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TOP of MIND

CRACKS IN PRIVATE CREDIT

After over a decade of rapid growth and relative calm, private credit has come under pressure as high-profile defaults, concerns about inflated valuations, and substantial exposure to a software industry vulnerable to AI disruption have fueled a surge in redemption requests. Could these stresses trigger a systemic crisis? And even if not, could they dampen the outlook for private credit? Oaktree's Howard Marks, Ares' Michael Arougheti, Marathon's Bruce Richards, and GS' Amanda Lynam agree current private credit stresses don't pose systemic risk. But they somewhat disagree on private credit's near-to-medium term outlook. Arougheti and Lynam aren't particularly worried about software exposure and expect credit fundamentals to remain healthy as long as the economy holds up, while Richards is more concerned about software risk and sees a painful default cycle ahead. But all three remain optimistic about private credit's long-term growth, while Marks expects more cautious investors but a healthier investment environment to ultimately emerge.

"The structure of [direct lending investment] vehicles introduces serious concerns around pricing and liquidity… [but] I don't see the same systemic exposure here as was the case in the run-up to the GFC."
- Howard Marks

While defaults will inevitably rise as the cycle matures and some managers will underperform, that doesn't mean the entire credit market will tip over, despite a handful of attention-grabbing defaults.
- Michael Arougheti

3% of the HY bond market is software loans versus 13% of the broadly syndicated loan market and a whopping 23% of the private credit market... So, it's hard to argue that there isn't too much software risk in direct lending.
- Bruce Richards

A key feature of private credit is asset-liability matching. Most capital is locked up, and even in retail-focused structures, liquidity is limited by design. That significantly reduces the risk of a 'run on the bank.'
- Amanda Lynam"

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Bruce Richards, CEO, Chairman, and Co-Founder, Marathon Asset Management

Amanda Lynam, Chief Credit Strategist, Goldman Sachs

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Macro news and views

We provide a brief snapshot on the most important economies for the global markets

US

Latest GS proprietary datapoints/major changes in views

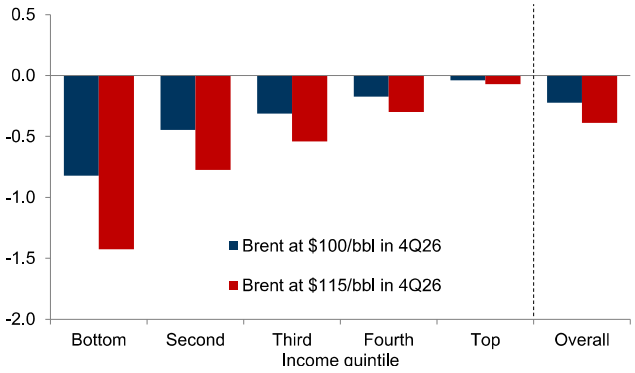
- We raised our Dec 2026 headline/core PCE inflation forecasts to 3.4%/2.6% yoy (from 3.1%/2.5%) given the even higher oil prices we now expect.

Datapoints/trends we're focused on

- Iran war; longer energy supply disruptions that result in even higher gasoline prices would likely lead to a larger drag on consumer spending.
- Fed Chair transition; we don't expect a major reduction in the Fed's balance sheet under Kevin Warsh as Fed Chair.
- US labor market, which we expect to soften this year due to weaker growth, higher energy costs, and modestly greater reluctance to hire for jobs that can be done by AI.

US: higher gasoline prices bite consumers

Effective change in real PCE spending vs. GS baseline in 2026 under higher gasoline price scenarios by income quintile, %



Source: Goldman Sachs GIR.

Japan

Latest GS proprietary datapoints/major changes in views

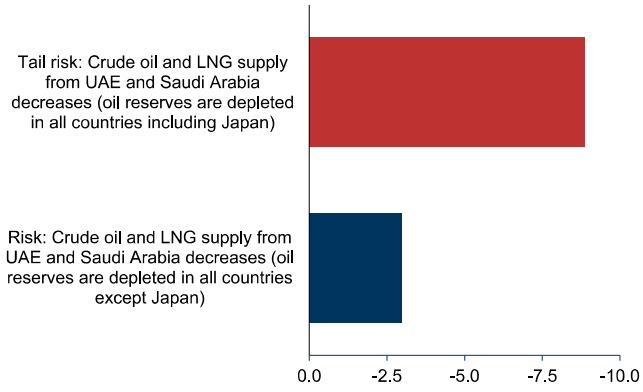
- We lowered our 2026 Japan real GDP growth forecast to 0.3% (from 0.4%) and raised our 2027 core CPI forecast to 2.3% (from 2.1%) given the higher oil prices we now expect.

Datapoints/trends we're focused on

- Iran war; even with sufficient oil reserves, we think Japan faces potentially significant indirect oil supply constraints as shortages abroad impact global supply chains.
- BoJ policy; we continue to expect the next rate hike in July, though uncertainty about the timing remains high.
- *Shunto* spring wage negotiations show a marginally softer base pay rise from 2025, but still high in the mid-3% range.
- Japanese consumer confidence, which deteriorated sharply.

Japan: potential oil shortage impacts

Production cutbacks by risk scenario, %



Source: OECD, Goldman Sachs GIR.

Europe

Latest GS proprietary datapoints/major changes in views

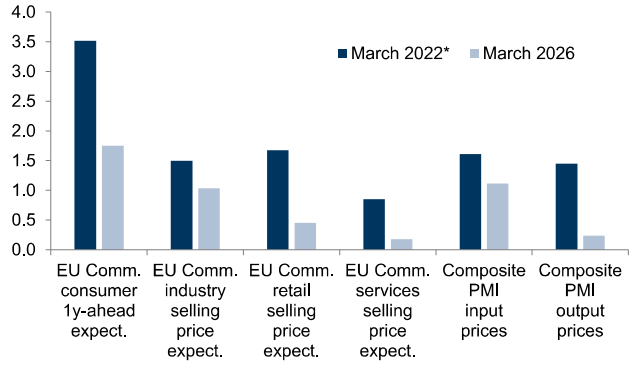
- We raised our 1Q26 UK GDP growth forecast after better-than-expected February GDP data, bringing our full-year 2026 growth forecast to 1.0% (Q4/Q4, vs. 0.6% before).

Datapoints/trends we're focused on

- Iran war; we think the impact of the current energy price shock on European manufacturing should be notably smaller and less persistent than the 2022/23 energy crisis.
- ECB policy; we expect the ECB to hike rates in June and September but view whether the ECB hikes twice or remains on hold this year as a close call.
- UK employment growth, which remains weak.

Euro area: a less painful energy shock than 2022

Monthly change in price-related surveys, std. dev.



**Normalized for size of the change in equally-weighted avg. of oil and gas prices.*

Source: Haver Analytics, Goldman Sachs GIR.

Emerging Markets (EM)

Latest GS proprietary datapoints/major changes in views

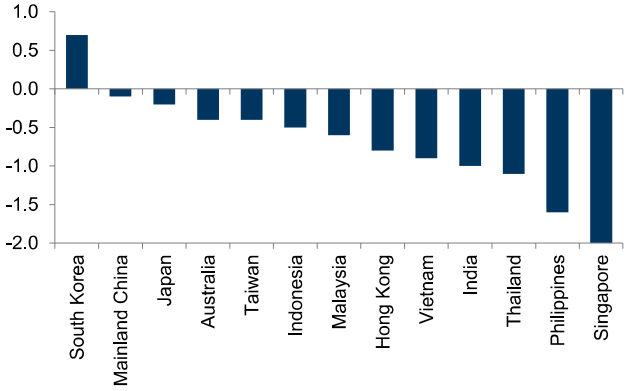
- We raised our 2026/27 China PPI forecasts to 1.2%/0.9% (from 1%/0.6%) given the higher oil prices we now expect.

Datapoints/trends we're focused on

- Iran war; we now largely expect lower growth and higher inflation across Asia-Pacific from the energy shock, but the impact on inflation should be less persistent than in 2022.
- China growth and activity, which has generally been better than expected this year, implying little urgency for large near-term policy stimulus and adding conviction to our low expectations for stimulus at the April Politburo meeting.
- Hungary elections; opposition party Tisza's decisive win in the parliamentary elections should strengthen EU-Hungary relations and could pave the way for Euro membership.

Asia-Pacific: energy shock weighs on growth

Net change in GS 2026 real GDP forecasts, past 60 days, pp



Source: Goldman Sachs GIR.

Cracks in private credit

After over a decade of rapid growth and relative calm, the private credit market has come under pressure as several high-profile defaults, concerns about potentially inflated valuations, and especially substantial exposure to a software industry vulnerable to AI disruption have fueled a surge in redemption requests (see pg. 16)—drawing some comparisons to the setup heading into the Global Financial Crisis (GFC). So, could these private credit stresses trigger a systemic crisis? And even if not, could they meaningfully impair the outlook for a market that has become a key source of financing for companies and an increasingly important allocation for investors?

We ask several long-time industry watchers for their perspectives: Howard Marks, Co-Founder and Co-Chairman of Oaktree Capital Management, Michael Arougheti, Co-Founder and CEO of Ares Management, Bruce Richards, CEO, Chairman, and Co-Founder of Marathon Asset Management, and Amanda Lynam, GS Chief Credit Strategist.

Arougheti and Lynam argue that the concerns around private credit stresses seem overdone as they are concentrated in non-traded business development companies (BDCs)—the primary direct lending investment vehicle for retail investors (see pg. 8)—which comprise only a modest portion of the private credit market. And they explain that despite the current worries about elevated redemption requests, the limited liquidity of non-traded BDCs (which Lynam describes as a "feature, not a bug", though Marks finds some retail investors' apparent disappointment in this feature problematic) substantially reduces the likelihood of crisis-inducing fire sales.

This, combined with the lack of leverage in private credit funds, well-secured and substantially-protected bank exposure to private credit (see pg. 19 for GS Head of the Financials Group Richard Ramsden's deep-dive into the evolving intersection between banks and private credit), and GS US Economist Manuel Abecasis' finding that even a sharp rise in private credit default rates would only moderately impact the flow of new lending to the private sector, all agree: the current private credit stresses don't pose systemic risk, with comparisons between these stresses and the lead-up to the GFC unwarranted.

But even if private credit doesn't pose meaningful risk to the financial system or the economy, will the industry itself still experience significant pain? Arougheti and Lynam don't think so. Arougheti sees no indication of a turn in the credit cycle in private or bank credit portfolios or credit card charge-off data, and doesn't view last fall's attention-grabbing defaults as particular cause for worry because they were relatively small exposures and, importantly, mainly funded by bank-led asset-based facilities rather than private credit managers.

Lynam also points out that underlying credit fundamentals appear relatively healthy and expects them to remain so as long as economic growth holds up, which GS Senior Global Credit Strategist Shamshad Ali finds is consistent with the signals from the micro signposts he's watching (namely, what tends to happen to loans flagged as "PIK-at-restructuring" and the size and profile of loans coming due).

But even if underlying fundamentals appear healthy today, will that remain the case given direct lending's significant exposure to the software industry, which is ripe for AI disruption?

Arougheti, Lynam, and Marks aren't particularly concerned, with Arougheti explaining that the software loans in private credit portfolios are senior secured, high up in the capital structure, and extended to large, cash-generative firms, Lynam noting that software exposures are not a uniquely private credit problem and that managers have long underwritten AI disruption risk into their investment criteria, and Marks arguing that even significant losses on software loans wouldn't be "existential" for most senior lenders.

Richards, however, is very worried about software risk. He points out that 23% of the private credit market is software loans, which he says is an excessive figure by any standard, with leverage at the fund level and especially the company level further magnifying the risk from this exposure. And he doesn't take comfort from private lenders' high position in the capital structure given that a significant part of the cushion that sits below these lenders has already been eaten through. So, he expects "incredibly high software sector default rates in 2027, 2028, and 2029, with peak defaults of 15% and double-digit default rates in each of those years" and software loan loss rates in the 70-100% range. Lynam, for her part, takes a more nuanced view as she thinks software exposure is more likely to drive performance dispersion among managers than broad-based deterioration in the fundamental outlook, and, absent a sharp downturn in economic growth—which is not GS economists' base case—doesn't expect private credit realized losses to rise materially above the longer-term average.

So, the distribution of views on private credit's near-to-medium outlook is wide. But perhaps the bigger question is whether the recent developments will dent the longer-term growth outlook for private credit, which has become a key financing tool for many firms and growing share of investors' portfolios. Perhaps surprisingly, Richards doesn't think so. While he expects the coming software correction to be painful, he expects direct lending—the largest segment of private credit (see pg. 9)—to emerge from it "bigger and stronger than ever" as the correction results in the return of manager discipline.

Arougheti and Lynam are also relatively optimistic, arguing that the current stresses will likely shift market share within private credit rather than slow the industry's overall growth. In particular, they expect capital to shift from retail-focused strategies to institutional strategies like opportunistic credit, which GS US Financials analysts Alexander Blostein and Anthony Corbin argue should benefit alternative asset managers, though they expect dispersion among them depending on their exposure to the wealth channel.

But Marks is somewhat more cautious, expecting retail investors to be more deliberate and circumspect "now that the tide may have begun to go out on private asset vehicles sold to the public and some of their flaws have been exposed." That said, he also believes that experiencing a full credit cycle may ultimately lead to the emergence of a healthier investment environment for direct lending and private credit more broadly.

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Interview with Howard Marks

Howard Marks is Co-Founder and Co-Chairman of Oaktree Capital Management. Below, he argues that while nothing is inherently wrong with direct lending, structural aspects of direct lending *investment vehicles* can be problematic for some investors, but don't pose systemic risk.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: You've characterized the rapid expansion of direct lending as a "gold rush." What precipitated that, and is the rapid growth a cause for concern?

Howard Marks: Direct lending—private loans made by non-bank lenders for mid-size private equity deals—has become an integral aspect of the private equity business, which runs on using borrowed money to lever up equity returns on the purchase of companies. As post-Global Financial Crisis (GFC) regulations curtailed banks' ability to lend for levered transactions in an effort to make banks less risky, private lenders stepped in to fill the void. And because only a few private lenders existed and many private equity firms wanted to borrow money, private lenders were able to demand high interest rates and safety through strong covenants.

But, as in any gold rush, this success led to a flood of new entrants. Available capital increased relative to demand for it, which meant that lenders couldn't demand as much interest or safety, so the lender's advantage was somewhat competed away. But because demand for private equity was growing, demand for financing from private lenders to lever up transactions was also increasing, allowing private lenders to substantially grow their assets under management and generate sizable fees. So, everyone was motivated to hang up a shingle as a direct lender. The result was rapid growth in the direct lending market, which didn't exist in its current form before 2011 and is approaching $2tn today, with the vast majority of firms engaged in direct lending today not in business 20 years ago. And, as in every upsurge in financial activity that brings heated competition, some participants may have engaged in risky behavior to get in on the gold rush.

Allison Nathan: Is direct lending inherently problematic?

Howard Marks: There's nothing inherently wrong with lending money. But lending can be done well or poorly. Lending carefully to the right companies at an interest rate that appropriately compensates for the default risk can be a profitable and prudent activity. But the opposite is also true. In 1978, I was fortunate to participate in the start of the high yield (HY) bond market. Prior to 1977, a company rated below investment grade (IG) could not issue bonds. The innovation of the time was the concept that a non-IG company should be able to issue bonds if it offered enough interest to compensate for the risk of default. Most people considered this imprudent, calling them "junk" bonds. But, as with early direct lending, because few investors were eager to lend to these companies, those that did could demand high interest rates and strong safety. We have now been in the business of lending money to non-IG companies for 48 years and have produced good returns with manageable risk. So, there's nothing inherently safe or risky about making a loan, even a non-IG loan.

Allison Nathan: But are there inherent flaws in direct lending *investment vehicles*?

Howard Marks: The structure of such vehicles introduces serious concerns around pricing and liquidity. On pricing, if investors choose to take their money out of a non-traded business development company (BDC)—the vehicle for retail participation in direct lending—they are paid at the fund's net asset value (NAV), which third parties estimate periodically. But is the NAV accurate? Is it fair? A perception exists that NAVs for private assets—both equity and credit—may be overvalued, which would align with most participants' incentive to show good performance. But since these loans don't trade, it's difficult to determine their fair price. This is problematic because if the NAV is too high, investors that leave are paid too much at the expense of the remaining investors. And if the NAV is too low, investors that leave are penalized unfairly.

It's important to recognize that the whole concept of determining a fair and accurate price is more complicated than many appreciate. For example, should a loan be valued at its "fundamental value"—which is hard to estimate—or at the price an investor could sell it for today, or at the price they could get a month from now after prospective buyers have had the opportunity to conduct due diligence, or at the price an investor would have to pay to buy an equivalent loan? Along the same lines, should a $1bn loan be valued at the price an investor could get for the whole $1bn, or for the first $10mn? Those prices might differ. The point is that an asset does not "have *a* price", which is true even for traded assets; it depends on market conditions and the size of the trade.

So, valuing assets fairly is a hornet's nest, and especially so for private assets that have no reference point. Private asset investors must therefore accept that there is no correct answer, and no *one* answer, when it comes to a loan's fair value. The only way to avoid the inherent unfairness that the uncertainty around NAVs introduces would be to pay investors leaving the fund the proceeds the manager receives when they sell off the departing investor's share of the assets. But that's not how these vehicles are structured.

Allison Nathan: You also mentioned that liquidity of direct lending vehicles is a concern. Why?

Howard Marks: To avoid managers having to sell assets at unrealistically low prices that would be injurious to their investors and potentially to their business, private credit vehicles are designed either to prohibit investors from taking back their capital, as is the case with traded BDCs, or to allow them to take back only a certain percentage—typically 5% of NAV— per quarter, as is the case with non-traded BDCs. This has recently proven problematic because redemption requests for some non-traded BDC funds have exceeded the 5% cap.

You can imagine how it feels to invest in something and then not be able to get your money back. It can be a problem when a vehicle that invests in private assets promises liquidity.

Allison Nathan: But isn't the limited liquidity of non-traded BDCs a feature—not a flaw—given that such liquidity constraints are embedded in the vehicle's design?

Howard Marks: It's absolutely true that investors participating in a fund that limits redemptions shouldn't be surprised when full liquidity isn't available. But "should" is one of the most interesting words in the English language. If people shouldn't expect liquidity, why are they disappointed when they don't have it? The answer is either that they weren't adequately informed, or they were well informed but didn't understand or take cognizance of the terms. The risk of either of these is highest for retail investors, raising the question of whether these vehicles are suitable for the retail base. But there's nothing inherently wrong with retail investor participation if they know what they're buying.

Allison Nathan: A key concern around private lending is the potential for large redemption requests to force fire sales. But don't the liquidity constraints of non-traded BDCs—well understood or not—prevent that?

Howard Marks: Forced sales are indeed a common cause of crises; I've been around long enough to see several of them. But the redemption limits on non-traded BDCs should prevent such a crash in this market. When people say non-traded BDCs' liquidity limitations are doing their job, that's what they mean. But those limitations are still unpleasant for investors.

Allison Nathan: So, you don't see similarities between what's happening in direct lending today and the GFC?

Howard Marks: No, for three reasons. First, the GFC occurred largely because too much money was invested in highly levered residential mortgage-backed securities (RMBS) that were built out of subprime mortgages, which ultimately had no substance. A great deal of money went into such mortgages because structuring RMBS produced a lot of fees; thus, mortgage brokers were paid to make loans, but not necessarily good loans. Nobody seemed to wonder about the wisdom of lending money to unsuitable borrowers. Today, no inherent lack of substance exists in direct loans to creditworthy companies.

Second, another key contributor to the GFC was banks' high leverage. Structuring RMBS from subprime mortgages was so profitable that the institutions making and securitizing the loans had incentive to keep doing so. But that required somebody to take the riskiest tranche, which often ended up being the institution itself. So, highly levered financial institutions—namely, banks, which were levered up to 32x—held the riskiest tranches. And a 3% decline in the value of the portfolio at an institution that is 32x levered could render it insolvent. Conversely, private credit funds are not highly levered. Some are unlevered, and some are slightly levered—up to perhaps 2x at most. So, they don't face the same type of meltdown risk.

Third, private credit funds aren't interdependent. The years leading up to the GFC saw substantial use of derivatives and hedges contracted in with other institutions—one example is credit default swaps—that created what we called "counterparty risk", setting up for cascading losses if one institution failed. That type of interconnectedness doesn't exist among private credit funds. So, I don't see the same systemic exposure here as was the case in the run-up to the GFC.

Allison Nathan: Even if there's no systemic risk, are concerns about direct lending's exposure to software firms that are vulnerable to AI disruption warranted, especially since many of these firms were levered up in buyouts?

Howard Marks: It's cause for concern for the funds that loaned money for those buyouts. But the downside is probably manageable in most cases because, if a first-lien loan is made to a software company, the value of the company must decline enough to wipe out the equity as well as the junior lenders before that loan is jeopardized. That type of value destruction is not impossible, but it shouldn't be assumed. And even if the first-lien lender lost half their money in such a case, that wouldn't be too bad in a diversified portfolio. If a quarter of the investments are in software and they all incur such losses, then the lender would lose half their money in a quarter of their investments, or 12.5% of the portfolio. And even if they're levered 1:1, that would amount to a 25% loss, which still isn't existential. There's an old saying that in times of crisis, all correlations go to one. In other words, everybody panics and sees all outcomes as equally probable and equally bad. But losing a quarter of your capital because the software industry loses most of its value isn't abysmal. It's just bad for the fund's investors. And it doesn't jeopardize the financial system.

Allison Nathan: But what could default rates look like?

Howard Marks: I don't make economic predictions. So, I can't say how high default rates could climb. And it's important to note that in private credit, what constitutes a default—or even whether lenders will report defaults—is unclear. Lenders have an incentive to grant the borrower an extension rather than report a default, and nobody may be enforcing the reporting of defaults. Particularly for that reason, I wouldn't put much stock in estimated default rates.

Allison Nathan: Given everything we've discussed, how do you expect the direct lending market to evolve from here?

Howard Marks: It's important to first note that the growth of the private equity industry, which is the main borrower, has slowed. So, the growth in demand for these loans will also likely slow. And, as Warren Buffett famously said, it's only when the tide goes out that you find out who's been swimming naked. Now that the tide may have begun to go out on private asset vehicles sold to the public, and some of their flaws have been exposed, I would expect retail investors to be a bit more deliberate and circumspect. In a recent memo, I ended with a quote from Bob O'Leary, Oaktree's co-CEO, who says direct lending will be okay, but it might take a credit cycle to get there. Only after investors have experienced a full cycle in which it swings from being too easy to borrow money to being too hard are they likely to really achieve the understanding of both the positives and the negatives that enables them to make better investment decisions the next time around. That's ultimately a healthier investment environment, and it may be what lies ahead for direct lending and private credit more broadly. But learning that lesson isn't always pleasant.

Interview with Michael Arougheti

Michael Arougheti is Co-Founder and CEO of Ares Management. Below, he discusses the evolution of private credit and his perspective on the recent concerns around it.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: First, what *is* private credit, and how has it evolved?

Michael Arougheti: Private credit is self-originated loans that institutional money managers make to private companies, asset owners, and portfolios of assets and cash flows. The largest segment of private credit is direct lending to small- and medium-sized businesses largely owned by private equity sponsors. It also includes asset-based credit, real estate and infrastructure lending, opportunistic credit, and credit secondaries, where investors trade existing private credit interests. These strategies are generally funded in the sub-investment grade (IG) market. Over the past decade, IG private credit has also grown as insurers have merged with institutional asset managers. So, private credit is a diverse market spanning many strategies, sectors, and geographies.

While there is a perception that the private credit market developed largely in response to post-Global Financial Crisis (GFC) regulation, its origins actually trace back to the 1980s, when the advent of the high yield (HY) market revealed a whole swath of sub-IG borrowers whose funding needs banks and public markets were not meeting. Since then, several structural and capital innovations have expanded the market, including the growth of business development companies (BDCs)—closed-end investment vehicles that lend to small- and mid-sized private companies—increased insurer participation post the GFC, and, most recently, the rise of retail investment. So, private credit has experienced a decades-long evolution.

Allison Nathan: The growth in private credit in recent years seems to be a source of worry. Should it be?

Michael Arougheti: No. Private markets have grown because banks and public markets have shrunk, leaving them increasingly unable to meet firms' capital needs. The number of US banks has fallen by roughly half over the last 25 years. The share of bank balance sheet assets that represent commercial and industrial (C&I) loans—a proxy for loans made in private credit portfolios—has also declined from ~30% in the 1980s to <15% today. At the same time, the US has half as many publicly traded companies today as 25 years ago, with only ~2,100 firms listed on the NYSE and 3,400 on the NASDAQ, a tiny fraction of the 18 million companies in the US today.

Private credit growth also hasn't been extraordinary. Private market AUM has grown at a 13% compound annual growth rate (CAGR) over the past decade, comparable to private credit's 14% CAGR, with private credit growing only slightly faster than the overall private market over the last three years as the Silicon Valley Bank (SVB) crisis disrupted private equity flows and capital shifted toward opportunistic credit. Capital raised in institutional private credit has also declined for the last four years. And direct lending dry power remains modest relative to private equity dry powder, at roughly $300-400bn vs. over $1tn. More broadly, leveraged credit—non-IG private credit, bank C&I loans, and HY and leveraged loans—as a share of US nominal GDP has remained steady at around 23% since 2015. So, private credit growth hasn't been excessive, and many parts of the market still don't have enough capital to meet demand.

Allison Nathan: Even if the growth doesn't warrant worry, aren't private credit markets taking risks that banks won't?

Michael Arougheti: No. Private markets are taking credit risks that banks *can't*. It's underappreciated that banks are 10-15:1 leveraged while private credit funds are only 0-1:1 leveraged. Leverage amplifies returns but also risks. Banks' inherent asset-liability mismatch and regulatory capital frameworks mean that whole swaths of loans don't make sense for banks to extend. Private credit hasn't created demand for credit that otherwise didn't exist. It's simply an alternate capital provider.

Allison Nathan: That said, are the worries about several high-profile defaults warranted, or overblown?

Michael Arougheti: They're overblown. Downturns in credit cycles are a normal part of the business. But the last two cycles—which spanned the GFC and the pandemic—were super cycles dotted with a series of mini cycles around the 2013 Taper Tantrum, 2022 Gilt Crisis, and 2023 SVB collapse. So, even some long-time investors have never experienced a credit cycle downturn and so are reacting strongly to defaults even though fundamentals remain generally solid. Looking at private and bank credit portfolios and credit card charge-off data, nothing indicates a turn in the credit cycle. While defaults will inevitably rise as the cycle matures and some managers will underperform, that doesn't mean the entire credit market will tip over, despite a handful of attention-grabbing defaults last fall that were relatively small exposures and, notably, mainly funded by bank-led asset-based facilities.

Allison Nathan: Could the increased use of payment-in-kind (PIK) features—which allow borrowers to preserve cash by shifting interest payments to the loan's principal balance—be masking deteriorating credit quality?

Michael Arougheti: To answer this, PIK should be thought about in three baskets. First is "PIK at the outset", where the instrument is underwritten with PIK because the lender wants to earn a higher return and the borrower wants more flexibility in deploying their cash. That's a structural choice, not a distress measure. Second is "good PIK", where a performing company wants to divert cash from debt service to growth. This is attractive to institutional investors because the borrower is willing to pay the lender more, driven by a belief that the return from redeploying cash into the business exceeds the cost of capital. Third is "bad PIK", where a company can't service its debt because operations are deteriorating. Bad PIK is rising, which warrants watching. But not all PIK is bad PIK.

Allison Nathan: How concerning is private credit exposure to the software industry amid worries about AI disruption?

Michael Arougheti: Some concern may be warranted, but the fears around software exposure also seem overdone. Software names in private credit portfolios are typically the biggest US private software companies, which are largely institutionally equity-backed. These loans are senior secured, high up in the capital structure, and extended to firms with high free cash flow. For context, at Ares, software is ~9% of our private credit portfolio. These are large businesses, with average EBITDA of ~$350mn. The average loan-to-value is ~38%, meaning 62% of the capital structure sits below us, owned by brand-name private equity sponsors. So, the bulk of the risk is in the private equity market. These firms are also generally growing at low double-digit rates. And the loans typically have around 3.5 years of remaining maturity, which aligns with the timeframe of expected revenues. These structural mitigants provide meaningful downside protection. That's not to say some software firms won't be disrupted and losses won't occur. But for every firm AI disrupts, another will likely benefit.

Allison Nathan: Fueling these concerns is a perception that private credit lacks transparency. What's your response?

Michael Arougheti: The question is, transparency to *whom*? Institutional investors in private credit funds have perfect transparency into what they own and how it's performing on a monthly basis, along with access to company management and private credit portfolio teams. That's far more transparency than public market investors have given reporting mandates and regulatory limitations on public company disclosures. Third-party firms also evaluate and value institutionally-managed private credit portfolios, and public accounting firms review that. The banks providing leverage to private credit portfolios also frequently review the underlying credit exposures. It's true that the Fed doesn't have perfect transparency into private credit portfolios because they aren't bank-chartered or highly leveraged. Even so, the Fed meets with us regularly and sees our portfolios through the regulation of our bank partners. So, I struggle with the idea that private credit isn't transparent.

Allison Nathan: How concerning is the recent surge in redemption requests, and could they trigger fire sales?

Michael Arougheti: It's not particularly concerning owing to the structure of non-traded BDCs, which is where redemption requests are concentrated. Key aspects of these structures are often misunderstood. First, so-called "redemption gates" aren't actually gates. Before non-traded BDCs existed, investors could either have daily liquidity in a traded BDC or illiquidity in a 10-12 year private commingled fund. The innovation of non-traded BDCs was to allow investors to own illiquid assets while providing a structured path to liquidity of 5% of net asset value per quarter or 20% per year, with the structure self-amortizing so investors could be made whole without forced asset liquidations. The 5%/20% limits weren't pulled out of thin air but rather designed to track the weighted average life of the underlying loan portfolio. So, meeting the contractual 5%/20% is exactly what these structures were designed to do.

Second, no "asset-liability mismatch" or "run on the bank" dynamic exists in non-traded BDCs. Unlike a bank with short-term deposits and long-term assets, these funds align liquidity with the five-year amortization profile of their loans. They also typically hold 20-30% of assets in liquid securities like loans, bonds, or high-grade investments that can be sold to generate cash, and managers can draw on loan facilities to meet redemption requests. Those features exist precisely to avoid having to liquidate private assets below their intrinsic value.

Third, scale matters. The non-traded BDC market is ~$300bn, representing less than 10% of the nearly $4tn private credit market. Even if every non-traded BDC met its maximum redemption limit, that would amount to ~$5bn of loan sales out of their tradable bucket every quarter, which is small relative to the ~$85bn of loans that trade quarterly in the syndicated loan market. More broadly, adequate dry powder exists in the market to resolve private credit portfolios in an orderly fashion without any disruption to pricing.

Lastly, the current volatility in non-traded BDCs is a technical, not fundamental, issue driven by narrative and positioning. Case in point: our non-traded BDC fund saw no credit underperformance and zero non-accruals as of 4Q2025, and over 95% of the investors didn't request their money back in the most recent redemption period. That said, some managers have and may continue selling assets to demonstrate confidence in their marks to the retail base, which may benefit their franchise but not necessarily be in stakeholders' best interest. So, unwinds could occur. But that would play out over years and in an orderly fashion.

Allison Nathan: What do you make of comparisons between private credit worries and the lead-up to the GFC?

Michael Arougheti: The setups differ dramatically. First, while the Iran conflict has generated significant uncertainty, the US economy remains relatively strong. Second, credit today is owned by a much broader swath of investors and with much less asset-liability mismatch, leading to a significant decline in volatility in the traded credit markets. If anything, private credit has become a buffer to market volatility and risk as opposed to a conduit for them. Third, banks' exposure to BDCs and private credit today is ~0.8% compared to their nearly 20% exposure to subprime mortgages in the lead-up to the GFC. The assets themselves are also fundamentally less risky. A CLO security rated single-A or higher—which is where banks typically invest—has never defaulted. And as regulators seek more transparency, they will discover that banks have offloaded risk and now hold only the safest loans. Lastly, regulators have much more transparency into the financial system today than in the lead-up to the GFC, when off-balance sheet structures and subprime loan portfolios weren't visible to them.

Allison Nathan: Will recent developments impact the growth outlook for private credit?

Michael Arougheti: The recent developments will likely shift market share within private credit rather than slow growth overall. The current narrative is creating noise, but also opportunity for those able to cut through that noise. In practice, that likely means slower growth in non-traded BDCs, with capital reallocating toward strategies like opportunistic credit, credit secondaries, and direct lending. Over time, as investors see how these structures actually performed, capital will likely flow back. In the meantime, private credit will continue to find ways to fund the markets' needs, creating significant opportunity for managers who are structured the right way.

Private credit, explained

WHAT IS PRIVATE CREDIT?

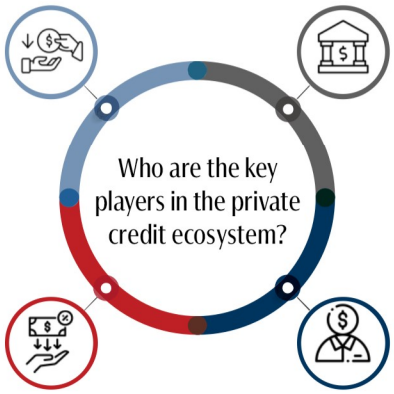
Private credit refers to debt financing provided by non-bank financial institutions directly to companies. The rise of private credit was largely fueled by stricter regulatory frameworks following the Global Financial Crisis, including Dodd-Frank and Basel III, that forced traditional banks to tighten lending standards and reduce risk. This created a funding gap that non-bank lenders stepped in to fill. Private credit's growth was further accelerated by a prolonged period of low interest rates, which encouraged both institutional and retail investors to seek the higher yields and illiquidity premiums available through private debt.

Borrowers

Borrowers in the private credit space tend to be small and mid-sized businesses, although the borrower profile has evolved from a niche group of small businesses into a broad spectrum of corporates and entities. Borrowers can also be the portfolio companies of private equity sponsors who borrow funds to finance acquisitions or buyouts.

Lenders

The major non-bank lenders in the private credit space include alternative asset managers (many of which also participate in private equity), specialized credit funds, business development companies (BDCs)—which are SEC-regulated investment vehicles—and occasionally large individual investors.



Banks

Banks have increasingly become involved in the private credit ecosystem in recent years, largely as indirect participants, with banks acting as key capital providers to private credit funds. Banks also provide leverage to private credit funds through subscription lines and fund financing. Some banks have also increasingly taken a more proactive role in the market by establishing their own internal private credit capabilities.

Investors

Investors in private credit funds include institutional investors like pension funds, family offices, endowments, insurance companies, as well as retail investors (see pg. 9 for a more detailed ownership breakdown).

What types of private credit strategies exist?

1 **Direct Lending**

Direct lending is the most common (and 'traditional') form of private credit. Private lenders provide financing directly to corporate borrowers. Such loans are typically secured and involve corporate recourse, offering borrowers flexible solutions tailored to their specific financial needs.

2 **Asset-Based Finance (ABF)**

Asset-based private credit refers to a type of private credit in which lending is backed by specific collateral such as real estate, equipment, or financial assets. The loan amount depends on the value of the pledged assets, which can reduce credit risk for lenders. ABF is common among businesses with strong asset bases but limited cash flow or short-term financing needs.

3 **Mezzanine, Second-Lien Debt, and Preferred Equity**

These three forms of credit, known as junior capital, provide borrowers with subordinated debt. These instruments are not secured by assets and rank below senior loans for repayment in the event of a default or bankruptcy. Junior capital often comes with equity "kickers" like warrants. Borrowers use mezzanine financing to fund growth or acquisitions when senior debt alone isn't sufficient, and investors accept higher risk in exchange for higher returns.

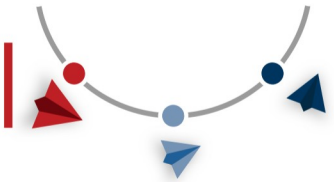
4 **Distressed and Opportunistic Credit**

These are investments in companies under financial stress or those that target market dislocations. Distressed debt refers to loans or bonds from companies experiencing financial difficulties or facing bankruptcy. Private credit investors in this space seek to profit by purchasing the debt at a discount and working toward a turnaround or restructuring that increases its value.

How can investors access private credit?

BDCs are one way investors, particularly retail investors, can access private credit strategies. They are investment vehicles that invest in small and mid-sized private businesses. They generate income mainly through interest payments and distribute income to shareholders, typically in the form of dividends. The BDC market is comprised of three main structures that offer a different level of accessibility to investors.

Publicly traded BDCs trade daily on major exchanges and are available to any investor with a brokerage account.



Non-traded BDCs (perpetual/evergreen funds) are often sold through RIAs/broker-dealers and don't trade on an exchange. Instead, they provide liquidity through periodic share repurchase programs. Most non-traded BDCs limit total repurchases to 5% of net asset value (NAV) per quarter, though the cap is discretionary. If redemption requests exceed 5%, the fund has the ability to repurchase shares on a pro-rata basis.

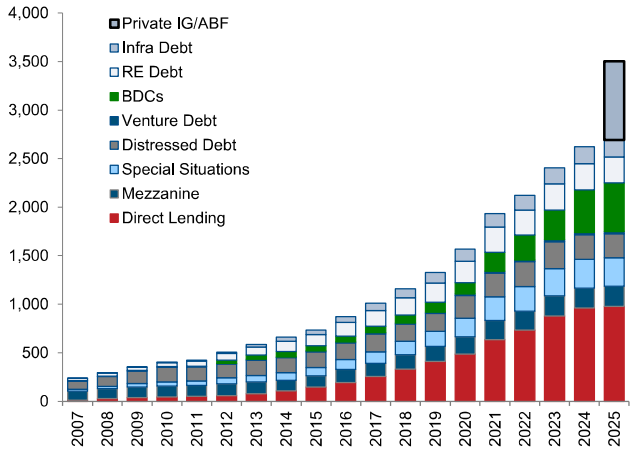
Private BDCs (drawdown funds) are closed-end investment vehicles where investors commit a capital amount upfront but provide the cash only when the fund manager calls for it to fund specific loans. These funds generate returns through income and capital appreciation, with profits distributed to investors as the fund matures. Capital is locked up for the life of the fund, and access is restricted to accredited investors and institutions.

Source: Federal Reserve, Blackstone, Carlyle, KKR, various news sources, Goldman Sachs GIR.

Sizing the private credit market

The private credit market has grown significantly since 2007 to around $3.5tn in assets under management (AUM) today, with direct lending accounting for the largest slice of the market

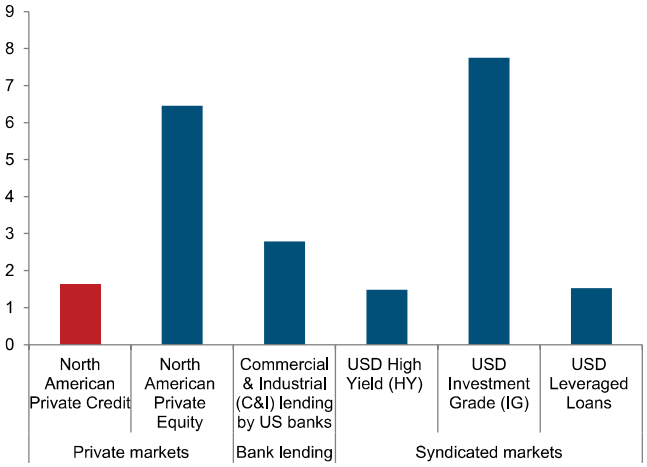
Global private lending AUM by strategy, $bn



Source: PitchBook LCD, Preqin, LSEG Data and Analytics, BDC Collateral, Goldman Sachs GIR.

Despite this growth, the private credit market is modest in size relative to other North American corporate financing markets...

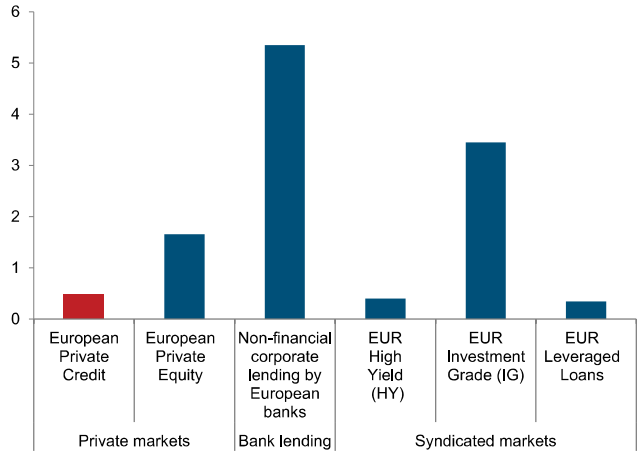
Amt outstanding across various N. American lending markets, $tn



Source: Preqin, Cliffwater, Federal Reserve Board, Haver, Bloomberg, PitchBook LCD, Morningstar/LSTA, Goldman Sachs GIR.

...and the European private credit market is relatively tiny

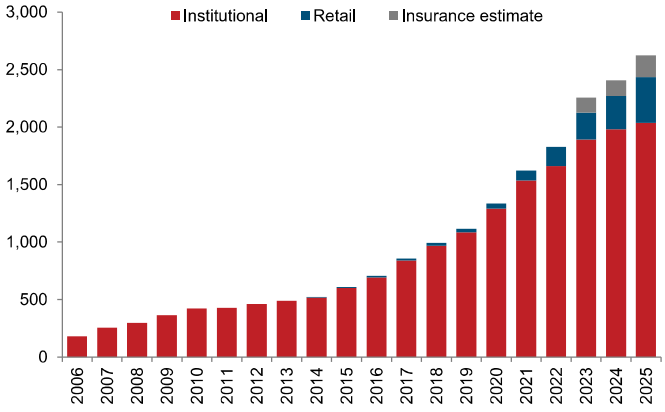
Amt outstanding across various Euro area lending markets, €tn



Source: Preqin, ECB, Haver, Bloomberg, PitchBook LCD, Morningstar, GS GIR.

While retail investors are playing a growing role in the private credit market, institutional investors continue to dominate...

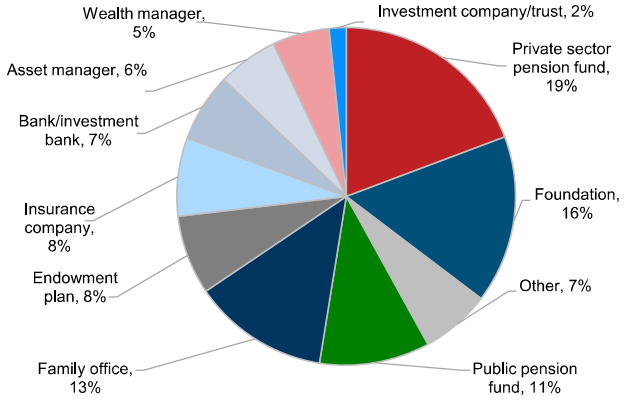
Global private credit AUM by investor channel, $bn



Source: PitchBook LCD, Goldman Sachs GIR.

...with the ownership structure of private credit funds largely skewed toward liquidity-agnostic investors

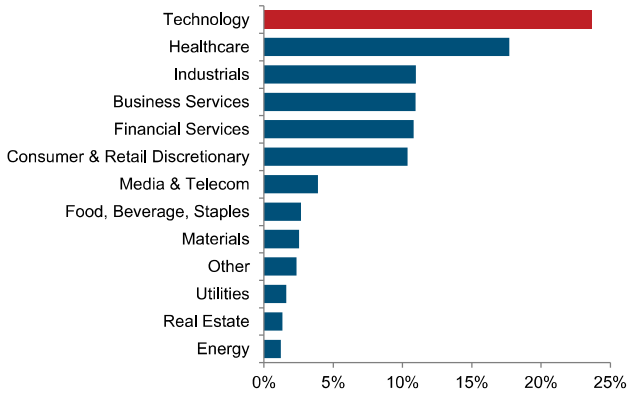
Investor type for private debt, %



Source: Preqin, Goldman Sachs GIR.

At nearly a quarter of loans, the technology sector accounts for the largest part of the US direct lending market

Industry comp of Cliffwater Direct Lending Index as of YE25, %



Source: Cliffwater, Goldman Sachs GIR.

Special thanks to GS Credit Research team (Amanda Lynam and Shamshad Ali) and Asset Managers Equity Research team (Alexander Blostein and Anthony Corbin) for data. Exhibit 1 originally appeared in Alexander Blostein's October 19, 2025 Americas Asset Managers note. Exhibits 2-6 appeared in the Credit team's April 13, 2026 and July 29, 2025 Private Credit Monitors (see latest Monitor for more details on chart calculations).

Interview with Amanda Lynam

Amanda Lynam is Chief Credit Strategist at Goldman Sachs. Below, she explains the role of private credit in the financial system and why many concerns about the space are misplaced.

Jenny Grimberg: What role does private credit play in the financial system, and how has that evolved?

Amanda Lynam: Private credit is one of the three core pillars of the financing continuum alongside the bank lending and public debt markets. While the private credit market was initially reserved for smaller companies that lacked access to the public debt markets, it has significantly expanded since the Global Financial Crisis (GFC), and especially since the pandemic, to include borrowers who could otherwise access public debt markets or, in many cases, have already done so and are refinancing their debt into the private credit market. So, over time, the boundaries between the three markets have become increasingly fluid.

Jenny Grimberg: So, it's not the case that companies who use the private credit market do so simply because they lack alternatives?

Amanda Lynam: No; that's a common misperception. Firms with access to public markets could still opt for private credit for several reasons. First and foremost is certainty of execution, especially during periods of market volatility when public markets may be less accessible. For example, amid recession fears in 2022-2023, the leveraged loan and high yield (HY) bond markets weren't widely available for lower-rated borrowers due to lower risk appetite and structural constraints. In particular, the predominant buyers in the leveraged loan market are Collateralized Loan Obligations (CLOs), rating-sensitive vehicles that can only hold a small amount of triple-C rated debt, which restricts their lending to lower-rated firms in times of economic uncertainty. Private credit doesn't face such constraints, making it a more reliable source of capital in choppy markets.

Second is the availability of customized and bespoke financing solutions. Public markets tend to work best for borrowers that fit neatly within standardized credit frameworks. For unique companies—like those in early growth stages, with high customer concentration risk, or with binary success outcomes—private credit can offer tailored solutions the public markets may not be comfortable providing. And third is higher barriers to entry in the public markets. As companies stay private for longer, public market deal sizes have become extraordinarily large. The average deal size in the HY market today is well above $700mn. This makes public issuance less practical for firms seeking relatively modest amounts of capital.

Jenny Grimberg: Is private credit riskier than public credit?

Amanda Lynam: Not necessarily. The additional spread that private market financing commands over public market financing—known as the illiquidity premium—is often mischaracterized as purely a reflection of higher risk. In many instances, it just reflects compensation for the fact that private credit lenders commit to owning a loan for the entirety of its life. Borrowers are also paying extra for the customization and greater certainty of execution that private credit offers. And while private credit tends to serve smaller or less mature companies than public debt markets, lenders manage this risk through thorough due diligence, the use of covenants, and active oversight, including the ability to renegotiate deal terms early if a borrower's financial health deteriorates.

Jenny Grimberg: The current worries about private credit are focused on non-traded business development companies (BDCs). What are these structures, and how important is their role within private credit?

Amanda Lynam: Non-traded, or evergreen, BDCs are vehicles for retail investors to access private credit strategies. They offer a faster path to investment with lower minimum denominations and more simplified tax reporting than institutional private credit vehicles. Non-traded BDCs represent ~15% of "traditional" private credit AUM (per PitchBook LCD), which doesn't include asset-based finance or investment grade (IG) private credit. So, despite the significant focus on them, non-traded BDCs comprise only a small fraction of the private credit universe. The vast majority of private credit AUM is institutional capital that is locked up in long-term vehicles with fundamentally different structures.

Jenny Grimberg: So, are the concerns around the surge in non-traded BDC redemption requests overdone?

Amanda Lynam: Let me first say that despite the attention-grabbing headlines about major private credit firms capping redemptions at 5% of net asset value (NAV) per quarter, these redemption "gates" aren't new, even if some investors seemed previously unaware of them, and are a feature, not a bug, of these structures. Such features are designed to safeguard investors' capital by preventing managers from being forced to sell assets at depressed prices to meet short-term liquidity demands. The current stresses in these retail vehicles don't exist in the institutional market, because institutional credit vehicles were never structured to offer redemptions in the first place. So, concerns about these redemptions, and potential for spillover to other vehicles, seems misplaced.

Jenny Grimberg: Are recent defaults in the space cause for concern?

Amanda Lynam: While private credit default rates have risen somewhat, these statistics can paint a misleading picture of fundamental health. Some people compare defaults in private credit to defaults in public credit, but they are not actually comparable. Maintenance covenants—periodic financial metrics borrowers must meet—are much more common in private credit than in the broadly syndicated leveraged loan market. Because of that, a covenant breach in private credit can be classified as a covenant default, which counts in the default statistics. By contrast, roughly 92% of the broadly syndicated leveraged loan market is "covenant-lite", meaning the loans don't have regular maintenance covenants. Consequently, the first sign of default is often a distressed exchange or a missed payment, which can quickly translate into a monetary loss.

For that reason, realized losses are a better gauge of the health of the market than default rates. As of end-2025—the latest available data—realized losses in private credit, which we track through the Cliffwater Direct Lending Index that comprises over 20k US middle-market loans representing $550bn in AUM, were around 65bp, below the long-term average of 100bp and generally in line with the public credit markets. And the yield on that index is 9.9%, so the income is more than offsetting the losses. So, underlying market fundamentals appear relatively healthy, and we expect that to remain the case as long as the economic backdrop remains resilient.

Jenny Grimberg: Concerns have also grown about the use of payment-in-kind (PIK), which allows borrowers to defer cash interest payments, and non-accrual loans, which are delinquent in payment. What are you actually observing, and how worrying is it?

Amanda Lynam: PIK is another metric that requires nuance because not all PIK is created equal. "Good" PIK is PIK embedded at loan origination, often for high-growth borrowers seeking to preserve liquidity for investment or acquisitions and comes with guardrails around duration and magnitude. "Bad" PIK is PIK introduced after origination when a borrower is experiencing financial stress. "Bad" PIK modestly rose after the Fed embarked on its hiking cycle, but not to outsized levels. And total PIK has remained around 7–8% of BDC total income over the past several quarters, well below the 2020 peak. Non-accrual rates have also remained in a tight range over that period. So, directional indicators of potential credit deterioration aren't sending concerning signals right now.

Jenny Grimberg: How concerned should investors really be about private credit's software exposure?

Amanda Lynam: It's something to watch, but software exposures aren't uniquely a private credit problem—while software is the largest sector in private credit, it's also the largest in the broadly syndicated leveraged loan market. So, if AI does disintermediate a significant share of software firms, both the public and private markets would be impacted. In such an environment, private credit could actually be well-positioned to deploy dry power because the public markets would likely be choppy, and opportunistic credit strategies could see capital inflows. AI disruption risks have also long been on many private credit managers' radars even if the pace of disruption may be occurring faster than they anticipated. So, their investments have focused on software firms with moats like proprietary data or deeply embedded customer relationships. I largely view the software exposure in both private and liquid markets as a catalyst for additional dispersion, not widespread market disruption.

Jenny Grimberg: Given all that, how likely is private credit to pose a systemic risk?

Amanda Lynam: Very unlikely, in my view. While there is absolutely potential for performance dispersion and losses at the manager and fund levels, the tentacles through which those losses could amplify stress across the broader financial system seem largely contained. A key feature of private credit is asset-liability matching. Most capital is locked up, and even in retail-focused structures, liquidity is limited by design. That significantly reduces the risk of a "run on the bank." Leverage at the fund level is also modest, particularly compared to the banking system, and the private credit market is small relative to other parts of the financial ecosystem. In the US, the Bloomberg USD IG Corporate Bond Index is roughly $8tn in size while private equity is six times larger than private credit. More broadly, unlike during the GFC—when hidden correlations and excessive leverage in structured securities triggered a domino effect—losses in private credit would largely be borne by the investors in those funds. While that would undoubtedly be painful, it wouldn't be systemic.

It's also worth mentioning that rather than being a source of systemic risk, private credit has the potential to help stabilize markets in times of stress. For example, during the 2023 US regional banking crisis, private lenders stepped in to fill some of the financing void when banks and public debt markets stepped back. As a result, corporate default rates didn't rise nearly as much as they otherwise could have during that period.

Jenny Grimberg: But couldn't the interconnectedness between private credit firms and banks act as a transmission channel for systemic shocks?

Amanda Lynam: Loans to non-depository financial institutions comprise 15% of overall bank lending, much less than other types of loans, and private credit accounts for only around a quarter of that, with the loans largely held by large banks with over $10bn in assets. A recent Federal Reserve report found that bank loans to private credit vehicles have low loss rates. So, the interconnectedness isn't a particular concern.

Jenny Grimberg: Conversely, could upcoming regulatory changes like Basel III Endgame boost lending capacity in the banking system and slow the growth of private credit?

Amanda Lynam: A regulatory rollback is unlikely to materially dampen private credit's growth given the size of the addressable market. And for banks with excess capital, it is not obvious to us that it would be redeployed into middle-market lending given the many competing uses for capital, including shareholder returns, M&A, market-making activities, or lending to private credit firms themselves. So, banks and private credit firms will likely remain strategic partners, with banks providing the origination networks and leverage, while private credit firms serve as the ultimate holders of the loans and associated risk.

Jenny Grimberg: More broadly, will the current stresses in private credit dent its growth?

Amanda Lynam: Noise will likely persist over the near term, which may slow growth in some areas of the market, particularly retail-focused strategies. However, over the longer term, these challenges will likely prompt private credit to deploy capital in areas beyond traditional direct lending, such as opportunistic credit, mezzanine financing, and private asset-based finance. And the North American private credit market is far from saturated, especially given the ongoing AI-driven capex buildout. Private credit also has significant room to capture a larger share of overall lending in Europe and Asia, where financing remains relatively bank-dependent. So, while growth is unlikely to be linear, the scope for private credit to continue expanding over the longer term remains very much intact.

Interview with Bruce Richards

Bruce Richards is CEO, Chairman, and Co-Founder of Marathon Asset Management. Below, he argues that private credit is meaningfully overexposed to the software sector, which he expects will result in significant defaults and losses, though not a systemic crisis.

The views stated herein are those of the interviewee and do not necessarily reflect those of Goldman Sachs.

Allison Nathan: Are the concerns around software exposure in private credit portfolios justified, or overblown?

Bruce Richards: Let's put perspective on software exposure within private credit by focusing on three key numbers: 3, 13, and 23. 3% of the high yield bond market is software loans versus 13% of the broadly syndicated loan market and a whopping 23% of the private credit market. For the top 10 private lenders, that number climbs to 26%. Given the roughly 20 investable industry sectors that exist, exposing 26% of a portfolio to software is excessive, especially considering that software is just a subset of the Technology, Telecom, and Media (TMT) sector. So, it's hard to argue that there isn't too much software risk in direct lending.

Allison Nathan: But concerns about technology concentration risk are nothing new and are as much a feature of the public equity market as the private market. So, why the particular concern here?

Bruce Richards: Comparing portfolio exposure to market cap weight is a mischaracterization of how portfolio managers manage risk, whether it be in a bank lending, asset-based or direct lending program. The cardinal rules of risk management for any lender running a diversified portfolio are to limit the maximum amount of exposure to any one company and industry. And software companies with anywhere from $10 to $100mn of revenues represent only around 1% of all private companies in the US. That number is around 7% across the public markets, whether in the NASDAQ, S&P 500, or Russell 2000. So, software exposure is outsized any way you slice it.

Allison Nathan: But many of these software companies are well-established and profitable. And while agentic AI technology may disrupt some of them, it may enhance others. Does that give you comfort that some wins will offset some losses?

Bruce Richards: There will be tremendous wins. I'm somewhat constructive on software in the public markets because public companies have, net of cash, half of one turn of leverage or debt to EBITDA of 0.5. Many companies have strong margins, solid earnings, and substantial free cash flow, which will allow them to make the operating investment required to reposition themselves as AI-first software firms.

But many companies are not in that position, with leverage of 8 to 10 times debt to EBITDA. Those elevated leverage levels are my primary concern because they leave companies with very little to no free cash flow after debt service. In fact, many companies are actually burning cash on an operating basis after debt service. Without adequate free cashflow, these highly leveraged software companies will have little ability to make the upfront investment necessary to transition into AI-first firms.

Allison Nathan: Some have argued that private credit concerns are overdone because these funds aren't highly leveraged. What is that argument missing?

Bruce Richards: Let me explain with a simple example. $1bn of capital with one turn of leverage on the balance sheet amounts to $2bn of assets. $2bn of assets with 26% of the portfolio in software means that the software exposure on $1bn of investor capital is $520mn—or 52% of the capital. So, the only one turn of leverage that private credit funds or business development companies (BDCs) have still amounts to exceptionally high software exposure. At the same time, the underlying software firms typically have upwards of 8 to 10 turns of leverage in the direct lending business and a minimum of 4 to 5 turns of leverage in the broadly syndicated loan market. So, it's important to distinguish between the leverage of the fund versus the amount of debt on the specific company the fund is lending to. Both metrics are important to fully understand the risk.

"The only one turn of leverage that private credit funds or BDCs have still amounts to exceptionally high software exposure. At the same time, the underlying software firms typically have upwards of 8 to 10 turns of leverage in the direct lending business."

Allison Nathan: Some have also argued that even if software companies are disrupted, private lenders' position in the capital structure protects them relatively well. What's your view?

Bruce Richards: It's true that private—and public—equity investors have more downside exposure. But they also have all of the upside exposure. There will be winners and losers, and even the best software investors in the private equity space will undoubtedly see some zeros in the 2020-2025 investment vintages. But they'll also see some companies with higher multiples than their original underwriting assumed as AI adoption drives valuations higher. So, it's possible that some equity investors will end up doing quite well overall across those vintages, even in the event of elevated defaults. Conversely, lenders can't afford the zeros because they only make par back; they don't have the upside that the private and public equity markets do.

At the same time, a substantial part of the cushion that sits below private credit in the capital structure has already been eaten through given the collapse in software valuations across

public and private markets. Valuations for mid-sized software companies are generally down 50% or more from peak levels.

And when a software company goes bankrupt, even senior loans will take a sizable hit. It's important to understand that software bankruptcies look different than bankruptcies in other industries because enterprise customers won't tolerate uncertainty. A CTO or CIO needs to know that their firm's software is reliable and can't gamble with operational or reputational issues that arise in a bankruptcy process. So, keeping a software business intact through a bankruptcy process is exceptionally challenging. As a result, while defaults in other industries typically result in recovery rates for high yield bonds, broadly syndicated loans, and direct lending of 60 to 80 cents on the dollar, recovery rates will likely prove considerably worse in software bankruptcies. Given the collapse in valuations, heavy debt loads, and substantial uncertainty about which software companies will be successful amid the AI transition—as well as likely limited capital availability until that becomes clearer—software default recovery rates will likely be in the 0 to 30 cent on the dollar range for direct lenders.

Allison Nathan: So, what do you expect for software default and loss rates?

Bruce Richards: I expect incredibly high software sector default rates in 2027, 2028, and 2029, with peak defaults of 15% and double-digit default rates in each of those years given the valuation reset this year and likely reluctance of the broadly syndicated loan and direct lending markets to extend new credit to highly leveraged, below-investment grade software companies. Direct lending recovery rates of 0 to 30 cents would amount to 70-100% losses on those loans.

> "I expect incredibly high software sector default rates in 2027, 2028, and 2029, with peak defaults of 15%... Direct lending recovery rates of 0 to 30 cents would amount to 70-100% losses on those loans."

Allison Nathan: Is there a historical analogue for such an industry-specific default cycle?

Bruce Richards: The energy sector's huge technological transformation in 2013-2014 owing to the rise of horizontal drilling and hydraulic fracking, which caused a significant shift in the price structure for energy, comes to mind. Energy had been the number one sector for the high yield bond and broadly syndicated loan markets, with capital rushing in. But the technological shift led to the collapse of several companies, leaving creditors with substantial losses. Debtor-in-possession (DIP) financing came in senior to broadly syndicated loans in the restructuring process, and default rates for these loans hit 15 to 20% at their peak and remained at double digits for three successive years.

While Oil & Gas and Software are very different industries, the common thread between the two periods is a technological transformation driving a change in pricing structure that highly leveraged companies are unable to sustain, leading to exceptionally high default rates and low recovery rates. Very little capital was available in the Oil & Gas sector in the ensuing years to refinance debt other than the new capital that came in senior to existing debt during the bankruptcy process. I believe the software sector will see the same lack of capital in the coming years, especially given the elevated leverage levels already in the sector today.

Allison Nathan: Could the losses in the software sector that you expect pose systemic risk?

Bruce Richards: No. During the Global Financial Crisis (GFC), banks became ensnared given their exposure to collapsing home prices. And consumers were highly exposed both at the high end, given that the majority of high-income households' net worth resided in housing, and at the low end, given the loss of over 10mn jobs. So, banks failed, businesses were wiped out, and consumers were punished.

Today, banks are stronger than they've ever been. So, there is no systemic risk in the financial system. And there is no systemic risk stemming from consumers because consumers don't pay for software, companies do. Consumer net worth today is $180tn—an over-threefold increase from the GFC—and consumers are benefitting from near-maximum employment, high housing prices, and record-high equity levels and valuations. And, while the AI transformation will undoubtedly result in software winners and losers, as we discussed, the sector represents only around $300bn of capital on a $31tn economy. So, I am not at all concerned that the troubles I foresee for the software sector will lead to a broader crisis.

> "Ultimately, while I am very concerned about the coming wave of software defaults and losses, I am very constructive on direct lending."

Allison Nathan: Even if you don't expect a broader crisis, could software losses dent private credit's growth outlook?

Bruce Richards: No. Direct lending is a critical business for capital formation that will emerge from this correction bigger and stronger than ever. It's worth noting that private credit has grown 18-fold over 18 years to $1.8tn today and has never experienced a correction until now. This reset will result in the return of manager discipline with respect to maximum exposure levels to any one company or industry, tighter documentation, and stricter covenants. So, the next vintage will likely be very strong. And European direct lending carries materially less of the software exposure I am concerned about than its US counterpart, given that software constitutes a far larger share of both the US economy and US private equity activity than it does in Europe. Ultimately, while I am very concerned about the coming wave of software defaults and losses, I am very constructive on direct lending, which has become an essential financing solution for many companies and an integral and invaluable part of our financial system that will only continue to grow.

BDCs: NAVs vs. prices

Shamshad Ali finds that BDC portfolio fundamentals and signposts of future portfolio health look less concerning than public BDC equity prices suggest

Since the fall of 2025, business development companies (BDCs) have become a key barometer of private credit health and sentiment as retail participation in middle-market lending has grown. Concerns about software exposure in private credit funds and a surge in non-traded BDC redemption requests on the back of worries about forward returns, underwriting standards, and broader secular disruption from AI drove a significant selloff in public BDC equities since June 2025. While they have bounced off their March lows, public BDCs still trade at a nearly 20% discount to their net asset value (NAV), raising a key question: is the NAV right, or is the price?

Current BDC portfolios show some signs of deterioration in credit quality at the margin, but little evidence of broad-based distress. As such, the fundamentals don't seem to justify the price. But fundamentals are backward-looking. Prices, which are forward-looking, may be reflecting signs of trouble ahead that aren't yet baked into portfolio loan values, which tend to adjust with a lag going into credit distress. That said, while the macro outlook will hold the key to how BDC loans ultimately perform, we don't think the current signposts validate the extent of concerns embedded in the price.

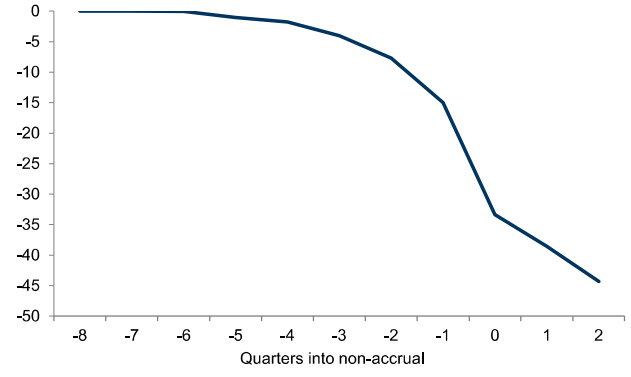
BDCs are trading at a nearly 20% discount to their NAV

BDC share price/NAV per share, ratio

Source: Bloomberg, Goldman Sachs GIR.

Loan valuations tend to adjust with a lag going into credit distress

Cumulative change in loan price going into non-accrual, %



Source: PitchBook LCD, company filings, Goldman Sachs GIR.

Little sign of broad-based stress in portfolio fundamentals...

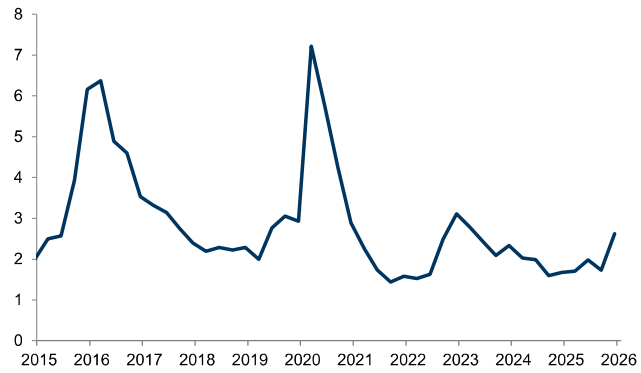
BDC portfolio fundamentals generally remained healthy through 4Q25. The share of first- and second-lien loans trading below $80, an important indicator of credit portfolio health as a senior secured loan trading below $80 signals credit distress, has remained relatively flat over the past few quarters, while other common measures of delinquency have moved modestly higher.

The use of payment-in-kind (PIK), which allows borrowers to defer interest payments by adding them onto the loan's principal balance rather than paying them in cash, is one such measure. PIK can be baked in at origination ("PIK-at-origination"), often when lending to growing businesses with long ramps to profitability, or structured into an existing loan if a borrower has difficulty making interest payments in cash ("PIK-at-restructuring"). While the latter is more concerning, both types of PIK have risen in recent quarters, suggesting borrowers are seeking greater flexibility.

Non-accrual loans—loans where a lender has stopped recording interest income as it's earned because it's doubtful that the interest will be collected—is another such measure. The share of such loans has risen to just below 1% of fair value, still comfortably below historical averages. Taken together, these metrics suggest incremental deterioration in BDC fundamentals, not broad-based impairment.

The share of BDC loans trading <$80 has remained relatively flat

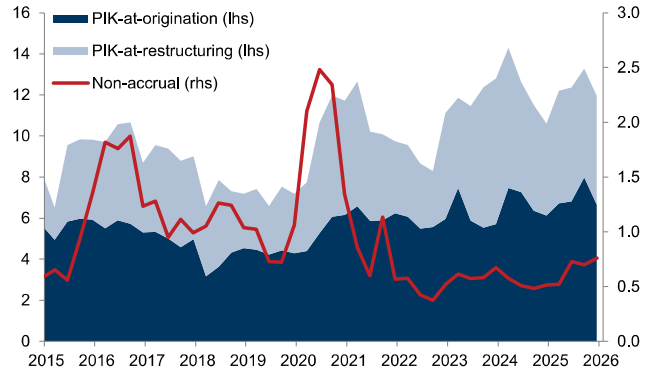
Share of BDC loans trading below $80, %



Source: PitchBook LCD, company filings, Goldman Sachs GIR.

While the share of PIK has risen, over half is at origination, and non-accruals remain below historical averages

PIK and non-accrual by fair value, %



Source: PitchBook LCD, company filings, Goldman Sachs GIR.

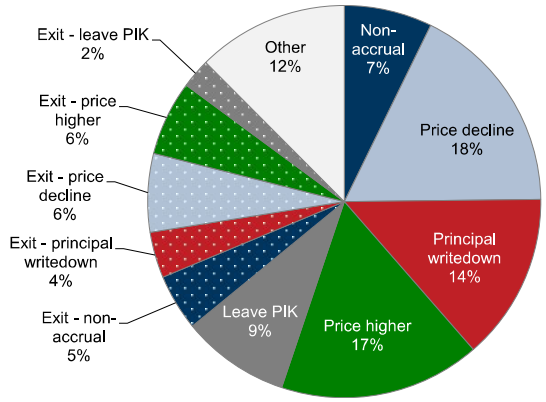
...and the current signposts aren't particularly concerning

But even if fundamentals don't look concerning today, could they in the future? While the macro outlook ultimately remains the main driver of loan health, two signposts leave us generally constructive.

Although investors often treat loans that are flagged as PIK-at-restructuring or non-accrual as reliable markers of future credit impairment, in practice the outcomes are more mixed than that characterization implies. Looking at over 3,000 loans tagged as PIK-at-restructuring, we find that 53% experienced negative outcomes, including principal writedowns, lower prices, or transition into non-accrual status, four quarters later. But over a third *improved*, either by exiting PIK status or increasing in price. So, while less favorable outcomes are more likely, negative outcomes aren't a certainty.

Loans tagged as PIK-at-restructuring tend to see negative outcomes, but not always

Outcomes for PIK-at-restructuring one year on*



*"Exit" refers to positions that left the portfolio before the four quarters and prior to their maturity month. We use the values prior to exit to categorize these loans. "Other" refers to loans which left portfolios immediately after the PIK toggle.
Source: PitchBook LCD, Goldman Sachs GIR.

Given the prospect of non-performing loans, we also consider the size and profile of loans coming due, known as the maturity wall. In our view, refinancing risk is relatively benign. Near-term maturities are relatively manageable, with loans maturing by 2027 accounting for only 10% of the total loan balance, and the loans coming due generally having higher weighted average coupons, which improves refinancing incentives given lower prevailing yields—in the absolute or relative to later maturities.

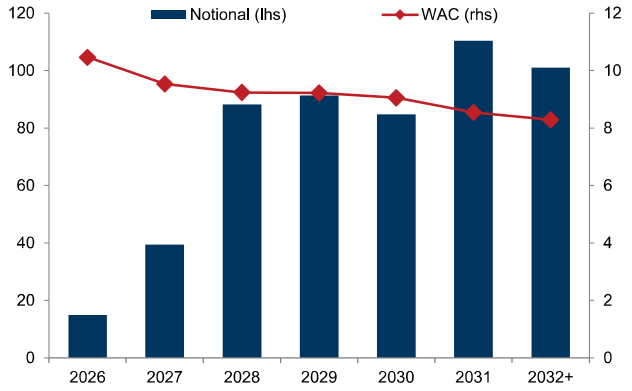
Another concern is redeployment risk—the risk that managers may not be able to reinvest the proceeds from maturing loans into new loans with comparable risk-return profiles. However, we see no indication that near-term loans are healthier than longer-maturity loans when looking at prices or delinquency status, with upcoming maturities also fairly well diversified by origination vintage.

So, while a prolonged slowdown in investment activity remains a key concern for the viability of BDCs and capital access for middle-market companies, the maturity wall does not strike us as an immediate source of stress. We also see potential for expanded deployment opportunities over the medium- to long-term, especially outside of traditional direct lending.

Taken together, we think that NAVs could be optimistic, but not overly so. We would continue to flag that dispersion across BDCs will likely increase as underwriting remains in focus.

The maturity wall is not elevated over the near term, and loans coming due generally have higher weighted average coupons

BDC maturity wall, $bn (lhs), % (rhs)*



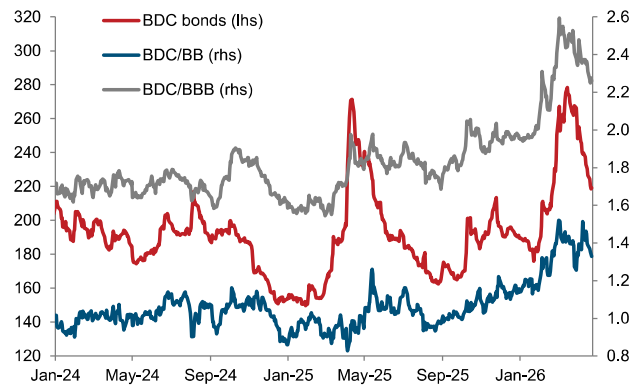
*Includes first- and second-lien and subordinated loans.
Source: PitchBook LCD, Goldman Sachs GIR.

Look to credit spreads

Looking ahead, we view BDC credit spreads as a better barometer for NAV risk than BDC equity prices, as equity prices will likely continue to reflect an elevated liquidity premium following the recent redemption surge and lower future dividend prospects for floating rate lending. BDC credit spreads appear to have turned a corner. Despite continued headline risk and a recent credit rating downgrade, secondary spreads have tightened by 60bp from their local wides in March and primary market activity has resumed. While we think the fundamentals should provide a level of support for senior capital in BDCs, we would be cautious of some of the recent exuberance. Since mid-March, the most distressed BDCs have seen their credit spreads narrow the most, by 93bp vs. only 44bp for the median bond spread. As a result, while we see value in BDC spreads at current levels, especially for investors comparing spreads to BB bonds, we think manager selection will be critical.

BDC credit spreads have tightened by 60bp since mid-March

BDC/index spread ratios, bp (lhs), ratio (rhs)



Source: iBoxx, Bloomberg, Goldman Sachs GIR.

Shamshad Ali, Senior Global Credit Strategist

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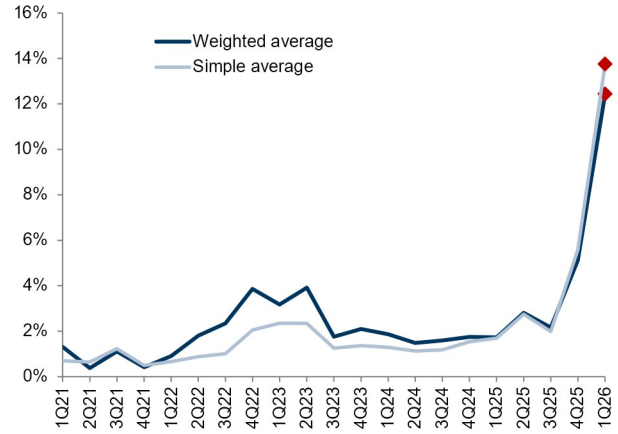
Private credit concerns, in pics

Recent private credit concerns have prompted a rise in retail investor redemption requests…

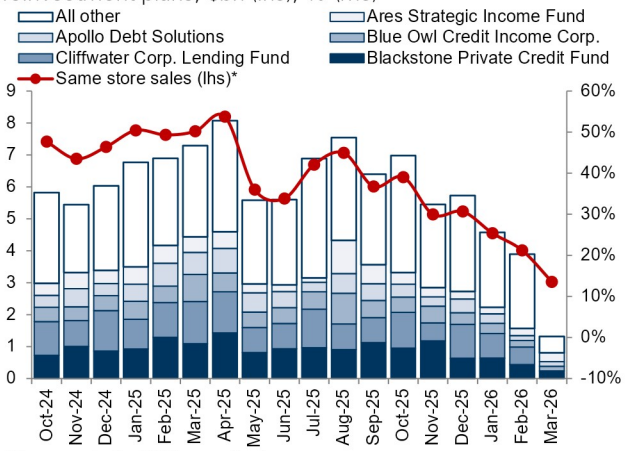
Evergreen/non-traded BDC private credit fund redemption request rates, %



Source: Company data, Goldman Sachs GIR.

…as well as a sharp reduction in gross flows into retail private credit products in recent months

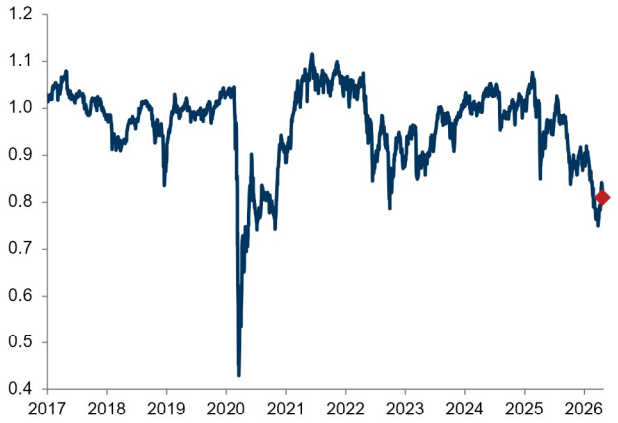
Semi-liquid private credit monthly gross flows ex. dividend reinvestment plans, $bn (lhs), % (rhs)



**Percent of prior NAV, annualized.*
Source: Company data, Goldman Sachs GIR.

BDCs are trading at a substantial discount to their net asset value (NAV)…

BDC share price/NAV per share, ratio



Source: Bloomberg, Goldman Sachs GIR.

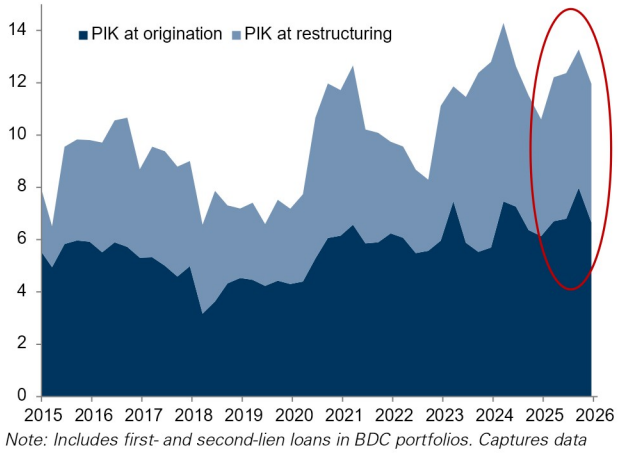
…and the share of underperforming private credit loans increased slightly in 2H2025

Share of underperforming private credit loans, %

Source: Company data, LSEG Data & Analytics, BDC Collateral, GS GIR.

Payment-in-kind (PIK) usage, which can be linked to financial stress of a borrower, rose last year but not to outsized levels

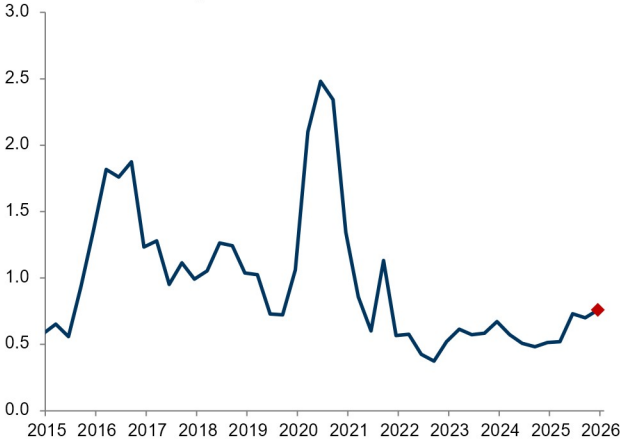
Share of PIK by fair value, %



Note: Includes first- and second-lien loans in BDC portfolios. Captures data through December 31, 2025.
Source: PitchBook LCD, Goldman Sachs GIR.

Non-accrual rates increased only slightly and are not signaling broad-based impairment in the BDC complex

Non-accrual rates by fair value, %



Note: Includes first- and second-lien loans in BDC portfolios. Captures data through December 31, 2025.
Source: PitchBook LCD, Goldman Sachs GIR.

Special thanks to GS Global Credit Strategist Shamshad Ali and US Financials Equity Research Analyst Anthony Corbin for charts.

Private credit: limited macro spillovers

Manuel Abecasis argues that private credit stress will generate limited macro spillovers

Recent private credit concerns have driven a pickup in retail investor redemptions as well as growing worries about broader risks to financial stability and the economy given private credit's increased interconnectedness with other financial institutions (see pg. 19) as well as its significant software exposure.

Despite the worries, we think that private credit stress is unlikely to generate large macroeconomic spillovers, for a few reasons. First, private credit remains a relatively small part of the financial system, with direct lending accounting for only around 4% of all credit to the private non-financial sector (or roughly $1.7tn) compared to the 45% and 30% that residential and securitized mortgages comprised in the run-up to the Global Financial Crisis (GFC), respectively. While the modest size of direct lending doesn't imply that broader contagion is impossible, it raises the bar for private credit stress to become macroeconomically significant.

Second, private credit faces less of a funding mismatch than other financial institutions like banks. Third, leverage at private credit funds remains modest. And fourth, while banks' exposure to private credit has risen in recent years, it remains modest overall, is senior to private credit fund investors' stakes, and the banking system is well-capitalized. As a result, we estimate that private credit stress will likely lead to only small GDP losses, even in relatively extreme default scenarios.

Limited economic losses from private credit

To gauge how higher losses in the private credit sector might affect economywide lending, we estimate the economic impacts under several potential loss scenarios[1]. For each loss scenario, we consider three cases: (1) losses are proportional across all funds but don't spill over into banks; (2) losses are concentrated in a small number of funds and spill over into the banks that lend to them; and (3) these concentrated losses see lower recovery rates than even our conservative baseline assumption (30% vs. our assumption of 40%), to capture the potential risks from lower recoveries on software loans.

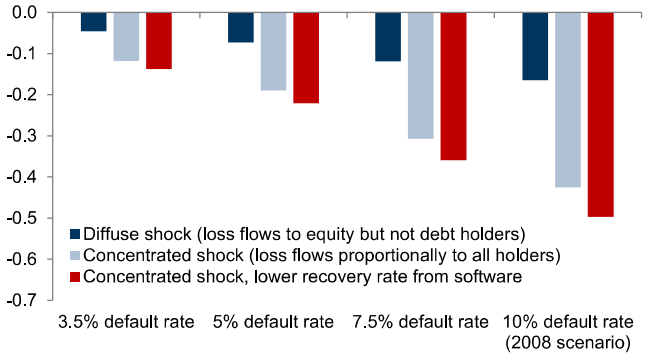
A scenario in which private credit default rates rise from around 1% in 2025 to 3-4% (the lower end of the range for leveraged loans in prior credit cycles) would result in around $45bn in additional defaults, which would generate a small drag of 0.2% or less on the stock of loans, or roughly 1.5% or less of the gross flow of new lending, even after accounting for a pullback in lending from other financial institutions. That, in turn, would result in a small GDP drag of around 0.1%.

A more severe scenario in which private credit default rates rise to 10% (the top of the historical range for leveraged loans) in a concentrated shock would result in around $150bn in additional defaults, leading to a 5-6% pullback in the gross flow of new lending to the private sector. That would translate to a GDP drag of 0.4-0.5%. So, even if defaults rose sharply, the macroeconomic impact would be moderate and much smaller than the pullback in new lending in both the 1990 and 2008 recessions (of around 30% and 55%, respectively).

These scenarios focus only on spillovers from stress that is specific to the private credit sector. A broader tightening in financial conditions or a deterioration in corporate balance sheets and the macroeconomic backdrop would pose larger risks than those we estimate here.

Private credit stress will likely lead to only small GDP losses

Estimated GDP effects of downside stress scenarios for private credit, %



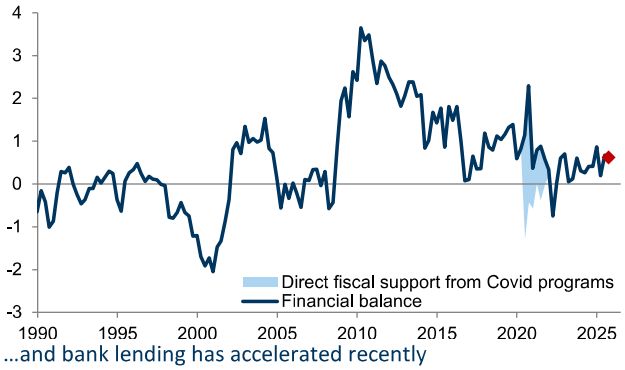
Source: Goldman Sachs GIR.

A supportive macro backdrop

While private credit lending will likely tighten in coming months, corporate balance sheets are very healthy, bank lending to businesses has picked up significantly over the last year, and increased AI-related investment demand will likely act as a tailwind to credit growth over the next several quarters. Taken together, this should further limit the impact of a pullback in private credit on the broader economy.

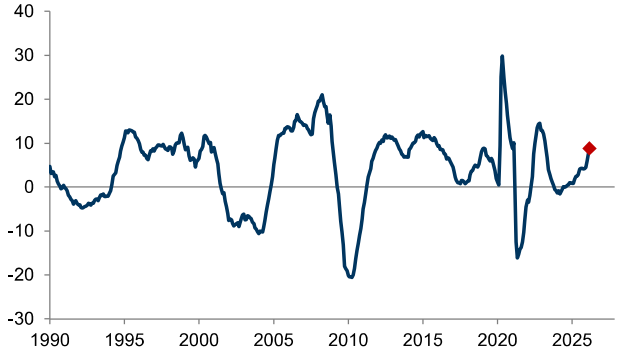
Corporate balance sheets are healthy...

Nonfinancial corporate financial balance, % of GDP



...and bank lending has accelerated recently

Bank commercial and industrial loans, % chg., year ago



Source: Federal Reserve, Goldman Sachs GIR.

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Goldman Sachs & Co. LLC

[1] These estimates leverage our representation of the financial system's architecture based on Fed data and insights from our equity analysts.

Alts managers: private credit opportunities

Alexander Blostein and Anthony Corbin assess the implications of private credit concerns for Alternative Asset Managers

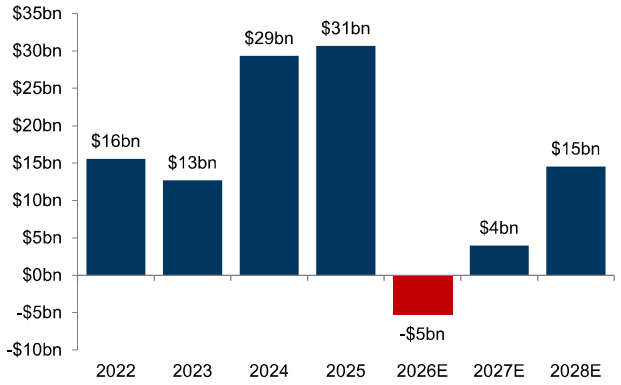
Private credit has been a significant driver of management fee growth for Alternative Asset Managers, accounting for roughly 50% of the growth from 2023-2025. Accordingly, mounting concerns about private credit have weighed heavily on the group, with stocks down over 25% YTD and valuations now 20% below historical averages at 18x NTM P/E. In particular, headlines around redemption requests in retail vehicles have sparked worries about the durability of the wealth channel, which contributed nearly 30% of the group's management fee growth over 2023-25. While we think concerns about the wealth channel are largely overblown, we expect its growth to moderate and a widening dispersion across firms based on their exposure to the wealth channel. However, beyond wealth, private credit opportunities remain compelling, and we expect accelerated institutional deployment to support healthy management fee growth for the group.

Headwinds in the evergreen credit channel

While investors largely expected slower growth from evergreen credit funds—also known as non-traded business development companies (BDCs)—heading into this year given lower base rates/returns, intense media scrutiny has amplified investor anxiety and driven a surge in redemption requests from the retail investor base. These requests reached 12% in 1Q26 (~50% annualized), while gross flows into BDCs in March were over 50% lower than their 2025 monthly run-rate, resulting in a 4% (16% annualized) gross inflow rate (compared to ~50% last year). In response, most asset managers have capped redemptions at 5% of net asset value (NAV) per quarter.

We expect net outflows in retail credit products in 2026

Net flows into public alt manager retail credit products, $bn



Source: Company data, Goldman Sachs GIR.

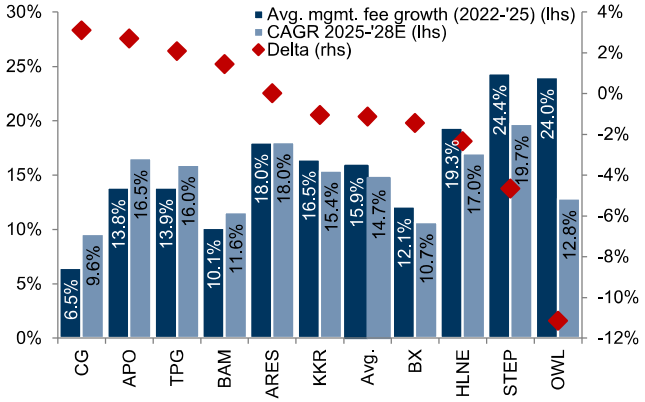
We expect these dynamics to persist, with outflows from evergreen funds likely to continue for some time as the industry works through redemption queues. Based on March's gross inflow run-rate and a 20% maximum annual redemption rate, we estimate a 4% annualized pace of net outflows, or approximately $5bn of outflows across the public alt managers in 2026 before flows turn marginally positive in 2027. We expect a wide dispersion among managers based on underlying credit quality and vintage, with weaker-performing or later-vintage vehicles facing more acute outflow pressure. This will likely remain a drag on growth for several firms, but we ultimately do not expect retail redemption requests to trigger a "run on the bank" dynamic that would lead to fire sales.

Other compelling private credit growth opportunities

While retail private credit vehicles face near-term headwinds, the institutional channel offers significant growth opportunities. Indeed, despite the recent focus on the wealth channel, over 80% of alts managers' private credit-related management fees are derived from institutional sources compared to the roughly 7% of fees-related revenues from evergreen credit vehicles (though BX, OWL, and HLNE are relatively more skewed toward the wealth channel). And though institutional fundraising has declined in recent years largely owing to tighter credit spreads and faster deployment from non-traded BDCs, we expect faster institutional deployment supported by significant institutional available capital ($419bn in direct lending/opportunistic unlevered available capital) as wealth pulls back and spreads widen. Substantial loan maturities through 2028 should further boost institutional fundraising and investment activity, particularly for opportunistic, mezzanine, and special situations strategies, which have been relatively dormant in recent years.

We expect Alt managers' management fees to grow at a healthy 15% CAGR through 2028 on average

Historical average management fee growth (organic, ex. catch-up fees, lhs) vs. management fee growth estimates (2025-28E CAGR, lhs), %



Source: Company data, Goldman Sachs GIR.

The path forward: wider dispersion

Looking ahead, we expect Alt managers' management fees to grow at a healthy 15% compound annual growth rate (CAGR) through 2028 (vs. 16% from 2024-25) on average. However, we expect wider dispersion among managers depending on their exposure to the wealth channel—a dynamic that has not yet been reflected in relative stock performance and valuation multiples, presenting potential opportunities.

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Banks and private credit: the intersection

Richard Ramsden discusses the evolving intersection between banks and private credit

The rapid expansion of the private credit industry over the past two decades has reshaped the lending landscape. The post-Global Financial Crisis (GFC) regulatory environment made it increasingly difficult for banks to compete in certain lending categories, and regulatory constraints around lending to corporates above specified leverage thresholds have pushed some borrowers toward non-bank financing providers that can offer greater flexibility on structure and terms, including covenant-lite and payment-in-kind (PIK) features (see pgs. 10-11).

But while banks have ceded share to the private credit industry, particularly in commercial lending, they have also benefitted from the industry's growth and have become increasingly interconnected with it, providing direct financing opportunities to private credit funds and partnering with private credit firms to serve customers whose financing needs are beyond banks' risk or balance sheet constraints. Amid the current stresses in private credit, this interconnectedness has raised concerns about systemic risk, which we view as overdone.

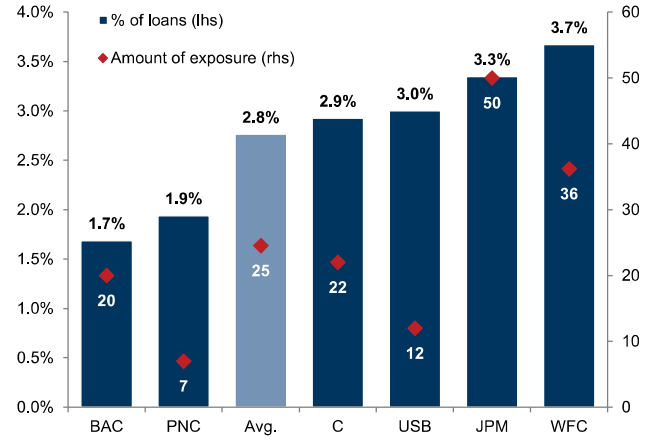
Meaningful linkages…

Currently, banks provide financing to private credit managers in the form of working capital facilities and fund-level leverage. These facilities are typically secured by diversified loan portfolios, which generally have relatively conservative advance rates or loan-to-value ratios (LTVs). Based on disclosures from large banks, advance rates are generally in the 60-70% range, suggesting that defaults would need to rise materially before banks would incur losses. Banks are typically insulated from first-loss risk within their private credit exposure through both underlying operating company equity and a meaningful layer of fund investor capital. Banks also actively monitor collateral values and, in some cases, have reduced the leverage they provide private credit funds over the last six months. As a result, loss rates on banks' private credit portfolios haven't materially risen, and we expect risk-adjusted returns to remain healthy in the near term.

Lending to private credit firms has also become an important source of lending growth for the banking industry, though it remains a relatively small portion of bank balance sheets. Loans to private credit currently account for 3% of bank loan portfolios, having grown at double-digit compound annual growth rates (CAGRs) over the last five years. This exposure sits within the broader non-depository financial institution (NDFI) lending category that represents around 15% of total bank lending. However, as private credit firms experience net outflows, the demand for these working capital loans will likely decline, leading to slower growth—or even some contraction—in bank lending to private credit.

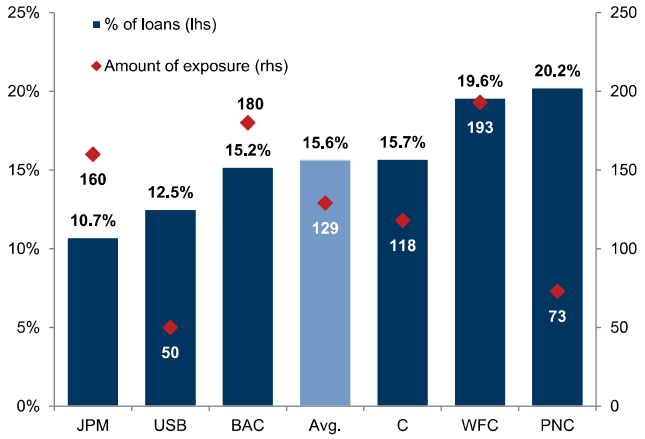
Loans to private credit account for 3% of total bank loans…

Bank private credit exposure ($bn, rhs) and as share of loans (%, lhs)



…with broader NDFI lending accounting for 15%

Bank NDFI exposure ($bn, rhs) and as share of loans (%, lhs)



Note: WFC, USB, and PNC as of 1Q26, others as of 4Q25; chart excludes MS.
Source: Company data, Goldman Sachs GIR.

Banks have also increasingly partnered with private credit firms to serve customers whose financing needs may fall outside a bank's risk appetite or balance sheet constraints. These partnerships enable banks to distribute risk, helping diversify portfolio exposure while allowing banks to offer clients a broader range of lending options than they could provide on a standalone basis, as they can now sell and offload loans that do not fit their underwriting criteria. So, while a pullback in private credit may allow banks to regain some share in loan origination, it could also reduce the range of lending options banks can offer clients, particularly in situations where banks are unwilling to hold the loans on their own balance sheet.

…but limited systemic risk

Taken together, banks' exposure to private credit is real but structurally buffered, with direct exposures generally secured, conservatively leveraged, and protected by substantial first-loss capital. As a result, while ongoing monitoring is warranted, particularly if private credit stresses continue, private credit seems unlikely to pose a risk to the traditional financial system.

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Summary of our key forecasts

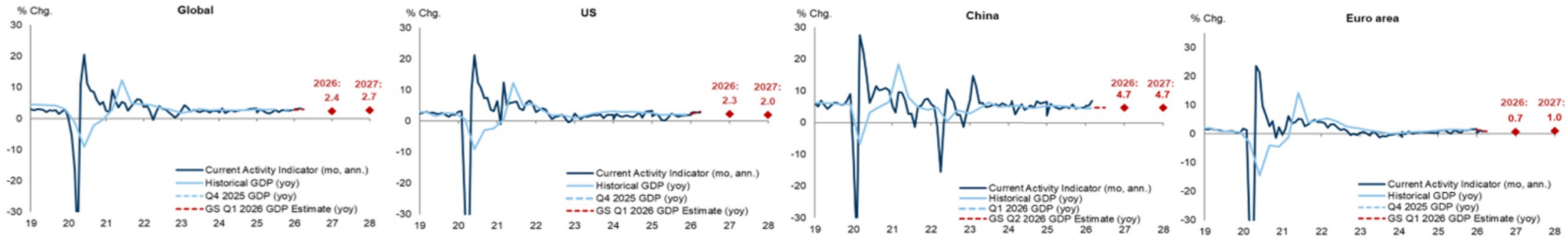
GS GIR: Macro at a glance

Watching

- **WATCH THE IRAN WAR.** While the US and Iran have agreed to extend the ceasefire, the situation remains fluid and oil flows through the Strait of Hormuz remain very low, with risks to economies and markets growing the longer these supply disruptions continue.
- **Globally,** we expect real GDP growth of 2.4% yoy in 2026 amid growing headwinds from higher energy prices owing to the Iran war. We expect global core inflation to decline to 2.3% by the end of 2026, reflecting a fading tariff boost and further normalization in shelter and wage inflation but a boost from higher energy prices.
- **In the US,** we expect real GDP growth of 2.1% on a Q4/Q4 basis in 2026, reflecting a drag from higher oil prices, tighter financial conditions, and elevated geopolitical risk. We expect core PCE inflation to fall to 2.6% yoy by December 2026, as the tariff boost fades and wage and shelter inflation continue to cool, though higher oil prices provide some offset. We expect the unemployment rate to end 2026 at 4.6%.
- **We expect the Fed** to deliver two 25bp cuts this year in September and December for a terminal rate range of 3-3.25%.
- **In the Euro area,** we expect below-potential real GDP growth of 0.6% on a Q4/Q4 basis in 2026, reflecting higher energy prices and tighter financial conditions owing to the Iran conflict. We expect core inflation to rise to a peak of 2.5% yoy in 3Q26 amid higher energy prices.
- **We expect the ECB** to deliver two 25bp hikes this year in June and September to a peak policy rate of 2.5% before cutting back to 2% in 2027, although we view whether the ECB hikes twice or holds rates unchanged this year as a close call.
- **In China,** we expect real GDP growth of 4.7% yoy in 2026 as resilient export growth, continued government policy easing, and a decreasing drag from the ongoing property market downturn offset headwinds from higher energy prices and sluggish domestic demand. We expect CPI/PPI inflation to rise to 1.0%/1.2% yoy this year owing to higher global commodity prices, government policy efforts, and a low base.

Goldman Sachs Global Investment Research.

Growth



Source: Haver Analytics, Goldman Sachs Global Investment Research.
Note: GS CAI is a measure of current growth. For more information on the methodology of the CAI please see "Technical Updates to Our Global CAIs," Global Economics Comment, Sep. 01, 2025.

Forecasts

Economics							Markets									Equities								
GDP growth (%)	2026				2027		Interest rates 10Yr (%)	Last	E2026	E2027	FX	Last	3m	12m	S&P 500	E 2026		E 2027		Returns (%)	12m	YTD	E 2026 P/E
	GS (Q4/Q4)	Cons. (Q4/Q4)	GS (CY)	Cons. (CY)	GS (CY)	Cons. (CY)										GS	Cons.	GS	Cons.				
Global	2.2	--	2.4	2.7	2.7	2.6	US	4.31	4.10	4.15	EUR/$	1.17	1.14	1.20	Price	7,600				S&P 500	6.1	4.7	22.8x
US	2.1	2.0	2.3	2.2	2.0	2.2	Germany	3.00	3.00	3.00	GBP/$	1.35	1.33	1.33	EPS	$309	$327	$342	$380	MXAPJ	11.5	14.2	14x
China	4.6	4.5	4.7	5.0	4.7	4.6	Japan	2.44	2.00	2.00	$/JPY	159	160	155	Growth	12%	19%	10%	16%	Topix	13.0	9.0	18.3x
Euro area	0.6	0.9	0.7	1.4	1.0	0.9	UK	4.80	4.40	4.25	$/CNY	6.82	6.85	6.70						STOXX 600	2.5	3.0	15.1x
Policy rates (%)	2026				2027		Commodities	Last	2Q26	4Q26	Credit (bp)		Last	2Q26	4Q26	Consumer	2026		2027		Wage Tracker 2026 (%)			
	GS	Mkt.			GS	Mkt.											CPI (%, yoy)	Unemp. Rate	CPI (%, yoy)	Unemp. Rate	Q1	Q2	Q3	Q4
US	3.13	3.54			3.13	3.37	Nat Gas, NYMEX ($/mmBtu)	2.52	3.50	3.50	USD	IG	79	95	90	US	2.7	4.6	2.1	4.4	3.7	--	--	--
Euro area	2.50	2.51			2.00	2.46	Nat Gas, TTF (EUR/MWh)	44.89	50	40		HY	272	335	315	Euro area	2.9	6.3	2.1	6.2	--	--	--	--
China	1.40	1.50			1.30	--	Copper ($/mt)	13,247	12,700	12,500	EUR	IG	92	120	114	China	1.0	--	1.0	--	--	--	--	--
Japan	1.00	1.20			1.50	1.73	Gold ($/troy oz)	4,712	4,865	5,308		HY	286	375	360									

Source: Bloomberg, Goldman Sachs Global Investment Research. For important disclosures, see the Disclosure Appendix or go to www.gs.com/research/hedge.html.

Market pricing as of April 24, 2026

Glossary of GS proprietary indices

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For more, see our CAI page and Global Economics Comment: Technical Updates to Our Global CAIs.

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The GSDEER framework establishes an equilibrium (or "fair") value of the real exchange rate based on relative productivity and terms-of-trade differentials.

For more, see our GSDEER page, Global Economics Paper No. 227: Finding Fair Value in EM FX, 26 January 2016, and Global Markets Analyst: A Look at Valuation Across G10 FX, 29 June 2017.

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For more, see our FCI page, Global Economics Analyst: Our New G10 Financial Conditions Indices, 20 April 2017, and Global Economics Analyst: Tracking EM Financial Conditions – Our New FCIs, 6 October 2017.

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