Private Equity's Zombie Problem

The quiet accumulation of risk inside PE's aging portfolio

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Key takeaways

- The zombie overhang is larger than it appears, and it is still growing. Of the 13,509 PE-backed companies currently in US sponsor portfolios, 4,568 (33.8% of the total universe) have been held for more than five years, and 2,536 have exceeded the traditional exit window. GPs are sitting on more than $860 billion in buyout NAV across funds that are more than seven years old. The problem is most acute among the 2018-2022 vintages, acquired at peak multiples in a low-rate environment that no longer exists and now running materially behind historical DPI norms.

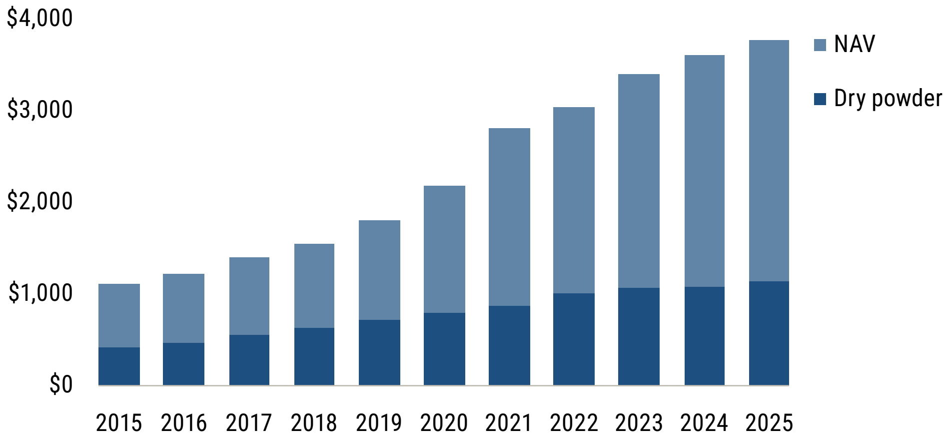
- The scale of the zombie problem is visible even where disclosure is limited. Including companies acquired in 2021, there are 6,437 US PE-backed companies that have been held for five or more years, with 3,332, or nearly 52%, having not completed a deal of any kind since the end of 2021. For more than half of the aging cohort, there has been no add-on acquisition, no recapitalization, no refinancing, or anything similar in over four years. More than four years of transactional silence across all those dimensions suggests the option to do so may no longer exist.

- The impact radiates well beyond the GP. LPs are experiencing suppressed DPI, flatlining TVPI, and growing questions about mark credibility as paper value stubbornly refuses to convert to cash. Lenders, particularly BDCs and private credit funds, are carrying significant maturity exposure concentrated in a compressed 2028-2030 window, with nonsoftware BDC holdings alone carrying $65 billion maturing in 2028 and $67 billion in 2029. The extend-and-pretend incentive is shared across the capital structure, which is what makes the problem so persistent and difficult to resolve.

- The zombie overhang is a growth inhibitor, not a systemic crisis—for now. PE's long-duration capital, closed-end fund structures, and absence of daily redemptions are specifically designed to absorb stress gradually. The more likely near-term path is a prolonged period of constrained liquidity and returns below historical norms rather than a disorderly unwind. However, the risk becomes more acute when zombie dynamics layer on top of broader financial dislocation—tighter credit conditions, sharp risk asset repricing, or sustained earnings deterioration—at which point the quiet accumulation of deferred risk documented throughout this note would become considerably harder to contain.

Overview

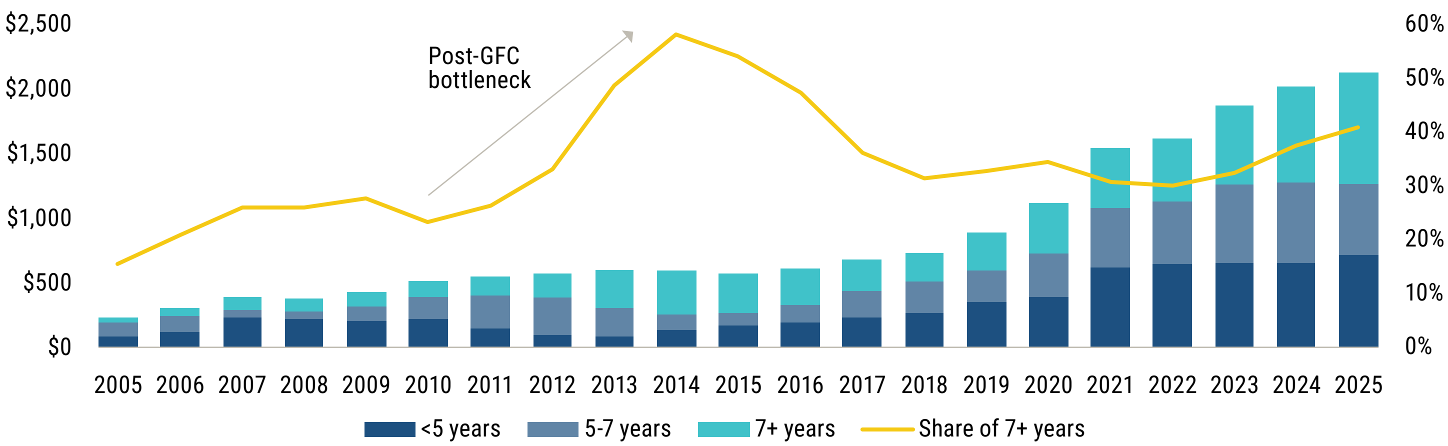
PE AUM ($B)



Source: PitchBook • Geography: US • As of December 31, 2025

Private equity has more than tripled in size over the past decade, reaching $3.8 trillion in AUM in the US alone through the end of 2025. Unsurprisingly, the population of PE-backed companies has expanded alongside it, with 13,509 active portfolio companies in the US as of June 30, 2026. Yet in recent years, that growth has coincided with a prolonged slowdown in exit activity, disrupting the natural balance between capital deployment and realizations. Although exits have begun to recover modestly, the industry is now contending with a sizable backlog of aging assets—many held for five years or longer, and some well beyond their typical holding periods—with no clear path to an attractive exit. The scale of that backlog is significant, with GPs in the US alone sitting on more than $860 billion in net asset value (NAV) across buyout funds that are more than seven years old. This gradual zombification of a portion of the portfolio universe is emerging as a meaningful challenge for sponsors and their investors alike, weighing on liquidity, returns, and fundraising momentum.

Buyout NAV ($B) by fund age



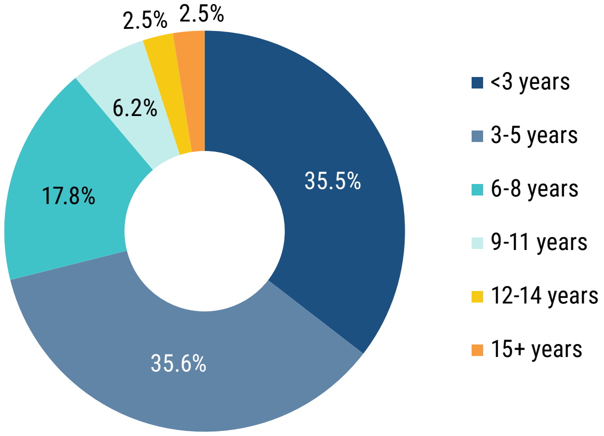
Source: PitchBook • Geography: US • As of December 31, 2025

A PE zombie refers to a portfolio company that remains operational and solvent but lacks a credible path to achieving its targeted return or a timely exit. Typically characterized by extended holding periods, stalled earnings growth, elevated leverage, and limited buyer interest, these companies continue to absorb capital and management attention without generating meaningful value realization. While not necessarily distressed or insolvent, zombie companies effectively trap capital, delaying distributions to investors and reducing the overall efficiency of capital recycling within the PE ecosystem.

There are 3,905 PE-backed companies in the US, 28.9% of the total universe, that have been held for more than five years, and a meaningful portion of them exhibit zombie-like characteristics. We consider the risk more acute once holding periods exceed seven years. By that measure, 2,536 US portfolio companies are now at or beyond the traditional five-to-seven-year exit window for PE. To be clear, not every company held for seven-plus years is a zombie. Some are high-quality assets that sponsors intentionally retain to capture additional growth. However, a substantial subset of this cohort reflects characteristics such as stalled earnings momentum, elevated leverage, or limited buyer interest—conditions that make a near-term, value-accretive exit increasingly difficult.

How did PE get here?

Share of PE-backed company inventory by deal year

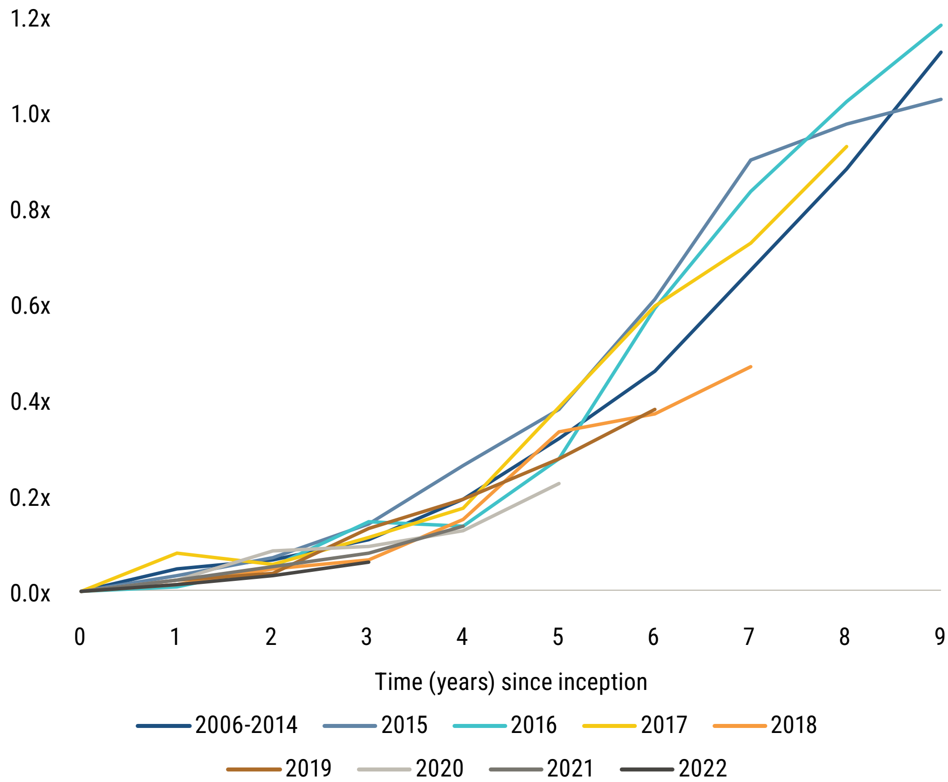


Source: PitchBook • Geography: US • As of June 30, 2026

There have always been zombies in PE. It is the nature of the business that, from time to time, a company or two underperforms. Historically, these middling assets are manageable within a portfolio of 10 to 15 companies and do not derail overall fund performance or impair a sponsor's ability to raise the next vehicle. However, this trend became more pronounced in recent years, especially as financing conditions tightened, and sponsors were no longer able to rely on financial engineering or multiple expansion alone to generate returns. The exceptions are sponsors' A+ assets, which trade at premiums regardless of market conditions. For everything else, the margin for error has narrowed considerably. As a result, value creation has increasingly come from operational improvement—making underperformance more visible and harder to offset. Older vintages benefited significantly from multiple expansion, which accounted for over 30% of value creation at the portfolio company level, according to StepStone SPI data. That tailwind has since reversed for more recent vintages. Revenue growth and EBITDA margin expansion have emerged as the primary drivers, placing greater emphasis on operational performance at the moment when many portfolio companies are finding it hardest to deliver.

While not yet zombies, many assets acquired in late 2020 and throughout 2021 were underwritten in what, in hindsight, proved to be near-ideal conditions. After the Federal Reserve cut rates to near zero in March 2020, ultra-low borrowing costs, abundant credit availability, and unprecedented fiscal and monetary stimulus fueled record levels of liquidity flowing into both public and private markets simultaneously. Public equities rebounded sharply from the COVID-19-driven sell-off, and private market valuations followed; these were the same conditions that drove multiple expansion in one arena and repriced assets higher in the other, creating a broadly favorable backdrop for dealmaking that sponsors were quick to capitalize on. The result was a surge in dealmaking that, in 2021 alone, produced over 10,000 transactions worth nearly $1.3 trillion—a volume that has not been matched since. Not every company in that cohort was acquired at peak multiples with flawed underwriting assumptions, but the sheer volume of deals means that even a modest fraction facing those conditions translates into a significant number of companies now confronting challenges that were neither visible nor anticipated at the time of acquisition. Sponsors did not know they were buying at the peak, and some are now unable to sell because of it.

Buyout DPI by vintage and time since inception



Source: PitchBook • Geography: US • As of December 31, 2025

The performance consequences of that vintage are now visible in the distribution data. The DPI for the 2021 vintage stands at just 0.14x through the end of year four, well below what prior vintages produced at the same point in their fund lives. The shortfall is not simply a timing anomaly but reflects a cohort of companies financed with debt underwritten at 5% to 6% borrowing costs that subsequently rose to 9% to 11%. They were acquired at multiples the current exit environment cannot support and are now held by sponsors unwilling or unable to transact at reset valuations. Importantly, this divergence is not uniform across all vintages. The 2010-2015 vintages, which matured into a more favorable exit environment, show a relatively normal conversion pattern—TVPI compressing toward DPI as exits occurred and capital was returned. The problem is concentrated in the 2018-2022 cohort, which hit its typical exit windows precisely when rate increases made exits least attractive and multiple compression was most acute. That specificity matters, as the zombie dynamic is not a broad indictment of PE as an asset class but a consequence of identifiable conditions that affected a particular cohort of deals underwritten under a particular set of assumptions.

PE debt backdrop

PE-backed company zombie staging criteria

	No symptoms	Feverish	Rotting flesh	Zombie	Hungry zombie
Holding period	<5 years	5-7 years	7-8 years	8-10 years	10+ years
Total leverage	<3.5x	3.5x-5.0x	5.0x-6.0x	6.0x-7.0x	7.0x+
TEV multiple	<9.0x	9.0x-11.0x	11.0x-13.0x	13.0x-15.0x	15.0x+
PIK interest	Rare	Possible	Increasingly common	Common	Prevalent
Software exposure	No	Elevated scrutiny	Elevated scrutiny	Elevated scrutiny	Elevated scrutiny

Source: PitchBook
Note: Thresholds are illustrative and calibrated to market-level leverage and multiple benchmarks rather than empirically derived per-company cutoffs, given disclosure limitations discussed below.

The table above offers a framework for evaluating where a PE-backed company sits on the zombie spectrum—from a healthy, fully functional portfolio company to one exhibiting the most acute signs of distress. Each stage is defined by a combination of holding period, leverage profile, entry valuation, and specific structural features, such as payment-in-kind (PIK) interest and software sector exposure, that reflect conditions most associated with deteriorating exit prospects and value impairment. As established in the "Overview" section, holding periods exceeding seven years represent the most acute zone of concern. This threshold is reflected in the staging framework above, where the zombie and hungry zombie classifications begin at the eight-year mark.

It is important to note that no single criterion is disqualifying in isolation. A company held for seven years with moderate leverage and no PIK features may be a high-quality asset that a sponsor is intentionally retaining. Conversely, a company held for only five years with elevated leverage, a high entry multiple, and PIK interest toggled on may already be exhibiting zombie-like behavior. The framework is designed to be read holistically: The more boxes a company checks, and the further right it sits across the criteria, the more acute the concern.

The progression from left to right also illustrates how the zombie dynamic typically develops over time. A company does not become a zombie overnight. It moves through stages, often imperceptibly, as hold periods extend, leverage remains elevated, and the window for a value-accretive exit narrows. What begins as a feverish asset, one showing early warning signs but still manageable, can deteriorate into a full zombie or hungry zombie if the underlying conditions are not addressed. The inclusion of software sector exposure as a staging criterion reflects the secular uncertainty that AI-driven disruption has introduced into a sector where sponsors had previously underwritten durable growth—a dynamic examined in greater depth in the "Sector breakdown" section. Moreover, the sections that follow examine how companies across these stages affect GPs, LPs, and lenders differently, and which resolution pathways are realistically available at each level of severity.

The underlying quality of the companies within the aging portfolio cohort is the primary driver of how many have become, or are becoming, zombies. To better understand this population, we examined those with available debt metrics, including debt instrument rating, deal type, and debt launch date. Credit quality can be measured via credit ratings for PE-backed companies, as those rated companies that exhibit zombie symptoms are likely to sit in the lower rungs of the speculative-grade rating range of B- or below. However, it is those unrated sponsored companies that tap the private credit markets that are better at masking their symptoms, as financial reporting is not required for public disclosure. This makes it difficult for the public to draw firm conclusions about their financial health. Additionally, we could potentially rule out most companies that recently refinanced their debt at market rates and in which the lenders did not take a loss or haircut, as they would in a liability management transaction. A borrower with chronic symptoms is less likely to obtain long-term refinancing on standard terms. Of the 6,437 US PE-backed companies that have been held for five or more years, 3,332 (nearly 52%) have not completed a deal of any kind since the end of 2021. For more than half of the aging cohort, there has been no add-on acquisition, no recapitalization, no refinancing, and no dividend recap in over four years.

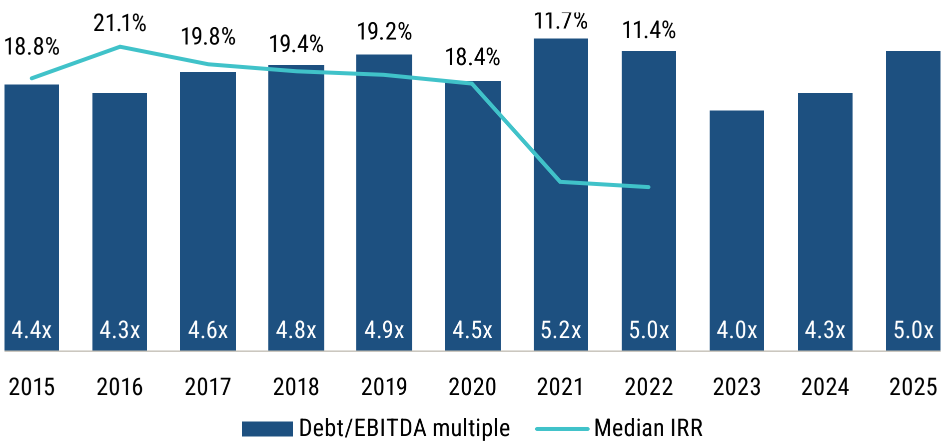
Confirming zombie characteristics at the company level, however, is where the analysis runs into the opacity inherent to the private markets. Of the 3,332 companies with no deal or financing activity since the end of 2021, 1,956 disclose employee growth, while only 289 disclose revenue growth, and just 231 disclose both. This sample is too thin to draw definitive conclusions from. To account for this, we treat these metrics as reinforcing indicators rather than definitive screens. A company checking at least two of the three boxes—financing stagnation, flat or declining revenue, and shrinking headcount—is more likely to be a zombie or approaching one. A single factor in isolation is a warning sign, but not a conclusion.

The near-universal adoption of covenant-light (cov-lite) structures, discussed further in the "Financial engineering" section, has compounded the challenge of identifying and resolving these situations. Without maintenance covenants, a deteriorating borrower can continue servicing debt and avoid a technical default indefinitely, removing the contractual mechanisms that would otherwise compel lenders to force resolution and bring stressed credits into the open. In a prior era, covenant breaches would have surfaced zombie dynamics earlier and more visibly. In the current environment, they can remain hidden inside portfolios for years before the pressure becomes impossible to ignore. The business development company (BDC) maturity data adds a further dimension to this picture, providing a rare window into the maturity profile of private credit portfolios that would otherwise lack the transparency of the broadly syndicated loan market, and is examined in detail in the "Sector breakdown" and "Impact on lenders" sections that follow.

Taken together, the data points consistently in one direction. Over half of the aging portfolio companies examined show no financing activity of any kind over the past four-plus years—no add-ons, no recapitalizations, no debt issuance. Where operational data is available, a meaningful share exhibits the characteristics that define zombie behavior: stalled growth, elevated leverage, and limited evidence of a credible exit path. The opacity of private markets prevents a precise count, but the weight of the available evidence suggests the problem is systemic rather than isolated; and that the cov-lite structures enabling silence are making it harder, not easier, to gauge its true scale.

Financial engineering

Debt/EBITDA multiples by entry year and corresponding median IRR



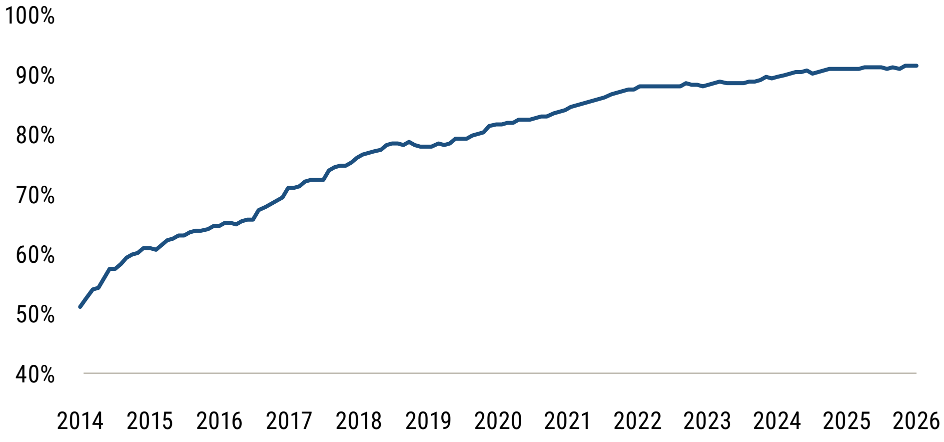
Source: SPI by StepStone • Geography: US • As of December 31, 2025

Note: IRR metrics are reported through 2022. After 2022, they are excluded due to insufficient seasoning and limited visibility.

The covenant relief activity and maturity extensions documented in the previous section do not occur in a vacuum; they are observable outputs of a financial engineering toolkit that has evolved significantly over the past decade. Financial engineering has played a dual role in the buildup of PE-backed zombie companies. During the low-rate era, sponsors leaned heavily on capital structure optimization to enhance returns, often underwriting deals with elevated debt multiples. With debt inexpensive and abundant, higher leverage magnified returns and became a central component of the value-creation playbook. Moreover, many middle-market deals relied on floating-rate private credit. When rates rose sharply in 2022, interest expense surged and free cash flow compressed. As touched on in the "Multiple expansion" section, some deals were expected to exit at equal or higher multiples, but this proved to be a flawed assumption.

Today, financial engineering is increasingly used as a defensive tool rather than an offensive one. When stress emerges, whether company-specific or macro-driven, sponsors pivot their financial engineering tactics accordingly. Common measures include amend-and-extend (A&E) transactions to push out maturities, reset covenants, or add PIK features to ease near-term cash interest burdens. A&E volume has more than doubled since 2021. What was once a return-enhancement toolkit has become a survival mechanism.

Cov-lite loans as a share of all outstanding leveraged loans

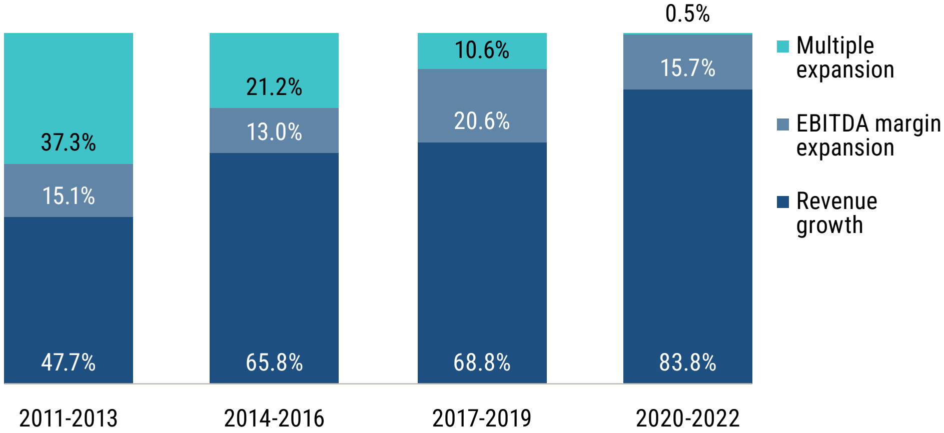


Sources: PitchBook | LCD, Morningstar LSTA US Leveraged Loan Index • Geography: US • As of April 30, 2026

The near-universal adoption of cov-lite structures has made this defensive posture significantly easier to maintain. With cov-lite loans now representing 92% of outstanding leveraged loans, up from just 16% in 2009, lenders have far fewer contractual triggers to force resolution or restructuring. In a low-rate environment, financial engineering amplifies returns; in a higher-rate environment, it prolongs survivability but delays resolution, turning potential defaults into extended zombie states rather than forcing clean exits. Because PE is long-duration and non-mark to market, sponsors can restructure rather than liquidate, and that optionality has never been easier to exercise than now.

Multiple expansion

Value creation by entry-year cohort



Source: SPI by StepStone • Geography: US • As of December 31, 2025

Note: Figures represent the average contribution of each value-creation driver across the respective years, summing to 100%. Reflects enterprise value creation across realized and partially realized deals. Data after 2022 is excluded due to insufficient seasoning.

In the decade preceding the pandemic, PE returns were powered by a combination of EBITDA growth, deleveraging, and—critically—multiple expansion. During the zero-rate era, capital was cheap and plentiful. Sponsors could acquire businesses at 10x EBITDA and exit at 12x to 14x without relying on dramatic operational transformation. Financial conditions alone provided a meaningful tailwind to equity returns. A significant backlog of portfolio companies was acquired in a low-rate environment, where multiple expansion was a viable and often assumed component of the value-creation plan. In today's higher-rate backdrop, that lever has largely disappeared, leaving some assets stranded at entry valuations that are difficult to justify or replicate on exit.

Without multiple expansion, the math breaks. If a company was bought at 12x EBITDA and EBITDA has not grown meaningfully, the market might be pricing it closer to 10x, and there may be no equity value after debt repayment, essentially trapping the asset. Lower valuation multiples lead to lower enterprise value (EV). Therefore, EV relative to debt weakens loan-to-value metrics, increases lender caution, and raises restructuring risk.

The loss of multiple expansion does not, by itself, create zombie companies, but it removes a critical escape hatch. Where sponsors once could wait for a better market and rely on valuation uplift to bridge the gap, that option no longer exists in any meaningful way. Companies that might have exited via a higher multiple now linger in portfolios, get sold at reset valuations, or undergo restructurings. In that sense, higher rates and multiple compression do not create weakness so much as they make existing weakness impossible to hide.

Middle-market zombies

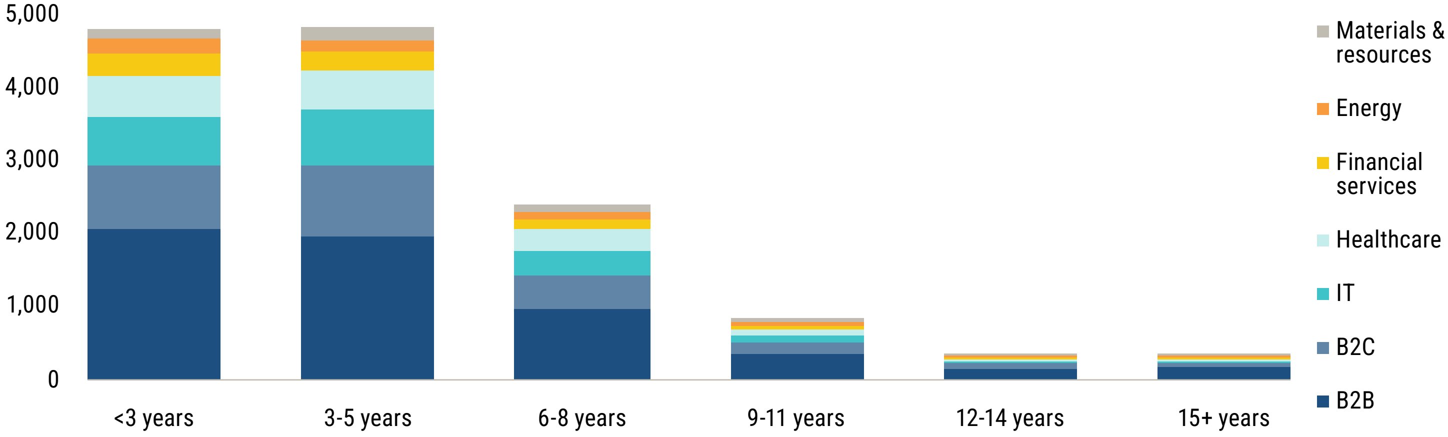
Focusing on the middle market, the backbone of the PE ecosystem, the zombie overhang is particularly pronounced. More than 6,400 PE-backed middle-market companies remain unsold, with roughly one-third held for five years or longer. Unlike larger-cap issuers, which in some cases locked in fixed-rate bonds or maintained broader access to public capital markets, middle-market companies rely predominantly on private credit financing rather than the broadly syndicated loan market. This dependence typically means fewer lender relationships and limited access to alternative sources of capital, and when performance weakens, there is no high-yield or broadly syndicated fallback. Refinancing pathways can narrow quickly, heightening vulnerability within this segment.

That said, the outlook is not uniformly negative for middle-market managers. These businesses often offer greater operational levers and flexibility, allowing sponsors to drive performance improvements more directly than in larger, more institutionalized companies—whether through pricing power optimization, cost structure rationalization, management team upgrades, or the introduction of more sophisticated financial and operational infrastructure that many middle-market businesses simply lack at the time of acquisition. Middle-market portfolio companies also tend to operate in fragmented industries, creating opportunities for consolidation and strategic add-ons that can help reset growth trajectories and strengthen competitive positioning. Periods of stress can accelerate this dynamic, as stronger platforms acquire weaker competitors to gain scale and improve efficiency. In that sense, the zombie overhang may ultimately serve as a clearing mechanism by distinguishing high-quality operators from weaker performers and setting the stage for a more disciplined return environment in subsequent vintages.

The valuation gap between middle-market and larger-cap transactions also has significant implications for how zombie dynamics unfold across the size spectrum. Middle-market buyouts have historically been acquired at roughly one to two turns lower on an EBITDA basis than larger transactions, and while that discount does not immunize these companies from zombie risk, it does change the math. A company acquired at 10x EBITDA has more cushion to absorb multiple compression than one acquired at 12x, meaning that even in a market where exit multiples have contracted, a middle-market asset may still have residual equity value that a larger, more expensively acquired peer does not. In that sense, the middle-market zombie problem, while significant in scale, may prove more resolvable at the individual asset level than headline company counts suggest. The assets most at risk of permanent impairment are concentrated among those acquired at the highest multiples, which skews toward larger transactions and, specifically, the 2018-2022 vintages. The middle market's lower entry point is not a cure, but it is a buffer, which becomes even more valuable in a stressful environment.

Sector breakdown

PE-backed company inventory by sector and deal year



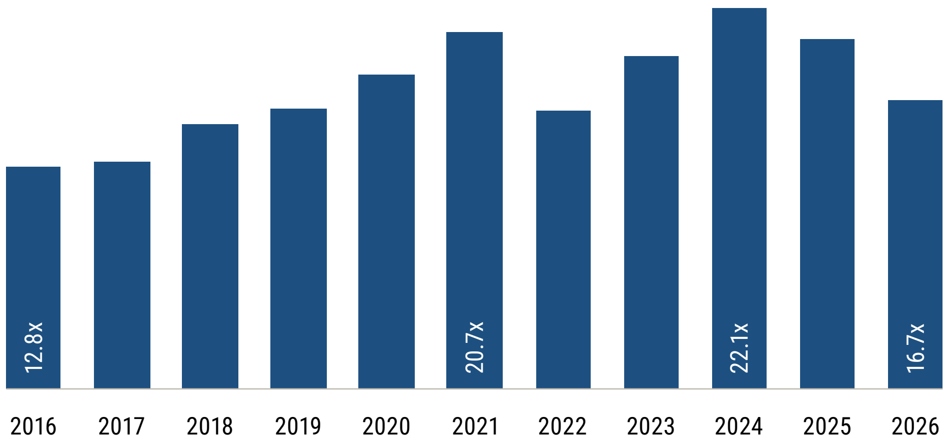
Source: PitchBook • Geography: US • As of June 30, 2026

The zombie problem is not evenly distributed across sectors. While the dynamics of extended holding periods, elevated leverage, and constrained exit markets affect the PE universe broadly, certain sectors carry a disproportionate share of the aging asset overhang and face entrenched headwinds that make resolution more difficult than the headline numbers suggest. The scale of that overhang is further underscored by the 2021 vintage specifically: Of the roughly 2,500 platform LBOs completed that year, 1,869 (or 75%) remain in sponsor portfolios.

B2B remains the largest single sector in the PE universe by company count, with 5,679 total portfolio companies as of June 2026. Of those, 967 have been held for six to eight years and an additional 351 for nine to 11 years—a combined aging cohort of 1,318 companies that represents the largest absolute concentration of zombie-risk assets across any sector. The sheer scale of the B2B overhang means that even if only a fraction of these companies exhibit zombie characteristics, the aggregate impact on the PE ecosystem is meaningful. B2C follows a similar pattern, with 452 companies in the six- to eight-year bucket and 165 in the nine- to 11-year range, many of which have faced margin compression from inflation and shifting consumer behavior, making exit valuations increasingly difficult to defend at acquisition-era multiples.

IT shows 340 companies held six to eight years and 87 held nine to 11 years, a relatively modest absolute number but one that carries outsized significance given the sector's valuation sensitivity. Of the two IT age buckets listed above, the software subsector accounts for 273 and 62 companies, respectively. Software has come under renewed scrutiny in recent months, driven primarily by AI-disruption fears that have introduced secular uncertainty into a sector where sponsors had previously underwritten durable growth and premium exit multiples. That disruption risk compounds the existing valuation challenge: Among the 293 IT companies from the 2021 vintage still in sponsor portfolios, many were acquired at peak software multiples that the current environment, even absent AI concerns, would struggle to replicate.

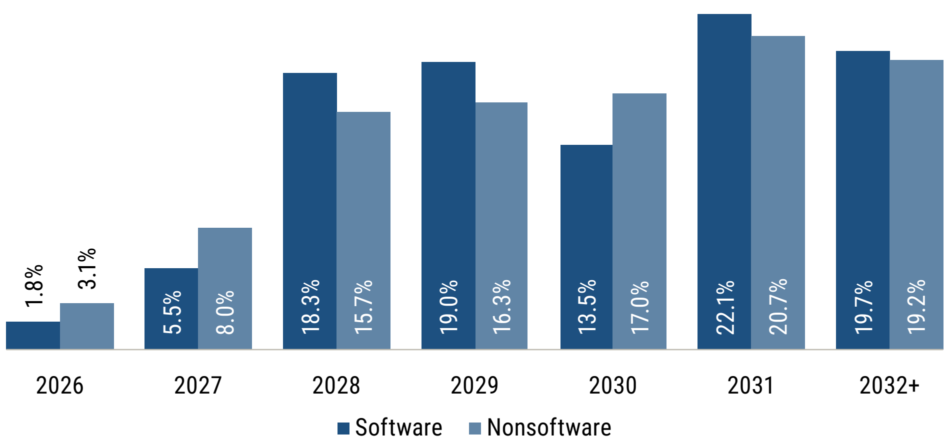
Software EV/EBITDA multiples



Source: SPI by StepStone • Geography: US • As of March 31, 2026

The debt maturity profile of software-focused BDC holdings adds a further layer of concern. Software debt is notably back-loaded, with 22% of total BDC software principal maturing in 2031 and 20% in 2032+, suggesting that lenders have either underwritten longer-duration loans or extended maturities more aggressively in this sector. For companies whose competitive positioning may look materially different in five to seven years due to AI-driven disruption, a debt maturity concentration in the 2031-2032+ range raises genuine questions about what refinancing options will be available, and at what terms, by the time that wall arrives.

Share of BDC software versus nonsoftware debt investment reaching maturity



Source: PitchBook | LCD • Geography: US • As of December 31, 2025

Perhaps most concerning is the convergence of software and nonsoftware BDC maturities in the 2028-2029 period. Software shows 18% to 19% of total principal maturing across those two years, while nonsoftware shows 16% in each, meaning two of the largest debt cohorts by sector are hitting the same refinancing window simultaneously. That overlap represents a potential pressure point where sector-specific stress and broad-market refinancing demand collide, leaving the weakest credits in both categories with the least room to maneuver when competition for lender attention is most intense.

Healthcare rounds out the picture with 311 companies in the six- to eight-year bucket and 95 in the nine- to 11-year range. This cohort faces reimbursement pressure, regulatory scrutiny, and elevated staffing costs that have compressed margins in ways that were difficult to anticipate at acquisition. For a sector that attracted significant PE capital from 2018 to 2022 on the strength of demographic tailwinds and perceived defensibility, the operational reality has proven more challenging than the underwriting assumed.

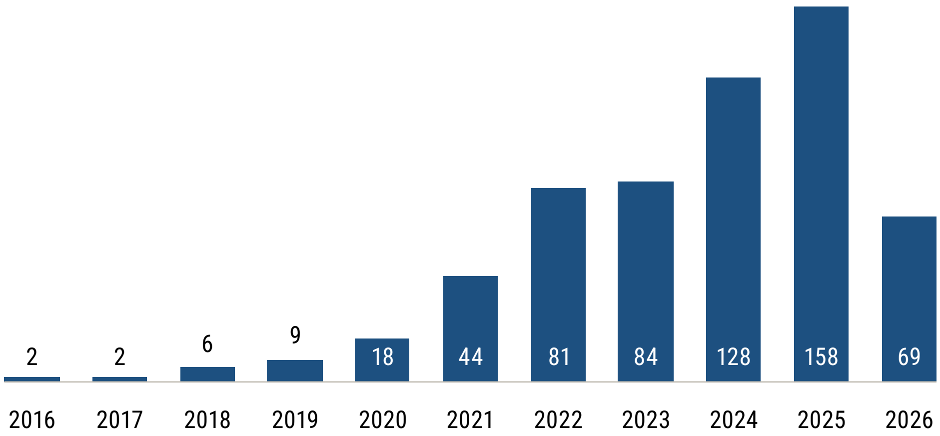
Across all sectors, companies acquired during the peak years of 2019 to 2021 are now entering the phase of their holding periods where exit pressure is most acute. The sectors most heavily represented in that vintage—B2B, B2C, IT, and healthcare—are those facing the most challenging combination of valuation headwinds, financing constraints, and operational complexity. The sector distribution is a direct reflection of where capital flowed most aggressively when conditions were most favorable.

Impact on GPs

For GPs, zombie portfolio companies create a compounding set of operational, financial, and reputational pressures that extend well beyond the performance of any single asset. The most immediate challenge is that zombie companies are difficult to sell, leading to prolonged holding periods and, in some cases, formal fund life extensions. This delays realizations and suppresses DPI. Distributions that are pushed further into the future weigh on the fundraising narrative at precisely the moment a GP needs to demonstrate value creation to prospective LPs. If a fund's DPI is dragged down by a handful of stalled or impaired assets, it can materially hinder a sponsor's ability to raise a successor vehicle, particularly at a step-up in size. A flatlining TVPI compounds this further. Sophisticated LPs increasingly distinguish between marked value and realized value, and a wide, persistent gap between the two is becoming harder to explain away in both fund marketing materials and LP meetings.

When clean exits are unavailable, sponsors have increasingly turned to continuation vehicles (CVs) as an alternative path. The rise of GP-led secondaries is not coincidental; it maps almost directly onto the period when exit markets seized up and aging assets began to accumulate. Rather than forcing a sale at a reset valuation or formally acknowledging impairment, CVs give sponsors a mechanism to reset the clock and retain ownership of assets they believe in or are not ready to exit, while technically returning capital to LPs who want liquidity. In that sense, CVs are both a symptom of the zombie problem and a tool for managing it. They do not resolve the underlying issue but defer it into a new structure. The timing of their growth, accelerating sharply from 2022 onward, runs parallel to the suppression of DPI across vintages and the broader buildup of aging assets. That convergence is too consistent and too well-timed to be accidental.

Continuation-fund-related exit count



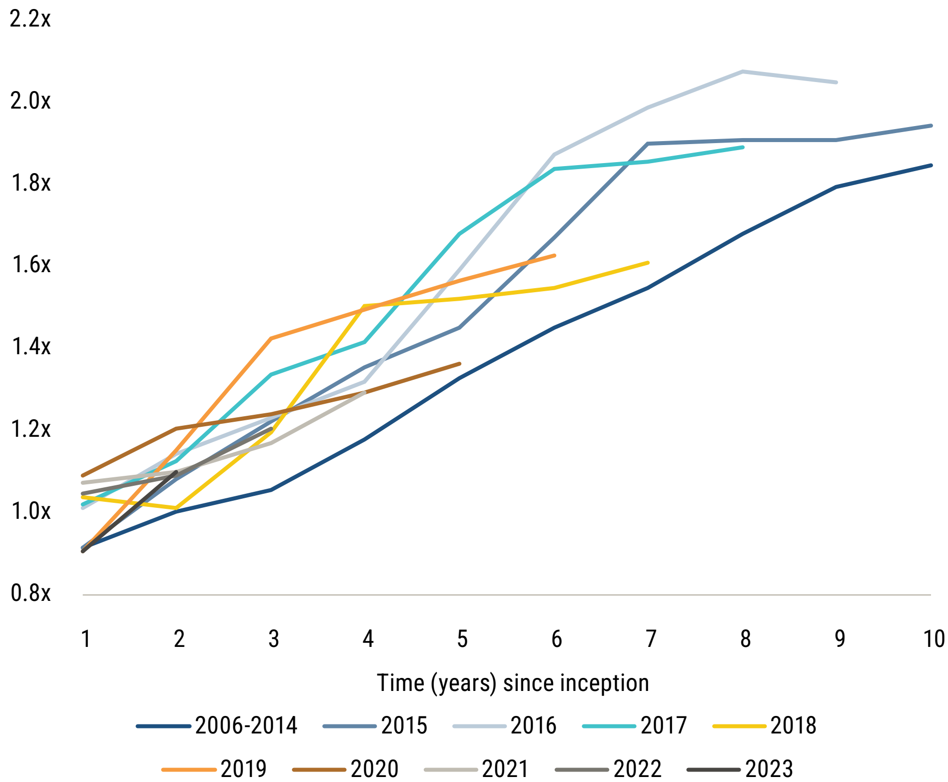
Source: PitchBook • Geography: Global • As of June 30, 2026

Not every CV represents a zombie management exercise. When a GP rolls an asset into a CV at or above its prior carrying value, and sophisticated secondary buyers that conduct real diligence and are under no obligation to participate agree to that pricing, it is a credible signal that the asset has genuine merit and the sponsor has conviction. Single-asset CVs built around high-quality businesses with growing earnings, reduced leverage, and active acquisition histories are a legitimate tool for capturing additional value. Concern arises when CVs are used to avoid the discipline of the open market, especially in multi-asset vehicles where stronger assets can obscure weaker ones, or when pricing falls below the GP's prior carrying value—a quiet but telling acknowledgment that the mark was optimistic.

Beyond the financial drag, zombie assets become a significant operational burden, requiring ongoing lender negotiations and covenant resets that consume disproportionate time from senior deal teams. Members who might otherwise be sourcing and executing new opportunities find themselves defending valuations and stabilizing challenged investments instead. In some cases, GPs deploy follow-on capital to support these businesses, increasing concentration risk within the fund and amplifying exposure to already stressed assets. If multiple portfolio companies breach covenants, underperform peers, or require restructurings simultaneously, LPs may begin to question the GP's underwriting discipline more broadly, reducing confidence and future capital allocations in ways that outlast any single fund's performance cycle.

Impact on LPs

Buyout TVPI by vintage year and time since inception

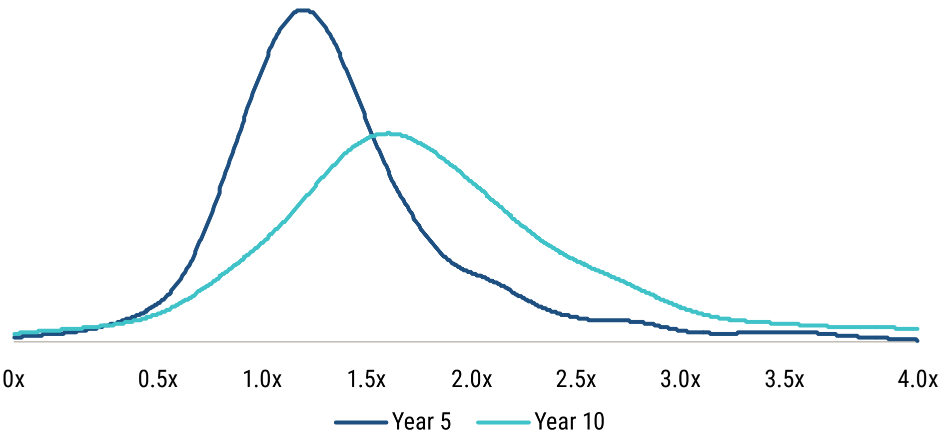


Source: PitchBook • Geography: US • As of December 31, 2025

For LPs, the challenges posed by a growing number of zombie companies mirror many of the pressures faced by GPs, but with distinct implications. The most immediate pain point is reduced DPI. Slower distributions delay capital recycling and complicate liquidity planning. For LPs managing commitments across multiple vintages, this can also exacerbate denominator effects, particularly in constrained fundraising or volatile market environments.

The scale of the distribution shortfall becomes clear when current vintages are measured against historical norms. For a healthy fund at year seven or eight, one would expect TVPI in the range of 1.6x to 2.0x, with DPI representing 50% to 60% or more of that figure as exits occur and capital is returned—the RVPI overhang narrowing steadily as the portfolio matures. The 2010-2015 vintages, which matured in a more normal exit environment, provide the cleanest historical benchmark. Against that standard, the 2018-2022 vintages are running materially below historical DPI at equivalent fund ages, with the shortfall most acute in the 2021 vintage.

Density of TVPI at five and 10 years after inception for PE funds



Source: PitchBook • Geography: US • As of September 30, 2025

What makes this divergence particularly telling is the behavior of TVPI alongside it. In a healthy portfolio, TVPI should be growing as underlying companies compound earnings and approach exit, with the gap between TVPI and DPI narrowing over time as paper value converts to realized cash. The current cohort of vintages instead shows a TVPI that has been relatively flat for two or more years, while DPI has barely moved. The conversion rate—the percentage of total reported value actually returned as cash—tells the story most directly. For prior vintages in a normal exit environment, that rate accelerates meaningfully in years five through eight. For the 2018-2022 vintages, the conversion rate is stalling, which is direct evidence that paper value is not converting to real cash at the pace the industry's historical track record would suggest.

A flatlining TVPI raises a further and more uncomfortable question about the credibility of the marks underlying it. A TVPI that has been flat for two or more years, particularly in an environment where public market comparables have moved, implies one of two things: Either the underlying companies are not growing, or GPs are selectively maintaining marks to avoid difficult conversations with their own investors. In the zombie context, both are likely true simultaneously, resulting in an increasingly wide gap between what funds report and what the market would actually pay for those assets.

CVs add another layer of complexity to the LP experience. When CV pricing comes in below a GP's prior carrying value, as it frequently does when secondary buyers complete their own diligence, LPs face a difficult choice: take liquidity at a below-expectation price, locking in a less favorable return, or roll into the new vehicle and extend exposure to an asset that could not be sold at full value in the open market. The growing prevalence of multi-asset CVs compounds this further, as sponsors bundling stronger assets alongside weaker ones make it harder for LPs to assess individual asset quality or push back on the blended valuation.

The TVPI/DPI divergence is not uniform across all vintages, and the limitations of fund-level data should be acknowledged. The problem is concentrated in the 2018-2022 cohort, which hit its typical exit windows when rate increases and multiple compression were most acute. Fund-level TVPI and DPI also do not reveal which companies within a fund are driving the shortfall, meaning the aggregate figures likely understate the true concentration of stress within the aging asset cohort. While LPs ultimately bear the economic consequences through lower realized returns and delayed cash flows, their diversification across managers and funds moderates aggregate risk in a way that GPs—which are often facing more concentrated exposure to a smaller number of zombified assets—do not have the luxury of.

Impact on lenders

GPs and LPs are not the only parties bearing the weight of a growing zombie cohort. Existing lenders, particularly private debt funds and direct lenders that financed these companies at the height of the buyout boom, face their own set of compounding pressures. Consider the position of a credit fund holding debt in a zombie portfolio company. As the borrower's fundamentals coast along or even weaken, interest payments may be deferred through PIK toggles or cease altogether as loans slip into nonaccrual status. Both outcomes strike at the core of what private debt funds promise their own investors: stable, current yield. When that yield story begins to fray across multiple positions, fund-level IRR and NAV come under pressure, and LP confidence follows. Underlying this is a mechanical problem: PIK loans accrue interest into principal rather than cash, so leverage keeps climbing even as the borrower pays nothing out of pocket—interest accruing on interest. Layered on unfavorable exit multiples, that can push a sponsor's equity underwater, turning the decision into whether to exit at a partial loss now or risk a full loss later. The general strategy has been to hold longer and pursue a refinancing event that buys time for conditions to improve—a "kick the can down the road" approach. For many companies, that bet has not paid off. Performance has not improved, especially as economic conditions remain uncertain.

The BDC maturity data provides a rare and concrete window into where that pressure is building. Near-term maturities appear manageable on the surface—just 2% to 3% of both software and nonsoftware BDC principal matures in 2026—but that relative calm reflects successful deferral activity rather than underlying credit health. The picture deteriorates rapidly the farther out it looks. Nonsoftware BDC holdings alone carry $65 billion maturing in 2028, $67 billion in 2029, and $85 billion in 2031, while the 2032+ bucket has grown to $79 billion, a figure that reflects how aggressively maturities have been pushed out rather than paid down. Software holdings tell a similar story, with the backlog growing, particularly in 2031 and beyond. While 18% of total principal matures in 2028, 2031 and 2032 each account for approximately 20% of total maturing capital. Critically, the 2028-2029 window represents one of the heaviest simultaneous concentrations of software and nonsoftware maturities, meaning BDC lenders across both sectors will face refinancing pressure in the same compressed window, leaving little room for an orderly resolution in a tighter credit environment.

What makes this dynamic particularly difficult to resolve is that the incentives to do so effectively harm sponsors and zombie portfolio companies alike. PE sponsors, who control the boardroom and the flow of information, have every reason to extend and pretend. Formally recognizing a zombie triggers write-downs, covenant negotiations, and uncomfortable conversations with their own LPs. So, amendments get granted, maturities get pushed, and the fiction of a performing loan is maintained a little longer. Private debt managers, wary of the same fundraising and carry consequences on their own side, are often willing partners in that delay. The result is a quiet but growing accumulation of risk sitting inside credit portfolios—marked near par, generating paper income, and waiting for a resolution that gets harder the longer it is deferred.

Where do these companies go?

These zombie companies have to go somewhere. They cannot sit in the portfolio forever, and they cannot all go bankrupt. But not all zombies face the same reckoning, and the path out depends heavily on where EV sits relative to the debt stack. Two distinct profiles emerge. The first is a sponsor-return problem: EV still covers, or comes close to covering, the debt stack, so lenders are largely whole even in a sale, but the outcome leaves the sponsor with a diminished return, a partial loss, or no return at all. The second is a capital structure problem: EV has eroded to the point that a sale would leave lenders facing at least a partial loss and sponsors facing a likely full loss, yet the company still generates just enough cash flow to service its debt, avoiding a technical default. The two require different playbooks.

For the first group, exits remain achievable, just not at the multiple or timeline the sponsor originally underwrote. This buildup has led to more intra-portfolio M&A, sponsor-to-sponsor combinations, and recap-driven transactions. When clean exits are unavailable at an acceptable price, GPs look for alternative ways to create liquidity, stabilize credit, or reset the capital structure—transactions that create scale, extend maturities, preserve liquidity, or reframe the growth narrative, even if they do not generate the originally planned realization. The result is a shift in M&A dynamics, from expansionary, multiple-driven deals to restructuring-oriented combinations and GP-led solutions, allowing the market to gradually work through this cohort without forcing widespread liquidations. The shift is already visible in the exit composition data. Sponsor acquisitions have grown from the low-to-mid 40% range of exit activity a decade ago to consistently at or above 50% today, accounting for 53.5% of exits in the first quarter of 2026. This reflects a market increasingly relying on financial sponsors to absorb inventory that strategic buyers and public markets have been unwilling to take at prices sponsors are prepared to accept.

The second group has no such outlet because a sale crystallizes a loss for lenders and sponsors alike, and neither side has an incentive to force that outcome while the loan is still performing. For these companies, the A&E transaction becomes a recurring feature of portfolio management rather than a bridge to resolution. Lenders grant the extension because the borrower is still servicing debt, and a formal default serves neither party's interests; the sponsor holds on because selling at the current valuation would crystallize a loss that a few more quarters of operational improvement might avoid. The result is a company that remains technically performing, quietly consuming fund life and LP patience, with each successive extension narrowing rather than expanding the universe of eventual buyers. These are not the companies that will go bankrupt, but they are also not the ones that will generate the exits sponsors underwrote. They are the truest expression of the zombie label, sustained indefinitely by cash flow that covers debt service and little else.

It is worth being precise about what the zombie overhang is and is not. Across both profiles, these companies are a drag on the PE ecosystem, slowing the velocity of capital recycling, suppressing distributions, and diverting management attention from value creation. They are not, in isolation, a systemic risk. PE's structural features, which include long-duration capital, closed-end fund structures, and no daily redemptions, are specifically designed to absorb stress gradually rather than transmit it rapidly. The risk becomes more acute only when zombie dynamics layer on top of broader financial dislocation—a material tightening of credit conditions, a sharp repricing of risk assets, or a sustained deterioration in corporate earnings that forces recognition rather than deferral. That risk is concentrated disproportionately in the second group, where the margin for error is thinnest. In that scenario, the quiet accumulation of deferred risk documented throughout this note would become considerably harder to manage. Absent that trigger, the more likely path is a prolonged period of constrained liquidity and below-historical returns, which would be consequential for sponsors and their investors but resolvable over time.

Who stands to benefit from these zombies?

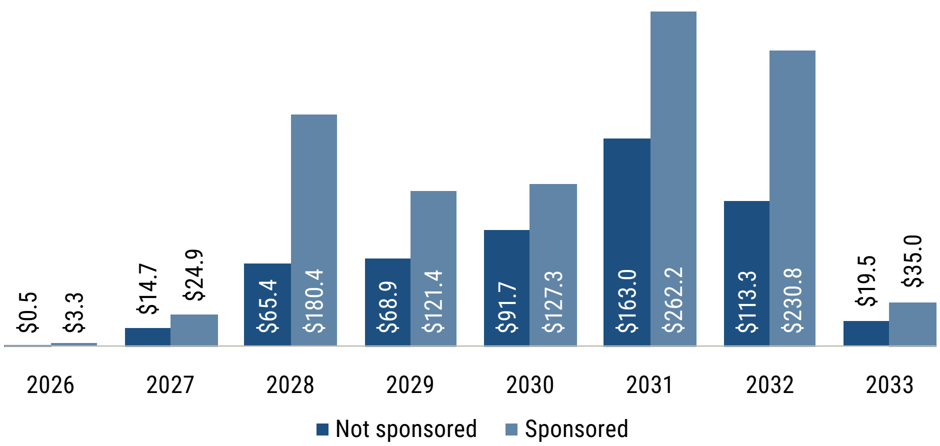
A growing population of zombie PE-backed companies creates a favorable environment for hybrid capital investors, who provide structured equity, preferred capital, or subordinated financing solutions. As sponsors seek to avoid distressed sales, full recapitalizations, or loss of control, hybrid providers can step in to inject capital, bridge valuation gaps, and reset balance sheets—often at attractive yields and with enhanced downside protections. With traditional exit routes constrained and senior lenders focused on risk management, these investors frequently gain pricing power and stronger structural terms. While outcomes depend on asset quality and sponsor support, periods of elevated stress typically expand opportunity sets for flexible, solutions-oriented capital providers.

Hybrid capital is not without its own risks. The opportunity is most compelling when the underlying business remains salvageable, EV exceeds the senior debt stack, and the sponsor remains engaged and aligned. When those conditions hold, hybrid providers can extract attractive economics, such as high current interest payments, equity kickers, and structural protections that provide meaningful downside coverage. When the asset is fundamentally impaired rather than temporarily stressed, hybrid investors can find themselves trapped alongside the very zombie dynamics they sought to capitalize on, with recovery dependent on prolonged restructuring or litigation rather than a clean exit. The distinction between a stressed asset and a broken one is, therefore, the central underwriting question, and in the opaque middle market, where financial disclosure is limited and sponsor incentives do not always align with lender interests, making that distinction correctly and consistently is what separates the opportunity from the risk.

Beyond hybrid capital providers, several other market participants can benefit from a growing population of zombie PE-backed companies. Distressed and special situations investors often gain opportunities to acquire debt at discounts or provide rescue financing with attractive terms, while secondary investors can deploy capital into CVs or LP portfolio sales at improved pricing. It is worth noting that these same secondary buyers—the sophisticated investors who set CV pricing through arm's-length negotiation and independent diligence—are among the most direct beneficiaries of the zombie dynamic, as their pricing leverage increases precisely when sponsors are most motivated to transact and least able to demand full value. Select private credit lenders may also benefit through higher spreads, amendment fees, or equity ownership gained through restructurings. In addition, well-capitalized PE sponsors and strategic corporate buyers can use periods of stress to acquire assets at reset valuations, widening the competitive gap between stronger and weaker players.

Outlook

US leveraged loan maturity wall ($B)



Sources: PitchBook | LCD, Morningstar LSTA US Leveraged Loan Index • Geography: US • As of March 31, 2026

Several forward-looking indicators will help determine whether zombie risk remains contained or becomes more pervasive. Weakening interest coverage ratios and an uptick in private credit defaults would point to building credit stress beneath the surface. At the same time, muted sponsor-to-sponsor exit volume, growing CV activity, and widening discounts in the secondary market would suggest liquidity pressures are intensifying.

The maturity wall data makes the stakes of that monitoring particularly concrete. As of March 31, 2026, the wall is heavily concentrated in 2028 ($180.4 billion), 2031 ($262.2 billion), and 2032 ($230.8 billion)—a substantial volume of debt coming due in a relatively short window. Critically, between 2031 and 2032 alone, nearly $500 billion worth of sponsor-backed debt will come due, which tells its own story: Maturities are being pushed out rather than paid down. The 2027 bucket has been meaningfully addressed through amendment activity. With only $24.9 billion of debt coming due, the underlying problem has not been resolved, only relocated. For zombie companies specifically, each extension increases the size of the eventual reckoning. Debt loads grow larger through accumulated PIK interest and fees, while the window for a value-accretive exit continues to narrow.

Continuation vehicle volume by vintage will be an equally important indicator to watch. A sustained increase in CV activity among the 2018-2022 vintages over the next two to three years would suggest the industry is recycling its zombie problem into new structures rather than resolving it. It would serve as a leading indicator of where the next wave of pressure surfaces, not just a lagging symptom of stress already visible today.

Importantly, these pressures are not confined to existing zombie assets but also affect newer vintages still early in their holding periods. If refinancing conditions tighten and exit markets remain constrained, even fundamentally healthy businesses may face reduced valuation support and slower deleveraging, increasing pressure on sponsors to drive operational improvements more quickly. Lower leverage availability and compressed multiples could also dampen add-on activity and strategic flexibility, narrowing pathways to value creation. In this environment, performance dispersion is likely to widen, as only companies demonstrating durable growth and strong cash flow conversion maintain access to attractive financing and exit opportunities. The zombie overhang, in that sense, is not simply a legacy problem to be managed. It is an active constraint on the industry's forward momentum.

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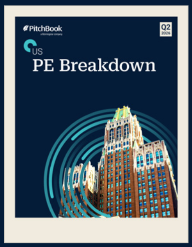

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