogged down by partisan discord, the Fed came to be seen as the "only game in town." The institution took up this mantle, expanding its remit in ways that often blurred the lines between fiscal and monetary policy.[4]

As the Fed enlarged its balance sheet, it made decisions about the mix of Treasury securities available to the public that had historically been the province of the Treasury Department.[5]

Indeed, with newly created bank reserves functionally equivalent to Treasury bills,[6] QE only made sense to the extent that (a) it undid the maturity structure of Treasury debt chosen by the Treasury Department or (b) was used to acquire non-Treasury assets like mortgages, influencing

1. Most recently at Jackson Hole, c.f. https://www.federalreserve.gov/newsevents/speech/powell20250822a.htm
2. "Bessent Urges Fed to Lower Rates by 150 Basis Points or More," Bloomberg, August 13.
3. C.f. *Trump v. Wilcox* (2025). Conti-Brown (2011), "The Institutions of Federal Reserve Independence," Yale Journal on Regulation.
4. C.f. Plosser, C. (2022): https://www.hoover.org/sites/default/files/research/docs/22104-plosser.pdf
5. C.f. "QT, Ample Reserves, and the Changing Fed Balance Sheet," Federal Reserve Bank of Cleveland, April 2025.
6. "(O)nce the interest-rate lower bound is reached, bank reserves and other very short-term riskless claims should become essentially perfect substitutes, so that increases in reserves that come about through central-bank purchases of riskless short-term assets...should have no effect." Woodford, M. (2012), "Methods of Policy Accommodation at the Interest-Rate Lower Bound," Federal Reserve Bank of Kansas City.

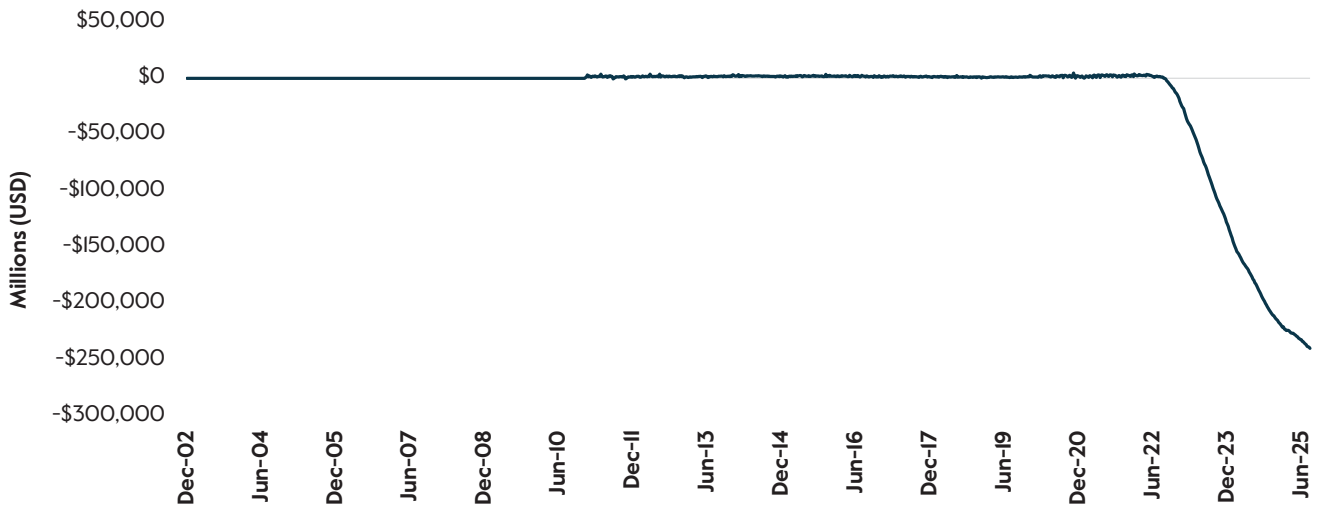
economy-wide credit allocation.[7] QE also reduced government borrowing costs by roughly 30 basis points, shaving $50 billion off the federal government's annual interest bill.[8]

QE had an even more direct fiscal impact. Between 2011 and 2022, QE generated roughly $1 trillion of profits that were deposited in the Treasury General Account on a weekly basis. But as the interest paid on bank reserves rose above the yields on the Treasury securities they were used to acquire, the Fed has booked more than $230 billion in cumulative losses since then (Figure I, Page 5). No surprise these losses have become fodder for critics urging a more focused, less agentic institution.[9]

THE FED'S P&L

Fig. 1

FEDERAL RESERVE NET INCOME (AFTER DIVIDENDS & OPERATING EXPENSES)



7. Finance Professor John Cochrane famously mocked the rationale for QE, hinting that it amounted to a fiscal operation: "Now, of all the stories we've heard to explain our sluggish recovery, how plausible is this one: 'Our big problem is the maturity structure of Treasury debt. If only those goofballs at Treasury had issued $600 billion more three-month bills instead of all these five-year notes, unemployment wouldn't be so high. It's a good thing the Fed can undo this tragic mistake.'" *Bloomberg*, Jun 2, 2011.
8. Estimated using the average weighted maturity of Treasury debt as of 2019 based on estimates in Bonis, B. et al. (2017), "The Effect of the Federal Reserve's Securities Holdings on Longer-term Interest Rates," FEDS Notes.
9. "As long-term rates rise, the Federal Reserve will have mark-to-market losses on its balance sheet. These losses are not a threat to the Federal Reserve's ability to tighten nor do they have any economic significance, but losses could be used as a political weapon by those who seek to curtail the Federal Reserve's independence or limit its powers." Kohn, D. (2014), "Federal Reserve Independence in the Aftermath of the Financial Crisis: Should We Be Worried?" Brookings Institution.

Figure I. Source: Carlyle Analysis, Federal Reserve Board of Governors, H.4, August 2025. There is no guarantee any trends will continue.

II. THE TREASURY GAMBIT

However the specific legal questions are resolved, institutional relations seem likely to evolve in ways that strengthen the position of the Treasury Department *vis-à-vis* the Fed. That is to say, it seems it is Treasury's turn to "blur the lines" between fiscal and monetary policy.

Lower rates may support a recovery in the for-sale housing market and stimulate interest-sensitive demand more broadly, but their most salient impact will manifest in public finance. Long-term interest rates reached an all-time low during the pandemic, but Treasury did not boost bond issuance to lock in those financing costs. The average weighted maturity of outstanding debt remained about six years (Figure 2, Page 7). This left Treasury ill-equipped to deal with the sharp increase in rates, which doubled the federal government's gross interest expense to more than $1 trillion annually (Figure 3, Page 8).

Treasury now finds itself in a position to reverse those trends, especially if it can find a reliable partner at the Fed. The last time federal debt held by the public amounted to a larger share of U.S. GDP, the Fed agreed—without any statutory change or legal imposition—to place explicit caps on Treasury yields (Figure 4, Page 8). The Fed's role today would be far more subtle, simply cutting policy rates to accommodate Treasury debt management policy.

In July, Treasury announced its intention to keep fixed-rate (notes and bonds) auction sizes constant in the coming quarters and instead rely on short-term debt (bills) to cover incremental financing needs.[10] Under reasonable assumptions, bills could account for more than 25% of the outstanding stock of Treasury debt, up from a historic average of roughly 14% and 20% currently.[11] When accounting for the notes and bonds set to mature, $12 trillion of nominal Treasury debt could (re) price over the next 16 months (Figure 5, Page 9). If rates fall to levels consistent with Administration preferences, Treasury could save $200 billion (0.7% of GDP) in annual interest expense.

Additional interest savings could come through a recently-expanded buyback program that authorizes the repurchase of $38 billion of outstanding Treasury securities each quarter.[12] As a result of the sharp increase in interest rates since 2022, the market value of the stock of Treasury debt is worth only about $94 per $100 of face value (Figure 6, Page 9), on average, with 30-year bonds recently trading at just $67 per $100 of par.[13] This implies that $100 of

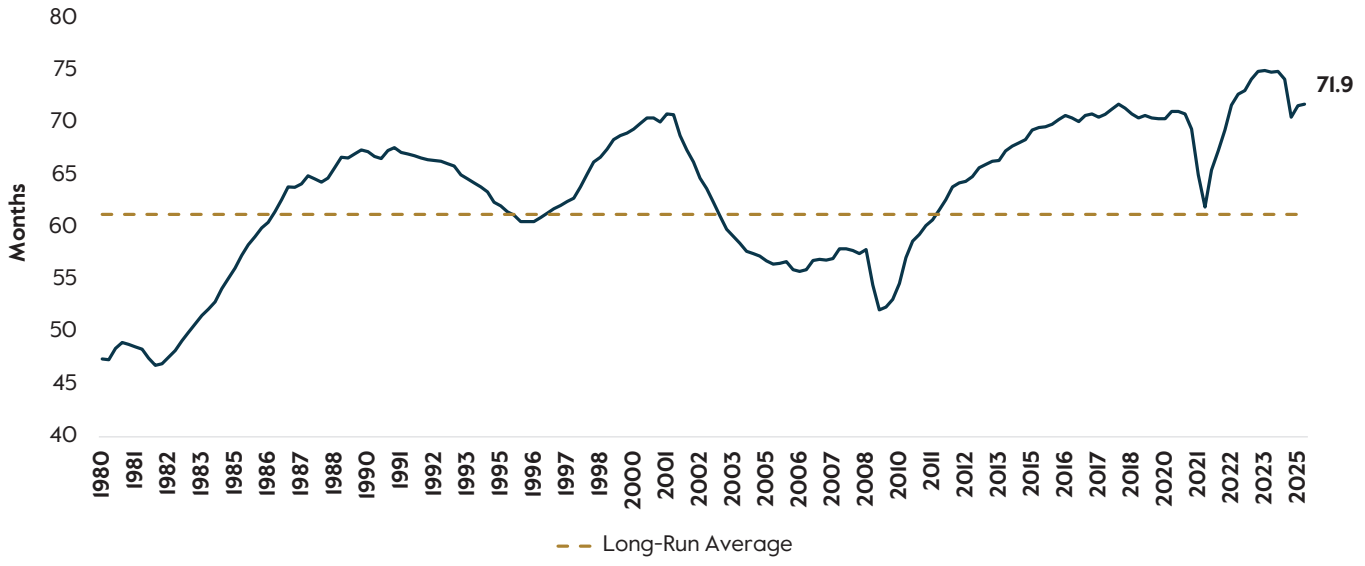
10. Quarterly Refunding Statement, July 30, 2025.
11. U.S. Treasury Office of Debt Management, August 2025.
12. August 2025 Quarterly Refunding, Tentative Liquidity Support Buyback Schedule, July 30, 2025.
13. CUSIP 9128IORS9, 2.5% Coupon maturing May 2046 quoted at 67 9/32, August 27, 2025.

new bill issuance could retire as much as $150 of outstanding debt. With half of the buybacks targeting the (more discounted) 10-to-30-year portion of the curve, Treasury could cut the outstanding stock of debt by nearly $10 billion every three months.

But there's a catch. Unless short-term interest rates fall, Treasury's net interest expense could *rise* as a result of these transactions. (That should be no surprise; those discounts exist precisely because that outstanding debt pays really low coupons!) At current rates, the annualized interest expense on $100 of 3-month bills amounts to $4.15, which exceeds the interest currently paid on the $150 of 30-year bonds ($3.73) or $113 of 10-year notes ($2.12) those new bills would be used to retire.[14] Fed cooperation is thus essential.

WEIGHTED AVERAGE MATURITY OF MARKETABLE TREASURY DEBT

Fig. 2

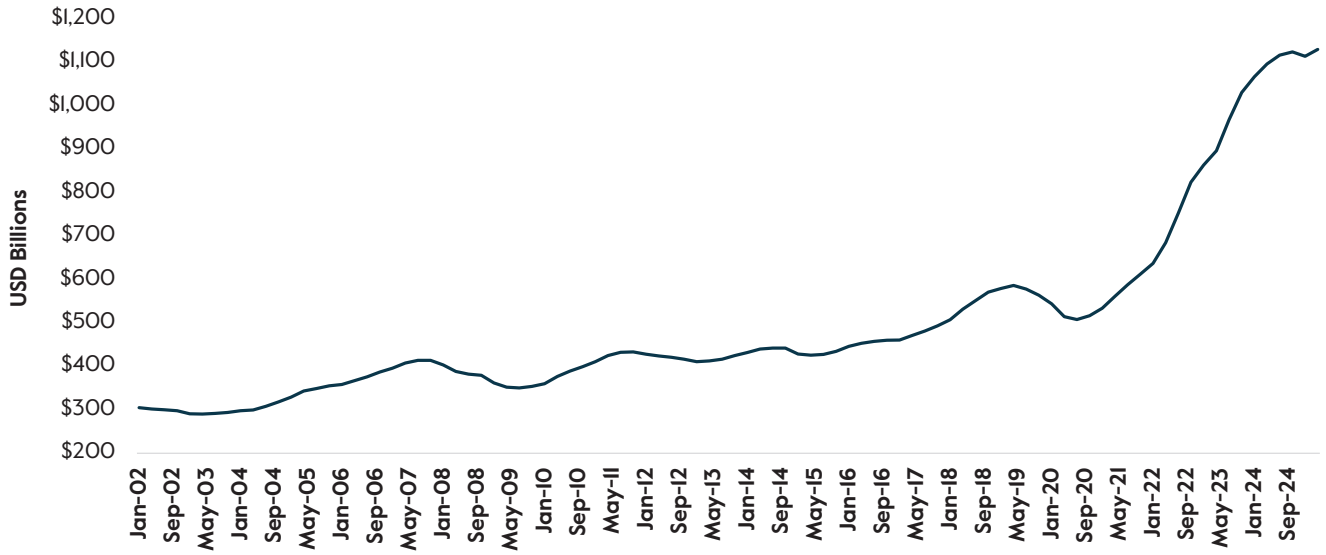


14. CUSIP 91282CDY4, 1.875% maturing February 2022 quoted at 88 1/32, August 27, 2025.

Figure 2. Source: Carlyle Analysis, U.S. Treasury Office of Debt Management, August 2025. There is no guarantee any trends will continue.

ANNUAL INTEREST PAID ON MARKETABLE TREASURY SECURITIES

Fig. 3



FEDERAL DEBT HELD BY THE PUBLIC

Fig. 4

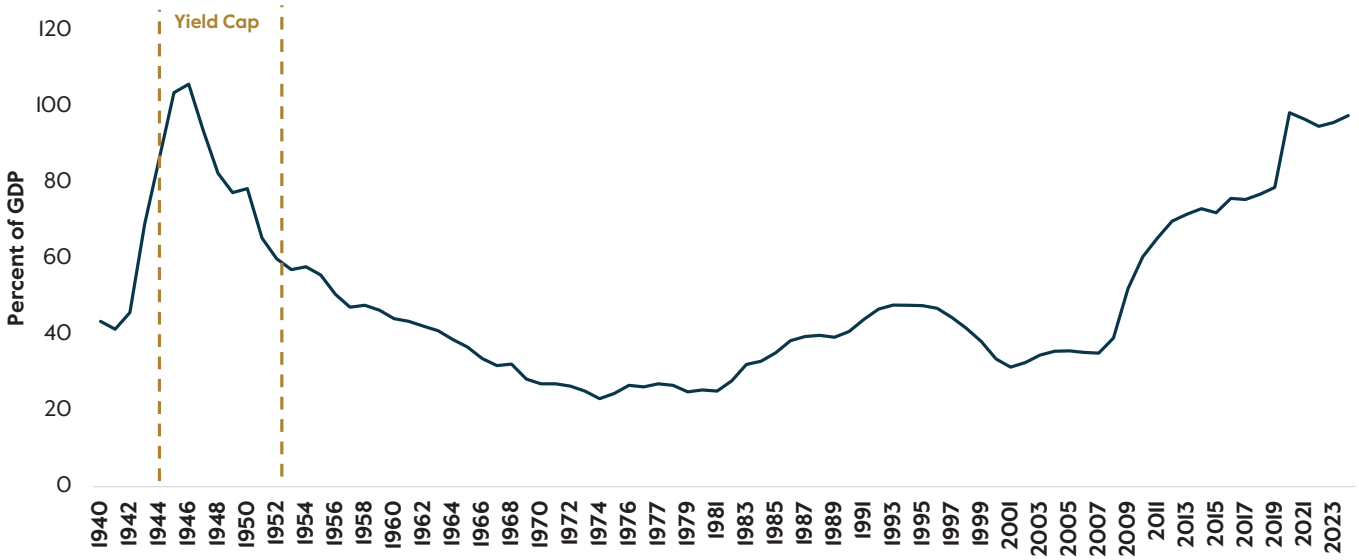
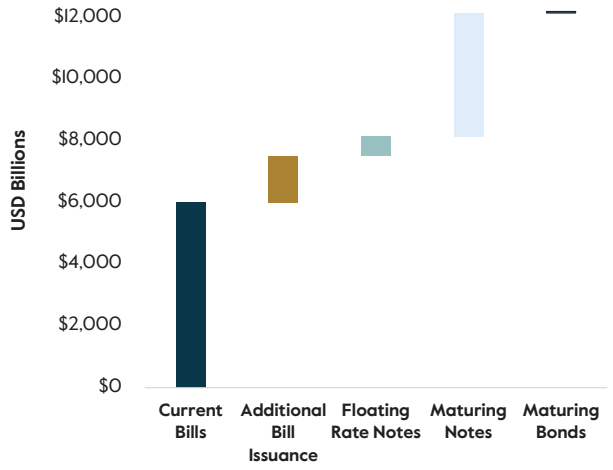


Figure 3. Source: Carlyle Analysis, U.S. Bureau of Economic Analysis, August 2025. There is no guarantee any trends will continue.
Figure 4. Source: OMB Historical Tables. There is no guarantee any trends will continue.

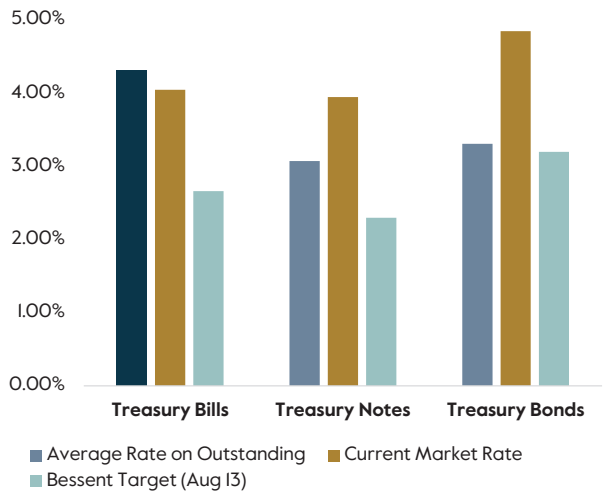
LOTS OF MONEY RIDING ON RATE CUTS...

Fig. 5

>$10 TRILLION OF NOMINAL DEBT REPRICES THROUGH 12/26



100BP = 0.4% OF GDP IN INTEREST EXPENSE



$100 OF T-BILLS CAN REPURCHASE ~$150 OF OUTSTANDING BONDS

Fig. 6

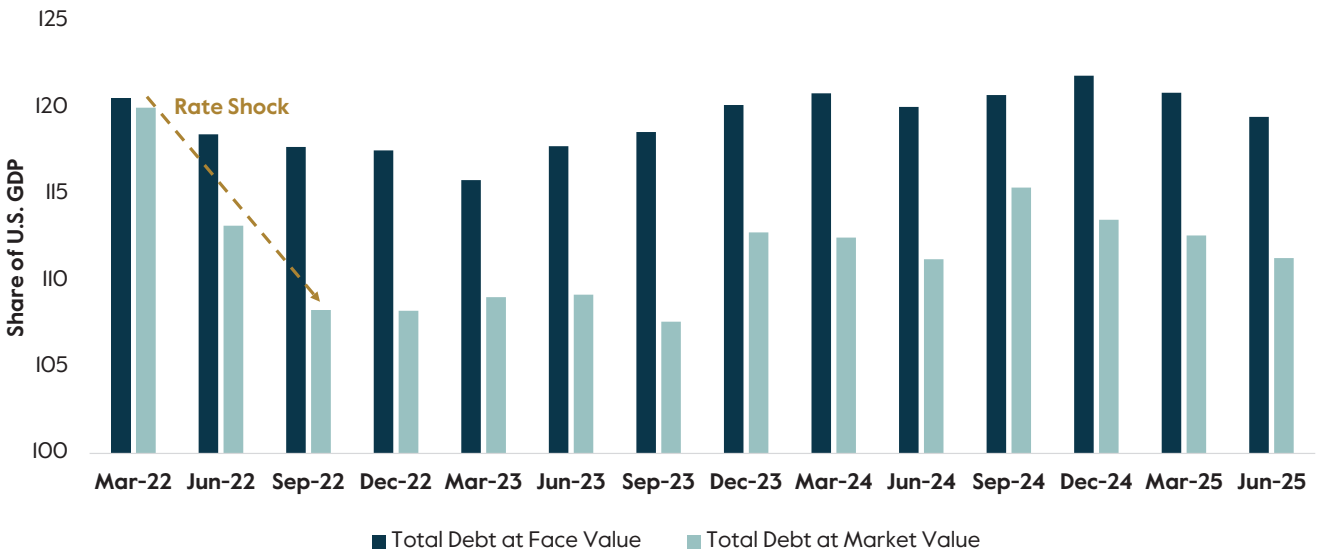


Figure 5. Source: Carlyle Analysis; Treasury Department. Office of Debt Management, August 2025. There is no guarantee any trends will continue.
Figure 6. Source: Carlyle Analysis; Office of Management and Budget, U.S. Treasury, Bank for International Settlements, August 2025. There is no guarantee any trends will continue.

III. A RISKLESS FISCAL DOMINANCE?

If rates fall by 150bp to 200bp without incident, this could be remembered as the greatest public finance coup in a generation. But that's far from a sure thing.

The level of short-term interest rates necessary to stabilize public finances can differ materially from that necessary to meet an inflation target.[15] And the premise that there's room to cut rates by that magnitude from these levels, absent recession, seems dubious.

Annual core PCE inflation has not been at or below 2% since QI-2021. To put that in the context of back-to-school season: the Fed hasn't hit its inflation target in a single month of the lives of more than 3 million American children currently enrolled in elementary school (Figure 7, Page II). For those who see inflation as merely a statistic, 3% seems hardly different than 2%. But such blithe unconcern does not seem shared by voters, half of whom still regard inflation as the top issue facing the country.[16]

The risk is not just that inflation again breaks out to the upside, which might take months to materialize, but that investors recognize that policy is being set with fiscal considerations in mind.

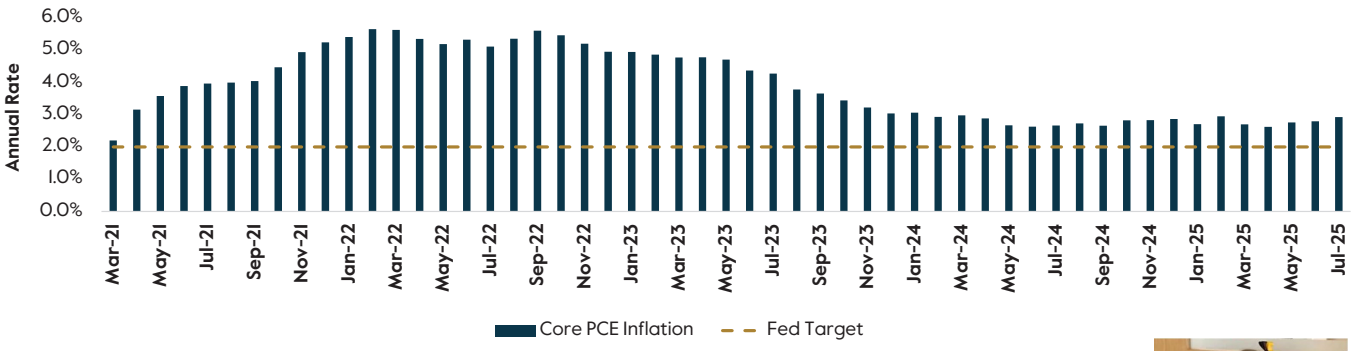
Central bank independence is often understood in political terms: if not insulated from electoral considerations, central bankers would be prone to "goose" the economy with easy policy before an election and tighten thereafter.[17] The bigger issue is maintaining investors' trust in an inherently fragile regime best analogized to a company that issues bonds whose coupons and principal are payable in company stock. As crypto enthusiasts never tire of explaining, "fiat" monetary systems are not backed by anything more than the credibility of the institutions behind them. Any rise in yields at the back end of the curve, or fall in the dollar, could prove severe and discontinuous, more than offsetting any benefits from lower short-term rates.

Yet markets seem assured all will go according to plan. Option-implied volatility in U.S. rates markets recently dropped to a 43-month low, implying that the risk of an upward adjustment in yields is lower than at any time since the Fed was first forced to hike (Figure 8, Page II). SOFR futures expect the Fed will facilitate Treasury's debt management strategy, with short-term rates falling below 3% by the end of 2026. More interesting is the pricing of options on these contracts, which reveals that bets are skewed decisively in the direction of *even lower rates*, an unusual pattern outside of periods of recession or market stress, and virtually unprecedented for an economy with inflation persistently above target (Figure 9, Page I2).

15. Bolhuis, M. et al. (2024), "Fiscal R-Star: Fiscal-Monetary Tensions and Implications for Policy," IMF Working Paper No. 2024/174.
16. Harvard Caps Harris Poll, August 25, 2025.
17. There is some evidence that dynamic inconsistency contributed to the boom and bust cycles of the 1970s. C.f. Weise, C. (2012), "Political Pressures on Monetary Policy During the US Great Inflation," American Economic Journal: Macroeconomics.

LONG TIME SINCE THE FED HIT ITS INFLATION TARGET

Fig. 7



53 Months

INTEREST RATE VOLATILITY DECLINES TO A 43-MONTH LOW

Fig. 8

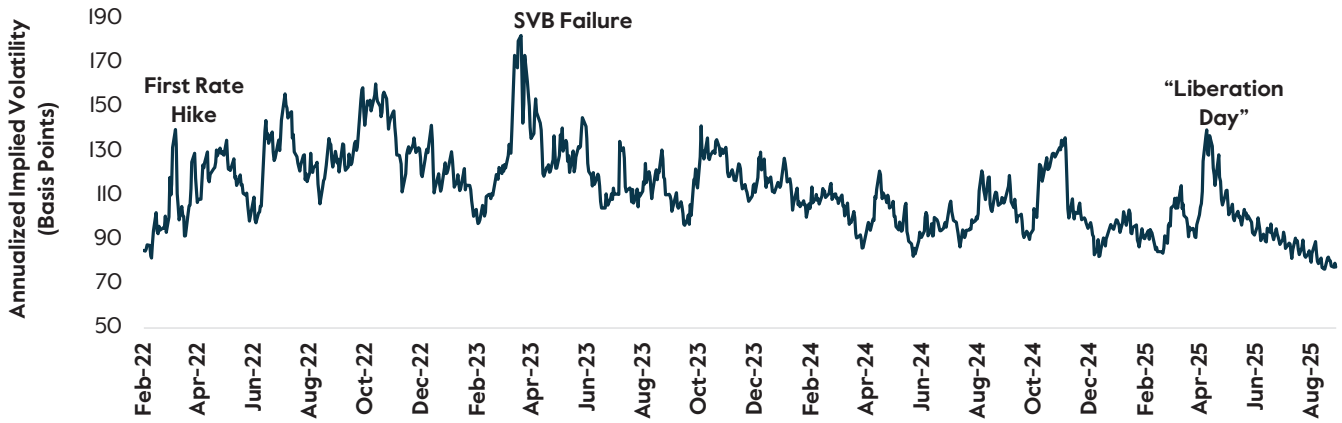


Figure 7. Source: Federal Reserve Board of Governors, August 2025. There is no guarantee any trends will continue.
Figure 8. Source: Carlyle Analysis, Bloomberg, August 2025. There is no guarantee any trends will continue.

MARKETS EXPECT 3% YEAR-END 2026 RATES WITH BETS SKEWED TOWARDS 2.5%

Fig. 9

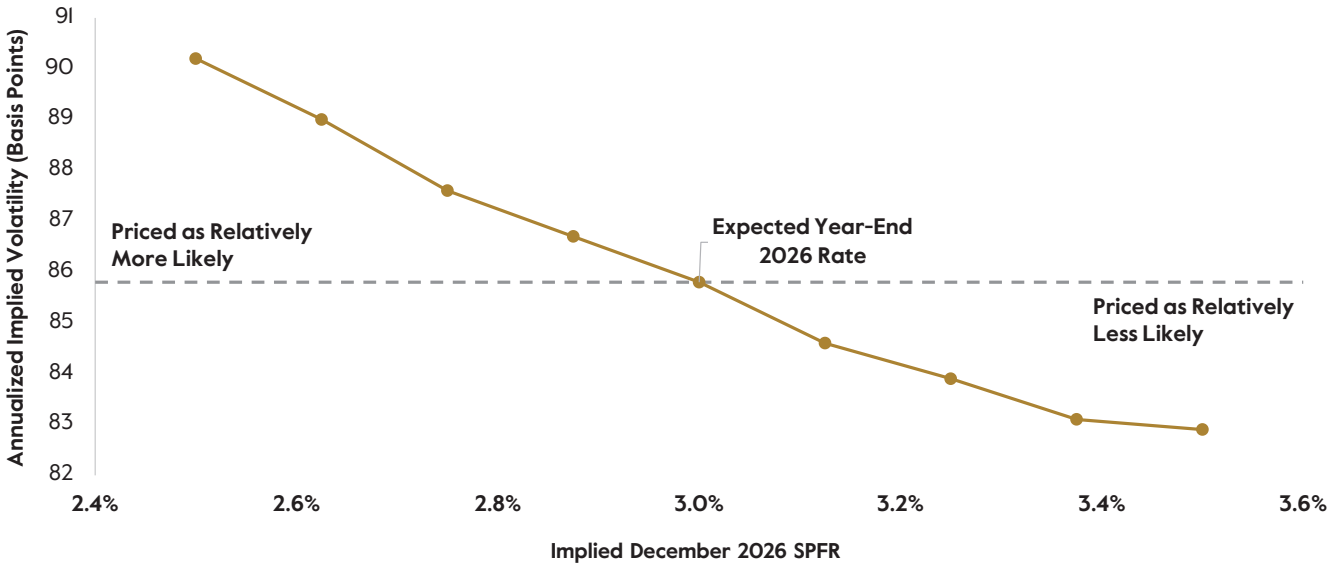


Figure 9. Source: Carlyle Analysis, CME via Bloomberg, August 2025. There is no guarantee any trends will continue.

The risk is not just that inflation again breaks out to the upside, which might take months to materialize, but that investors recognize that policy is being set with fiscal considerations in mind.

IV. AI TO THE RESCUE?

When pressed about the risks inherent in cutting rates materially in the face of 3% core inflation and 5% annual personal income growth, proponents of easier policy often point to the disinflationary force of AI. Perhaps the Fed will continue to miss its inflation target, these analysts reason, but any near-term intensification of price pressures will soon be overwhelmed by AI's acceleration and broader adoption.

The collapse in demand for software programmers (Figure 10, Page 15) appears to be the first manifestation of this effect. Initially catalyzed by the downturn in VC-backed new firm formation and belt-tightening among overleveraged software companies, the decline in job openings took on a structural dimension as generative AI displaced entry-level programmers and tech valuations correlate increasingly with productivity metrics like revenue-per-employee (RPE). If this is a foretaste of what's to come in other sectors, the AI-induced increase in operating leverage should drive down labor-intensive services inflation, which remains stuck 125bps above pre-pandemic averages (3.5% vs 2.25%).[18]

But the tendency to focus on AI's future disinflationary potential, as the technology diffuses more broadly, tends to distract attention from the upward pressure it exerts on inflation and interest rates *today*. AI enthusiasm has unleashed a concentrated capex boom unlike any seen in 20 years (Figure 11, Page 15). When aggregating spending on data center infrastructure, GPUs, servers, power, and all of the related hardware and applications, AI capex already accounts for a third of U.S. GDP growth and its absolute contribution continues to increase.[19]

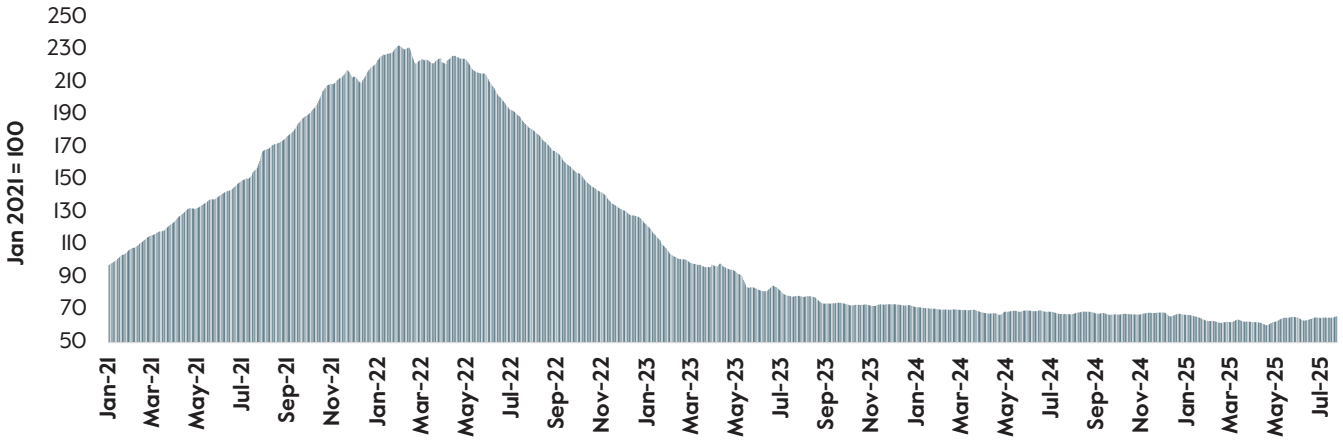
The road to the AI agentic economy of the future will be paved with trillions of dollars of annual investment, exerting upward pressure on demand for construction workers, electricity, and, especially, capital.[20] During the last concentrated capex boom of comparable magnitude—the late-1990s surge in fixed investment in fiber, broadband, routers, mobile telephony, etc.—short-term *real* interest rates in the U.S. averaged nearly 4% (Figure 12, Page 16).

18. U.S. Bureau of Labor Statistics, August 2025.
19. "The AI Boom's Hidden Risk to the Economy" https://www.wsj.com/economy/the-ai-booms-hidden-risk-to-the-economy-731b00d6
20. "Can US infrastructure keep up with the AI economy?," Deloitte. 2025 *AI Infrastructure Survey*.

COLLAPSE IN DEMAND FOR SOFTWARE PROGRAMMERS

Fig. 10

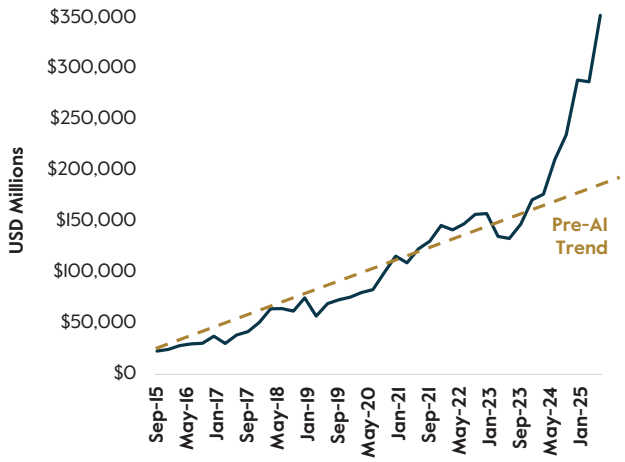
OPEN BUT UNFILLED POSITIONS



MEGACAP TECH'S SHIFT FROM "ASSET-LIGHT" TO CAPITAL INTENSIVE

Fig. 11

ANNUALIZED CAPEX FROM TOP 4 AI INFRASTRUCTURE PLATFORMS



EVOLUTION OF MEDIAN QUARTERLY NET INCOME & FCF

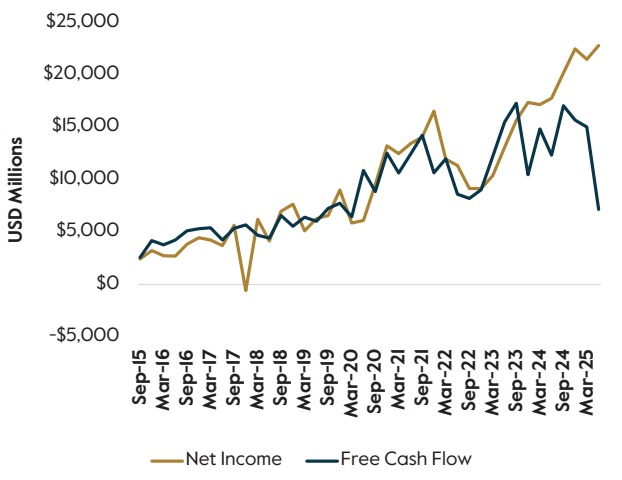


Figure 10. Source: Carlyle Analysis, Federal Reserve Board of Governors, August 2025. There is no guarantee any trends will continue.
Figure 11. Source: Carlyle Analysis; S&P Capital IQ. There is no guarantee any trends will continue.

INTERNET CAPEX BOOM TOOK REAL RATES TO ~4%

Fig. 12

Figure 12. Source: Carlyle Analysis, Federal Reserve Board of Governors, August 2025. There is no guarantee any trends will continue.

V. STOCK MARKETS' CONCENTRATED BET ON A BEST-CASE AI SCENARIO

The other interesting asymmetry in the AI discourse is the axis used to evaluate success or failure, which tends to range from technologists' promised utopia to doomers' fears of a misaligned Super Intelligence that threatens human survival. What about more prosaic concerns, like monetization, payback periods, return on investment, and the myriad legal and compliance constraints on workflow automation?

It is hardly obvious that AI-related revenues will arrive at the scale *and time horizon* necessary to validate these enormous outlays. A recent survey suggests that only one in twenty generative AI business integrations yield significant revenue acceleration or measurable productivity gains.[21] New technologies often require a lengthy period of "learning by doing" before they can be adapted to existing workflows. It is also notable that many respondents attributed the low return on investment to "technology first" thinking that treats AI as a solution in search of business problems to solve.

This is not the sort of market environment where investors can be complacent about adoption hiccups. Just ten stocks account for 40% of U.S. stock market capitalization, the highest degree of concentration on record. But what's even more unusual is that eight of those companies operate in (roughly) the same sector and the earnings prospects of seven of them are highly leveraged to AI. The last time market concentration approached current levels, stock investors could take solace in the fact that those companies operated in different industries, pursued different strategies, and were exposed to a diverse array of risk factors (Figure 13, Page 18). Today, relatively modest declines in data center capacity utilization, or extensions of AI monetization timelines, could be enough to send major stock market indexes into a deep slump.[22]

21. "The GenAI Divide: State of AI in Business 2025," MIT NANDA Initiative.
22. At 37.9x cyclically-adjusted earnings, current U.S. stock market valuations are roughly 50% above their post-1990 average and roughly on par with 2021 peaks despite the 500bp increase in (realized) real interest rates since then. Carlyle Analysis, Bloomberg, August 2025.

STOCK MARKET'S CONCENTRATED EXPOSURE TO THE SAME RISK FACTOR

Fig. 13

TOP 10 LARGEST STOCKS' SHARE OF S&P 500 MARKET CAPITALIZATION

TOP 10 U.S. STOCKS BY MARKET CAP

2000	2025
General Electric	Nvidia
Intel	Microsoft
Cisco	Apple
Microsoft	Amazon
Exxon	Alphabet
Pfizer	Meta
Citigroup	Broadcom
Walmart	Tesla
Oracle	Berkshire Hathaway
IBM	JPMorgan Chase

Figure 13. Source: Carlyle Analysis; Bloomberg, S&P Capital IQ, August 2025. There is no guarantee any trends will continue.

VI. THE REFUGE OF PRIVATE MARKETS

Market concentration is hardly the only problem facing public markets. A recent open letter from The World Federation of Exchanges, an umbrella group of global stock markets, warned of threats to public markets' "vitality and durability" due to the decline in listings and market liquidity.[23]

Yesterday's "growth stocks" increasingly opt for private capital rather than public listings, while stock market liquidity has come to be dominated by passive strategies, like ETFs, which account for nearly two-thirds of fund intermediation, and algorithmic-based momentum trading,[24] which profits from the exploitation of short-run order book imbalances.[25] Both crowd out allocation strategies based on fundamental analysis.

Since the pandemic, stock performance has become divorced from traditional business quality metrics, such as top-line growth, profit margins, and the stability of earnings over the cycle. Over the past five years, investors would have been better off *shorting* a basket of stocks of the highest quality businesses, a remarkable turnaround from historic relations. The distinction between *trading*—buying an asset to sell—and *investing*—buying an asset to own—has become increasingly evident as themes and memes drive public market returns (Figure 14, Page 20).

The frictions associated with getting out of positions insulate private markets from the same maladies.[26] With transaction prices set on the basis of underwritten return expectations over multiyear holding periods, private markets have to abide by arithmetic constraints absent from listed markets (Figure 15, Page 20). These constraints ensure that prices remain tied to fundamentals, rather than liquidity flows, and that returns stem from earnings growth, rather than hype. These arithmetic constraints also explain why the quarterly variation in private equity transaction volumes so closely tracks underwriting fundamentals (Figure 16, Page 21). Private markets remain a refuge for *investors* displaced from public markets increasingly competing for liquidity with crypto exchanges and sports gambling platforms.

23. Public markets 'under threat' from listings slump, exchange bosses warn: https://www.ft.com/content/a802cb30-abc8-4d1f-8ade-471e6bc2d0d0
24. Bloomberg, June 2025.
25. Hou, J. and A. Zaremba. (2022), "Time Series Momentum in the U.S. Stock Market: Empirical Evidence and Theoretical Analysis." *Journal of International Financial Markets, Institutions and Money*.
26. DeJong, F. and B. Rindi (2012), *The Microstructure of Financial Markets*. Cambridge University Press.

LAGGING RETURNS TO QUALITY[27] (PROFIT MARGINS, GROWTH, AND STABILITY)

Fig. 14

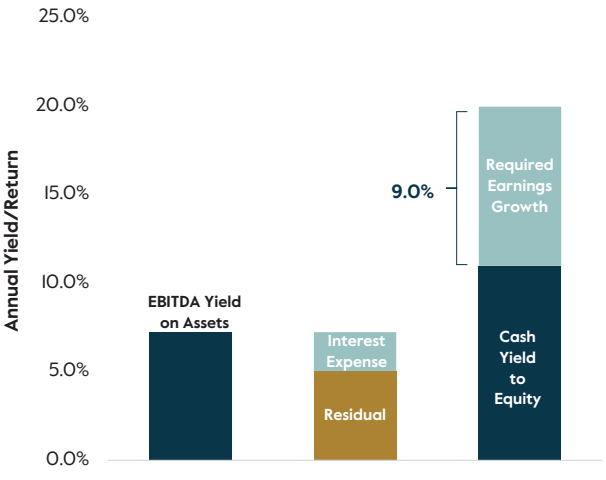
2010-2020

2020-PRESENT

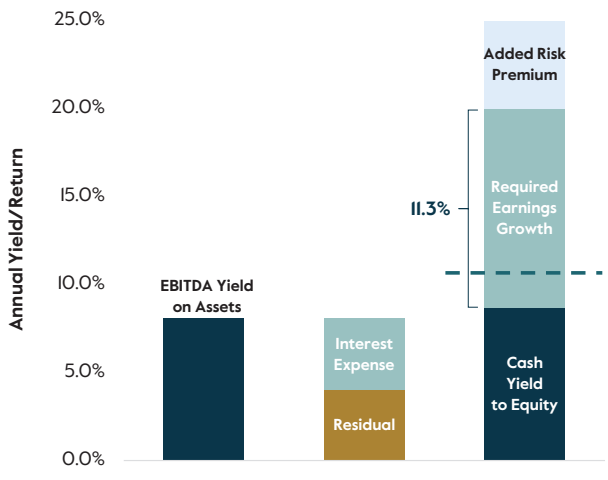
IMPROVEMENT IN UNDERWRITING FUNDAMENTALS

Fig. 15

Q3 2021 (55/45 DEBT/EQUITY)



Q3 2025 (55/45 DEBT/EQUITY)



27. Based on the top 15% of the most liquid stocks from the Russell 3000 Index based on standard measures of quality factor.

Figure 14. Source: Carlyle Analysis; Bloomberg, August 2025. There is no guarantee any trends will continue.
Figure 15. Source: Carlyle Analysis; LCD Database, July 2025. Presented for illustrative purposes. There is no guarantee any trends will continue.

TRANSACTION VOLUMES CORRELATE WITH UNDERWRITING FUNDAMENTALS

Fig. 16

 # OF TRANSACTIONS VS. REQUIRED EARNINGS GROWTH TO HIT RETURN TARGETS

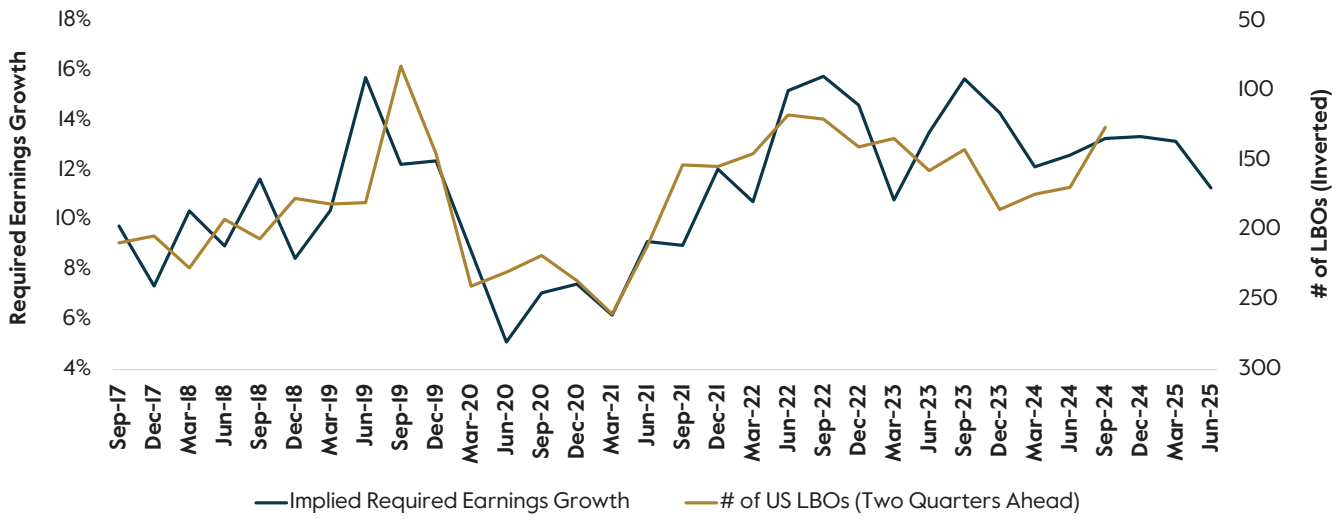


Figure 16. Source: Carlyle Analysis; Pitchbook LCD, Dealogic, July 2025. There is no guarantee any trends will continue.

VII. CONCLUSION

Fed independence is a hot topic everywhere but in rates markets, which largely ignore the risk posed by fiscal dominance.

AI is expected to do all of the heavy lifting, creating disinflationary space for rate cuts and delivering business transformation at a speed and scale that affirms both the capex budgets and frothy valuations of the handful of companies that account for a disproportionate share of the stock market's value. The range of outcomes continues to widen even as markets become more assured that best-case scenarios will come to pass.

Private markets have been insulated from liquidity-driven froth because transaction prices are a function of underwritten return expectations over multiyear holding periods. Frictions that make it difficult to "get out" of positions deter the inclination to "get in" at excessive valuations, as is clear from the correlation between transaction volumes and underwriting fundamentals. That may limit the extent to which private valuations gravitate upwards with hype-fueled gains in stock indexes, but also plants the seeds for especially attractive, market-neutral private market returns over the coming years.

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IMPORTANT INFORMATION