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THE ROLE OF PRIVATE DEBT IN THE FINANCIAL ECOSYSTEM

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The Role of Private Debt in the Financial Ecosystem

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ABSTRACT

This paper provides a comprehensive introduction to private debt, examines the key drivers behind its expansion, and frames the discussion around potential risk accumulation in the broader economy. Overall, the development of private debt can be viewed as the emergence of a new technology that facilitated the expansion of the high-yield corporate debt market into the middle market. Throughout its history, the evolution of the high-yield debt and the rise of private debt have been closely intertwined with the growth of private equity. Historically, banks have not had significant exposure to financing buyouts or other highly leveraged transactions, whether in the large-cap or mid-cap segments.

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In the decade following the Great Financial Crisis (GFC), the private debt market has evolved from a niche investment strategy into a major segment of global debt markets, and it is forecasted to continue its rapid growth for at least the next five years. This development raises important questions about its implications for the existing debt markets and banking sector in particular, as well as broader financial stability. The goal of this paper is to provide an introduction to private debt, examine the drivers of its expansion, and frame the discussion around potential risk build-up in the economy.

“Private debt” encompasses a range of different debt products. The common feature is that this debt is originated directly by non-banks and is typically held on the balance sheets of *alternative* financing vehicles – that is, non-traditional financial structures such as private credit funds and business development companies (BDCs).¹

Private debt is a rapidly growing and evolving segment of the financial ecosystem. To date, much of this growth has been concentrated in the high-yield – or highly leveraged – corporate sector. This includes the so-called “direct lending” strategy, in which loans are originated by alternative asset managers rather than banks. In essence, the bulk of private debt consists of loans with high credit risk typically secured by some form of collateral. A representative example is a leveraged buyout (LBO), in which a private equity sponsor acquires a company using a combination of debt and equity financing. As a reference

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¹ An early clarification may be helpful: historically, academic economists have used the term “private debt” to refer to bank-originated debt (vs. public debt). Technically, that use of this term is still correct – neither bank-originated loans nor loans originated by alternative asset managers are public securities under the 1933 Securities Act. However, “private debt” is a term that is only used to refer to the latter.

point, over the past decade direct lending strategies have delivered gross returns of roughly 9% per year.²

With this in mind, the growth of private debt can be seen as a development that enabled expansion of the high-yield corporate debt space into the middle market. The traditional forms of risky debt are leveraged loans and high-yield bonds, both of which—particularly high-yield bonds—primarily serve larger companies. As of Q1:2025, multiple sources indicated that the global private debt market had reached \$1.7 trillion in committed capital—more than tripling over the past decade and having started from negligible volumes in 2008. About one-third of this capital has not yet been deployed. In sum, as of early 2025, the private debt market is below, but quickly approaching, the \$1.4 trillion in outstanding leveraged loans and approximately \$1.5 trillion in outstanding high-yield bonds.

High-yield bonds are non-investment-grade issuances (i.e., rated “BB” or below). The leveraged loan market represents the high-yield segment of the syndicated loan market. These loans are typically structured by a small group of banks but funded primarily by a broad syndicate of non-bank institutional investors, with collateralized loan obligations (CLOs) serving as the dominant source of capital. They include loans rated “BB” or below, as well as unrated loans that carry a comparable level of risk and, accordingly, similar interest rates. Within the high-yield space, leveraged loans are often called “bank debt,” though the term really refers to “bank-originated debt.”³

Banks have never held significant exposure in financing buyouts or other highly leveraged transactions, whether in the large-cap or mid-cap space. It is therefore particularly important to contrast the private debt market with the leveraged loan market in order to understand the unique features and risks of private debt.

In what follows, I begin by introducing the two funding structures common in the private debt space: bank-like, perpetual balance-sheet lending companies (BDCs) and private equity-style credit funds that raise illiquid commitments from large institutional investors. I then provide background on the evolution of private debt and outline the key factors that drove the emergence of the modern private debt market after the GFC. This

² See <https://privatebank.jpmorgan.com/nam/en/insights/markets-and-investing/why-private-credit-remains-a-strong-opportunity>.

³A common misconception is that any non-bank financial intermediary (NBFI) holding corporate loans qualifies as private debt. In reality, large-cap CLOs and leveraged loans more broadly are not considered part of the private debt market, as they do not involve credit directly originated by alternative managers.

is followed by a deep dive into the unique features private debt offers borrowers, and the reasons private creditors are able to provide these compared with other sources of capital. The paper concludes with a discussion of the broader implications of the rise of private debt for financial stability.

Funding Structures of Private Debt Vehicles

It is helpful to begin with a description of the structural features of private debt vehicles. As of 2025, the market is divided between two funding structures: (i) private credit funds and (ii) business development companies (BDCs). For simplicity, both can be assumed to issue loans – primarily senior secured debt – as their core business.

When we think about what traditional banks do, we consider the unique and valuable services they provide on both sides of the balance sheet – functions that makes bank loans hard to substitute. On the liability side, banks offer money-like savings instruments, namely deposits. On the asset side, they extend loans based on proprietary screening and monitoring of informationally opaque companies and projects.⁴ Decoupling bank lending from deposit-taking is a concept known as “narrow banking,” which has resurfaced as a proposed solution for enhancing financial stability after every major banking crisis since at least the 1980s. In this sense, private debt (and BDCs in particular) should not be an unfamiliar concept, since they represent a form of narrow banking: their primary economic function is to provide and manage credit. Their funding is often creative, sophisticated, and consequential; however, it remains a capital structure decision rather than a core function.

It is important to note, however, that the two private debt structures are funded in very different ways – a distinction that is critical when considering market cycles and financial stability risks. Multiple sources indicate that, as of 2025, BDCs assets under management were roughly one third of the overall private debt capital, with the rest managed by credit funds. The closest structural analogy for credit funds is that of private equity funds; Business Development Companies (BDCs) are most comparable to Real Estate Investment Trusts (REITs). Both credit funds and BDCs originate loans and rely on revolving credit lines from large global banks. However, credit funds are primarily funded through illiquid, finite-term equity, while BDCs raise capital through long-term bonds and (typically) public, liquid equity.

⁴ There are also liquidity management and information-sharing synergies that arise from combining deposit-taking and lending activities.

BDCs, unlike credit funds, are subject to SEC portfolio reporting requirements under the Investment Company Act of 1940. This transparency has made BDCs a frequent focus of academic research, so I will begin with them.

Business Development Companies (BDCs)

BDCs are the closest structural form to what narrow banking would look like for lending. They issue loans on the assets side, which they tend to hold on their balance sheet and they fund themselves through equity and bonds. About half of the BDC capital structure is equity. Chernenko, Ialenti, and Scharfstein (2025) indicate that another 30% is funded through bond issuance and 20% is drawn from bank lines of credit.

BDCs are subject to regulatory minimum capital requirements.⁵ Historically, this meant maintaining a 1:1 debt-to-equity ratio, regardless of the risk profile of their loan portfolios. In 2018, this requirement was relaxed to a 2:1 ratio, allowing greater leverage. However, the median BDC still operates close to a 1:1 ratio, reflecting conservative capitalization practices. Overall, BDCs maintain significantly higher capital levels than banks. Chernenko, Ialenti, and Scharfstein (2025) provide a comprehensive analysis of BDC capitalization using the bank regulatory framework, concluding that if a BDC were regulated as a bank, its capitalization would be equivalent to approximately 36% of risk-weighted assets.

I will expand on this in more detail in the final section of the paper, but the liability structure outlined above already points to three key elements to consider when assessing the financial stability risks associated with BDCs:

First, BDCs' reliance on market-based sources of capital may limit their ability to lend during market downturns, as access to funding tightens.

Second, BDCs have non-trivial links to the banking sector, with roughly 20% of their funding coming from bank-provided revolving credit lines. These connections create potential channels of contagion between BDCs and traditional banks. Moreover, these first two points are interrelated: from the BDC's perspective, revolving credit lines act as a form of liquidity hedge, offering some protection against deteriorating market conditions. This point is raised in Acharya, Cetorelli, and Tuckman (2025).

Finally, many BDCs are what are often referred to as "retail vehicles"—that is, they provide an easy way for a wide range of households to gain exposure to private debt,

⁵ The U.S. Securities and Exchange Commission (SEC) is the primary regulator for BDCs.

either through publicly traded BDC shares or BDC-issued bonds. According to Raymond James BDC Weekly Insight, as of Q2:2025 average institutional ownership of BDCs was only 21.2%.

Credit funds

The bulk of private debt funding is done through private credit funds.⁶ Like private equity funds, credit funds are normally structured as closed-end limited partnerships and are primarily funded by institutional investors. These include a range of institutions with long-term liabilities that have traditionally held a significant share of their portfolios in fixed income—namely pension funds, insurance companies, and, to a lesser extent, endowments, sovereign wealth funds, and family offices. Capital is committed upfront but is drawn down by the fund manager only as investment opportunities arise. These funds generally have a finite lifespan, with managers expected to return capital within ten years of the fund’s launch. The capital is otherwise locked in. To maintain business continuity, new funds are raised on an overlapping basis.

Similar to private equity, due to the locked-up nature of their capital commitments, private debt funds tend to maintain substantial funding capacity even during economic downturns.⁷ For example, in 2024, private debt “dry powder”, that is committed but not deployed *equity* capital, exceeded half a trillion dollars.

Because credit funds are exempt from regulatory reporting, information about this sizable segment of the market is often less consistent and less complete. Industry and academic surveys provide particularly valuable insight into this more opaque, but pivotal, segment.

Similar to BDCs, credit funds can also employ leverage—most commonly through bank credit lines secured against existing assets.⁸ A survey by Block, Jang, Kaplan, and Schulze (2024) indicates that almost all U.S. funds in their sample use some leverage, the average fund reporting a 1:2 debt-to-equity ratio (median of 1:3). Thus, the use of leverage among

⁶ It should also be noted that BDCs are legal structures under the U.S. laws, so they do not exist in Europe.

⁷ Defaulting on capital commitments is highly punitive for investors in private equity and private debt funds. As a result, investors are far more likely to sell their commitments on the secondary market at a discount than to default outright.

⁸ This is what is called in the industry net asset value or (NAV) lending, where existing invested portfolio is used to raise debt.

U.S. credit funds appears moderate compared to BDCs. The same study finds that 60% of European credit funds do not use leverage at all.

The central point from a financial stability perspective is that, unlike BDCs, private credit equity capital is locked in over long horizons and is illiquid. As a result, credit fund structures are less sensitive to market fluctuations.

BDCs – particularly publicly traded BDCs – offer to the private debt managers a fast and cost-effective way to grow assets during market booms. In contrast, fundraising for private credit or private equity funds is expensive, time-consuming, and typically infrequent, making it difficult to scale quickly through traditional credit fund structures. However, this flexibility comes with trade-offs: as compared to credit funds, BDC funding carries market funding risk, as it is directly exposed to investor sentiment and broader market conditions. As highlighted earlier, BDCs and credit funds draw from fundamentally different sources of capital: BDCs rely primarily on retail investors, while credit funds are funded mainly by large institutions with long-term liabilities.

Evolution of the Private Debt Market

Throughout much of its history, the evolution of the high-yield debt market and the rise of private debt have been closely tied to the development and growth of private equity. Institutionalized private debt in the U.S. dates back at least to the early 1980s. The groundwork for the creation of BDCs was laid by a 1980 amendment to the U.S. Investment Company Act, intended to incentivize capital flows to small and medium-sized businesses. Their role, however, remained limited, while the private equity industry was gaining traction in institutional portfolios and buyout activity was concentrated primarily in the large-cap space.

Kaplan and Strömberg (2009) provide a comprehensive introduction to leveraged buyout and private equity. In a nutshell, in a modern buyout transaction, specialized financial intermediaries acquire a controlling position in a company with a goal of pursuing growth through operational changes, generally, over an ownership horizon of five years. Out of \$13.1 trillion of global private markets assets under management, as of June 30, 2023, 63% was in private equity, of which roughly two-thirds (\$5.2 trillion) were in highly-levered transactions (McKinsey & Company, 2024.)⁹

Debt is an intrinsic feature of private equity financing. Since a typical transaction involves acquiring a controlling stake, the required investment is usually quite substantial. (The

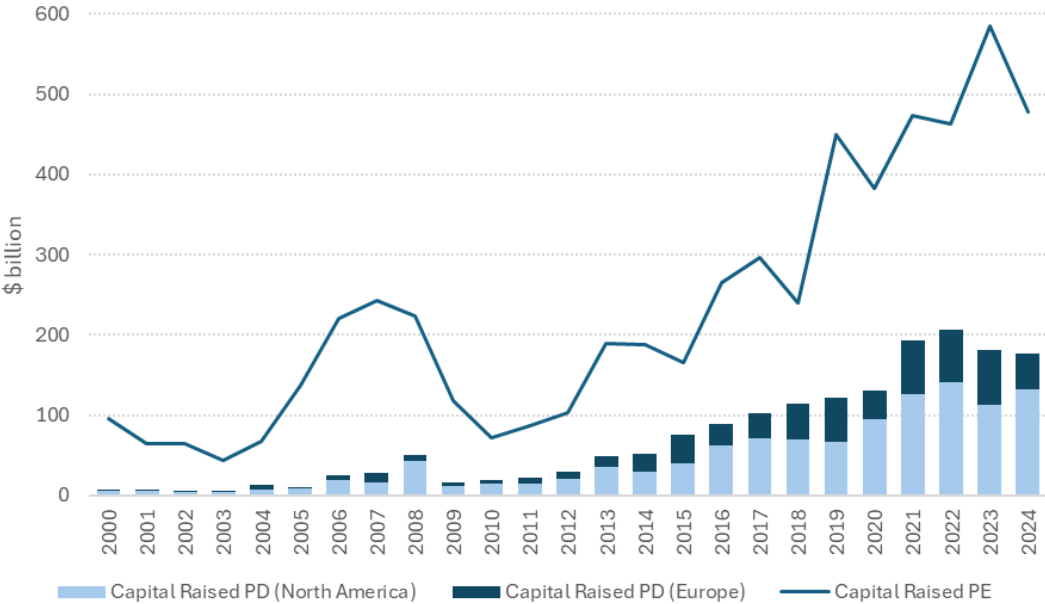
⁹ This including buyout and growth equity strategies.

household equivalent would be the widespread use of mortgages to finance home purchases.) It also makes sense that private equity activity is concentrated among larger firms, as these companies are more likely to offer viable exit options within the typical five-year investment horizon. Moreover, private equity funds typically target a fixed, leveraged gross return of around 20%. This return expectation is embedded in the market and ultimately acts as a constraint on the types of financing used in buyout transactions.

Figure 1 illustrates the growth of private debt fundraising since 2000 and compares it with the growth of private equity. It provides useful background for distinguishing between the two periods of the private debt market (pre- and post-GFC) while also highlighting its connection to private equity market.

Figure 1

Evolution of Private Debt and Private Equity Fundraising



Note: The figure is based on Preqin data. Private equity includes buyout and growth equity strategies, with the line representing fundraising in North America and Europe. Private debt fundraising excludes fund-of-funds strategies to avoid double counting, as well as distressed debt, which is a hostile strategy distinct from the rest of private debt.

Private debt 101 - As the private equity industry experienced rapid growth in the early 2000s, increasing competition pushed firms to target smaller companies.¹⁰ However, the high-yield debt market serving these smaller, mid-sized firms remained relatively shallow and underdeveloped. In contrast, the bulk of the debt financing for larger buyouts was raised in the leveraged loan market – the non-investment-grade loan market funded by a broad base of institutional investors. For example, according to PitchBook Leveraged Data & Commentary database (“PitchBook” from now on), the average LBO loan in the U.S. leveraged loan market in 2004 was approximately \$354 million, representing roughly 44% of total buyout financing. In contrast, loans backing mid-sized buyouts were often too small to be syndicated.¹¹

Due to capital and supervisory requirements, banks would only take a very senior position in the capital structure when lending to buyouts. (Figure 2 shows an illustrative capital structure of a middle market buyout pre-GFC.) Moreover, in the late 1990s and early 2000s, driven by regulatory changes, the U.S. banking sector underwent significant consolidation and expansion in scope. By some accounts, this marked the beginning of large banks’ retreat from mid-market and small commercial lending, as they shifted their focus toward larger clients. These clients presented opportunities for banks to cross-sell fee-based services such as underwriting and M&A advisory.

It was in this context—amid growing demand for mid-sized leverage and as banking activity increasingly focused on larger firms—that the first generation of private debt credit funds emerged, the so-called “captive” private debt funds. These funds became ubiquitous among mid-cap private equity managers in the years leading up to the GFC. During this period, many large growth-equity and mid-market buyout firms began raising not only equity funds, but also debt funds designed to invest in the same deals. The common fundraising pitch was: “You already invest in equity with us – why not also invest in the senior, safer claims of the same companies?” The issue, of course, is that when things go wrong, there is an inherent conflict of interest between debt and equity holders which is very difficult to mitigate. That did not stop captive funds from making meaningful strides in fundraising.

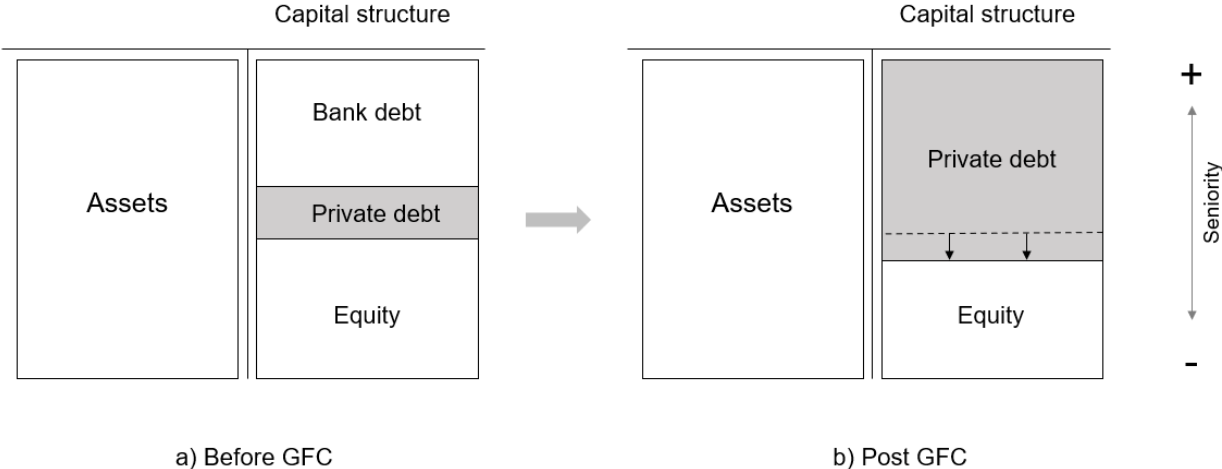
¹⁰ The core middle market refers to firms with EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) of \$25–75 million, while firms with larger EBITDA are classified as large-cap.

¹¹ The logic behind why smaller, riskier loans are not syndicated is similar to why smaller firms typically do not issue bonds: the process involves significant fixed costs related to rating, underwriting, and placement. A more detailed analysis of this process can be found in Ivashina and Mylavarapu (2025).

Beyond the conflict of interest, captive credit funds were small, and fundraising was infrequent. Once the large arm’s-length private credit started to emerge, economics of captive debt funds were no longer attractive. All things considered, it is perhaps unsurprising that captive debt funds largely disappeared after the GFC, paving the way for a new generation of arm’s-length private lenders. Figure 2 illustrates the role of banks, and the change that the shift in the private debt market represented for funding of the representative middle market LBO pre- and post-GFC. What this picture misses, however, is the rise in volume in the LBO transactions in the mid-cap space.

Figure 2

Representative Middle Market Buyout Structure



Emergence of modern private debt industry – Much of today’s private debt industry traces its roots back to the GFC. As pointed out above, the groundwork had already been laid in the years leading up to the crisis through the advancement of captive funds and BDCs. Although private debt remained relatively small at the time, it was no longer unfamiliar to private equity sponsors or to institutional investors, who would become the core investor base for credit funds. While multiple factors have contributed to the growth of private debt since 2008, two primary forces stand out.

First, the banking sector has emerged from the GFC with tighter regulation and increased scrutiny. Among other things, the revised Leveraged Lending Guidance issued in 2013 articulated stricter supervisory expectations for bank-originated leveraged loans. Davydiuk, Marchuk, and Rosen (2024) provide a thorough account of the regulatory and

structural changes that drove the retreat of traditional lenders from the middle-market space.

Despite this, leveraged loan origination continued to be dominated by large banks. In the large-cap leveraged loan market, banks were able to collect significant fees – beginning with loan syndication, which generated an upfront fee of around 2%, and followed by fees from trading, renegotiations, and opportunities for cross-selling. This was not the case for middle-market firms, and as a result, the supply of bank credit to this segment was constrained.

Second, the GFC marked the beginning of an extended period of historically low interest rates across advanced economies. During the crisis, central banks around the world cut policy rates to near zero in an effort to stabilize financial markets and stimulate the economy, a move reinforced by unconventional monetary policies. In this environment, institutional investors with long-term liabilities significantly increased their target allocations to private asset classes, including private debt, which fueled many years of a fundraising boom for these asset classes.

Ivashina and Lerner (2018) examine pension funds around the world and show that, across countries and fund sizes, there has been a clear shift toward private markets. In developed economies, the allocation to private assets rose from 7% to 12% of assets under management between 2008 and 2017. In emerging markets, the increase was from less than 1% to nearly 7% over the same period. It was a structural shift in allocation policies and a global phenomenon that cannot be explained by country-level factors.

The economic rationale behind the massive inflow of capital into private space is nuanced and is beyond the scope of this paper. However, it is a fact that, between 2013 and Q2:2023, private assets grew at 14% compound annual growth rate per year. Over the same period, aggregate private debt assets expanded 25% per year, albeit starting from a much smaller base (Bain & Company, 2024).¹²

In sum, the low interest rate environment has been tied to significant capital inflows into the alternatives space, facilitating fundraising for both private equity and private debt. At the same time, banks further retreated from the high-yield middle market. This created

¹² Once the capital flow into private equity and broader private assets class has accelerated, the number of companies that needed to access public markets has started to decline. This in turn further reinforced the capital flow momentum into private equity and debt, as way to gain diversified exposure for institutional investors.

both the demand and the opportunity for the emergence of large, arm's-length private debt providers to support private equity activity.

As of 2025, the private debt market remains heavily concentrated in “direct lending,” and is primarily still serving the private equity industry. Pinning down the exact share of private debt that backs buyout activity is not straightforward. PitchBook – a widely used database for tracking BDC holdings – does flag buyout transactions, but this flag tends to refer only to the initial buyout deal. Any interim refinancing or follow-on lending within that five-year window may not be marked as buyout-related, even though the borrower remains under private equity ownership. As a result, the data may understate the full extent of private equity involvement in the private debt market.

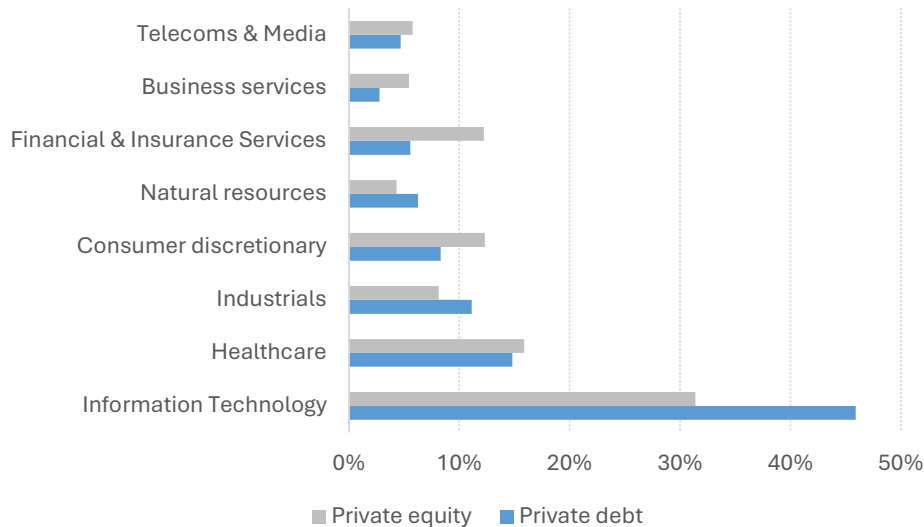
To address this, I used standard assumptions about the typical lifecycle of a private equity deal to be able to attribute loans to companies backed by private equity. My estimates suggest that approximately 60% of BDC investments – whether measured by volume or by number of loans – support private equity activity. This is likely a conservative figure. A survey by Block, Jang, Kaplan, and Schulze (2024), conducted in 2021, indicates that on average 78% of U.S. private credit funds in their sample were backing private equity activity (with a median of 85%). Conversations with investment committee members at several of the largest BDCs suggest that the actual share is closer to 85%.

The connection between private equity and private debt is also evident in the industry distribution of deals. Figure 3 shows that 46% of credit fund transactions by dollar volume were concentrated in Information Technology, with the bulk directed toward cloud computing, followed by mobile applications and artificial intelligence-related businesses. Information Technology was likewise the dominant industry focus for private equity corresponding to roughly one third of deal volume. In contrast, on an asset basis, the U.S. public market over the same period was dominated by financial and insurance services, followed by energy and utilities, and the consumer discretionary sector.

As illustrated in Figure 2, after the GFC, part of the new private debt replaced the old structure, which combined a small portion of senior secured bank debt with junior debt from a captive private debt fund. The equivalent new, post-GFC structure in the middle market consisted of a single large senior secured loan from a private debt provider.

Figure 3

Industry Distribution of US Private Debt and Private Equity Deals, 2020–2024



Note: Compiled using Preqin data.

During the inflationary period following the COVID-19 pandemic, private debt also began expanding into the traditional large-cap buyout space. Nevertheless, that market continues to be dominated by leveraged loans. Between 2020 and 2024, the median buyout loan funded by private creditors was about \$260 million, compared with \$1.2 billion for the median buyout loan in the leveraged loan market over the same period.

As private debt has gained momentum, it has also begun to replace certain private equity transactions. Some deals that previously relied on costly equity capital are now financed through private debt. For example, so-called venture debt—lending to very young firms for purposes such as client acquisition—is increasingly being provided by private debt. Relatively speaking, however, this remains a much smaller phenomenon than buyout lending.

Unique Functions of Private Debt

In today's debt market, for firms with a stable and positive EBITDA, it is not uncommon to find situations where a private equity sponsor considers alternative financing structures. For smaller firms, this is likely to involve a comparison between two alternatives depicted in Figure 2. For larger firms, the choice is more often between a

private debt provider (Figure 2b) and a leveraged loan.¹³ The following section considers some of the core features that may make private debt a more—or less—attractive financing option.

Cost of credit

In short, where other options are available, private debt has generally been somewhat more expensive. PitchBook indicates that, between 2018 and 2024, average interest rates on leveraged loans were consistently lower than private credit loans of comparable seniority and collateralization, with the difference in the range of 1.44%-2.21%. This statistic overstates the gap as it is conditional on particular debt type issuance thus not factoring in selection, or the fact that leveraged loan market can be subject to significant fluctuations. It also does not adjust for leverage and private creditors tend to tolerate slightly higher levels of debt. In addition, over time, this gap has narrowed, likely due to rising competition and ongoing consolidation within the private debt market.

Bank deposits are protected by deposit insurance and—at least for the largest banks—an implicit bailout guarantee, which enables banks to access cheap funding. Yet this cannot fully explain the differential, since even in the middle market banks have historically taken only a fraction of senior exposure in buyout transactions (Figure 2).

For larger buyouts, the funding traditionally came from the leveraged loan market. But in this segment banks primarily originate-to-distribute (syndicate) such loans. Much of the money is raised from CLOs, a type of securitized vehicle.¹⁴ This is what dictates the cost of the leveraged loans. As a result, the differences in funding costs between direct lending and “bank lending” in the large-cap high-yield space stem primarily from diversification and liquidity, rather than bank cost of funding. In the case of a direct lender, a \$200 million loan would be entering the balance sheet of a BDC or credit fund. In the case of the leveraged loan, the loan is distributed among a range of CLOs and institutional investors, with each individual creditor holding only about a \$2-\$5 million

¹³ See Ivashina, Shu, and Ferragamo (2021) and Ivashina and Mylavarapu (2025) for representative real-life examples of buyout financing decisions for a small company and a large company, respectively, including term sheets.

¹⁴ Securitization is the process of funding a *diversified* pool of *risky* claims through the issuance of *safe debt* and equity. Traditionally, such debt has been raised by issuing public bonds (for example, in mortgage securitization), though it can take other forms. CLOs are a specific example of securitization, in which a pool of leveraged loans is financed by issuing safe debt and equity.

piece. Moreover, the leveraged loan market is as liquid as the bond market. In contrast, secondary sales by private creditors are not unheard of but they are rare.

Different Approach to Information Collection

The due diligence and monitoring process in private debt is different from that of bank-originated debt. Similar to private equity, private debt involves proactive sourcing (vs. a borrower reaching out to the lender). In private equity one often hears that the average time from first contact to deal closure is about four years, this relationship management is an intrinsic part of deal origination and due diligence. A very similar multi-year dynamic takes place in modern private debt space although the relationship focus is on the private equity managers (which manages funds from which buyout investments are made), and due diligence is conducted not only on the underlying deal, but also on the private equity sponsor, their fund and the broader private equity industry.¹⁵

This costly screening and monitoring function does not appear necessary in the context of bank middle-market lending to buyouts, where banks only can hold a small, very senior exposure. Bank-originated leveraged loans, on the other hand, are primarily a function of market conditions, much like bond underwriting. Figure 4 illustrates this point. The bars represent new CLO issuance, the main institutional type investing in leveraged loans. The bold line shows the volume of newly issued leveraged loans funded by institutional money. The correlation is evident, although, the relationship is not one-to-one, as CLOs typically invest in loans over a period of time.

Figure 4 conveys two points. First, new CLO issuance is highly sensitive to market conditions—it came to a complete halt during the GFC, dropped sharply during the COVID-19 pandemic, and declined again amid rising inflation and heightened recession risk that followed. Second, there are significant fluctuations in loan issuance volume that closely mirror movements in CLO issuance. This stands in contrast to private creditors, whose on-balance-sheet funding and on-demand access to capital (for credit funds) allows for a fundamentally different approach to operations.

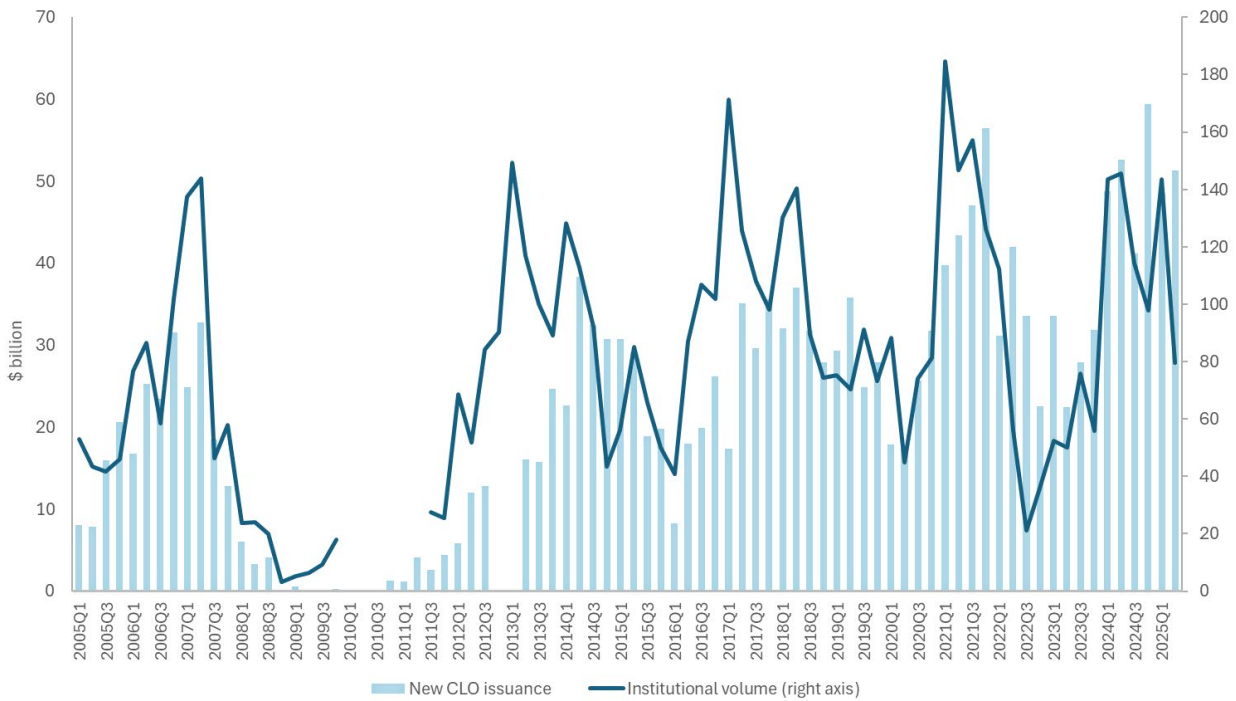
Private debt has also ventured into new territory, including recurring revenue lending (common in the tech industry) and client acquisition financing (common among start-ups)—segments not traditionally served by either banks or other debt providers. This is

¹⁵ Private debt lenders also invest in developing in-house industry expertise, though it is unlikely to match that of large banks and therefore is unlikely to serve as a substantial differentiator.

evident in Figure 3, where many of the “tech” companies receiving private debt financing are fast-growing but not yet profitable.

Figure 4

Leveraged Loan Market: CLO Issuance and Total Institutional Volume



Note: The figure shows new CLO issuance and contemporaneous total institutional leveraged loan volume which corresponds to funding of newly issued loans. The figure is compiled using PitchBook LCD data. There are some unusual jumps in the quarterly data that were omitted from the graph.

While private debt has certainly developed expertise in this area, its dominance likely stems less from superior information processing and more from the fact that—unlike banks—it is not constrained to lending only to EBITDA-positive businesses (Chernenko, Erel and Prilmeier, 2022). This flexibility allows private debt lenders to underwrite and contract on financial metrics such as recurring revenue. By contrast, the bank-originated leveraged loan market remains EBITDA-based, with a typical loan size in the range of 4.5x–5x EBITDA—a structure that is not a feasible funding option for many growing software companies.

Clear and Stable Counterparty

Unlike leveraged loans or public bonds, private debt is illiquid, on-balance sheet lending where the borrower typically interacts with a single counterparty.¹⁶ Paired with the deep pools of dry powder available to credit funds, as discussed in the previous section—at deal closure, these features of private debt can make it a preferred option. It offers the borrowers speed, certainty of terms, and confidentiality, all of which can be valuable in the highly competitive private equity context. The same factors and dynamics apply when a loan needs to be refinanced or restructured (Bolton and Scharfstein, 1996).

In contrast, leveraged loans and public bonds are widely distributed among investors and actively traded in the secondary market. Placing either instrument requires obtaining credit ratings and conducting a roadshow to market the deal to potential investors—a process that can take up to two months, even in favorable market conditions. During this time, the borrower remains exposed to market risk, as conditions may shift adversely before the transaction is completed.

Note that on-balance-sheet lending by a single or limited group of creditors is typically associated with stricter contractual terms. However, this is an endogenous outcome, as renegotiation in this setting is easier.

Structural Flexibility

Like leveraged loans, direct lending typically takes the form of senior secured debt. Structurally, however, private debt can also be equity or, more commonly, a custom hybrid of debt and equity. According to PitchBook data, as of the end of 2024, 91% of aggregate BDC holdings consisted of senior secured debt, with an additional 3% in second-lien debt. Subordinated debt accounted for about 3%, while equity represented around 1%. Importantly, in situations that call for flexibility, such as borrowers emerging from or currently in financial distress, equity features become far more prominent, often through warrants or debt-to-equity conversion. This structural flexibility, combined with a single-counterparty relationship, provides restructuring optionality that is typically unavailable in the bank-originated market due to institutional constraints and the lack of coordination among a dispersed creditor base.

¹⁶ Some loans can be very large. For simplicity, it can be thought of as involving a single counterparty. However, due to hard single-borrower limits for BDCs and implicit concentration constraints for credit funds, a single-lender solution is often not feasible or sustainable for larger or growing firms. In such cases, the loan is funded through a “club deal,” where a small group of lenders jointly puts together the financing.

Relatedly, using PitchBook data, I estimate that in 2024, 18.3% of loans in BDC portfolios on a value-weighted basis, and 11.6% of loans on an equal-weighted basis, included PIK.¹⁷ Typically, a borrower is required to make quarterly cash interest payments. The PIK feature allows the borrower to defer these payments by adding the interest to the loan's principal.

Revolving credit

There is one important area where banks continue to play a pivotal role: the issuance of revolving credit. Broadly speaking, there are two main types of commercial loans: term loans and revolving lines of credit. Term loans are drawn at origination and are terminated once they are repaid, much like a mortgage or a student loan. Revolving lines of credit, by contrast, can be drawn up to an authorized amount and repaid multiple times until maturity, similar to a credit card. Most companies maintain a revolving line of credit, which they use to manage working capital or finance acquisitions.

While a revolving line remains unused, the borrower pays only a small fixed fee to keep it open. From the creditor's perspective, this poses a challenge, since most individual lines remain undrawn for long periods but can be called at any time. Making the economics of revolving lines viable therefore requires both scale (and the diversification that comes with it) and sophisticated liquidity management. Banks—especially deposit-taking banks—have a clear advantage in issuing revolving lines, a central insight of Kashyap, Rajan, and Stein (2002).

Given that revolving credit lines are a necessity, how is this addressed in the private debt space? In some cases, firms obtain revolving lines directly from banks, in which case private debt is subordinated to the balance on the revolving line. In the context of BDCs, the BDC itself obtains a revolving line, which is then used to fund the revolving lines it issues on the asset side. However, revolvers continue to be a “loss leader” for most private creditors, and their volume remains modest.

Implications for Financial Stability

As highlighted by the surge in subprime lending prior to the GFC and, more recently, the collapse of Silicon Valley Bank in 2023, it is prudent to closely monitor the rapid growth of isolated segments of the financial market—especially when accompanied by high levels of debt and structural complexity. Unsurprisingly, the expansion of private debt

¹⁷ The 18.3% estimate is likely a lower bound, as for at least some BDCs, PIK can only be observed (in the SEC filings or in PitchBook) when it is actually used. A loan is flagged as having a PIK feature if it was utilized at any point prior to the end of 2024.

has drawn increasing scrutiny from policymakers (e.g., IMF, 2024; Avalos Doerr and Pinter, 2025, Bank of England, 2025) and has already generated a wave of alarming headlines. In what follows, I explore key themes and concerns that have emerged around the potential systemic risks associated with the growth of private debt.

A relevant point of context for assessing potential risks and vulnerabilities is that today's private debt market is highly competitive and dominated by a small number of very large players. Most of these are alternative asset conglomerates—such as the “big four”: Blackstone, Apollo, KKR, and Carlyle—that operate across a wide range of investment strategies beyond private debt. Private credit funds represent just one segment of the many funds they manage, and BDCs are merely one of several structures within their broader credit platforms. This fact is relevant when considering broader incentives (such as broader reputational consequences of risk taking), as well as institutional resources, sophistication, and access to capital. On the other hand, it also introduces unavoidable complexity. Moreover, these institutions are publicly traded and inherently incentivized to grow.

To be upfront, while my perspective is nuanced, I view private debt overall as a positive development—and one that is here to stay. At the same time, private debt continues to evolve and expand into new segments of the economy. As such, policy, industry, and academic debate will be essential to understanding its potential macroeconomic risks. Even when focusing only on lending that backs buyouts (“direct lending”), several trends warrant careful attention. A concerning issue is that much of this evolution occurs with limited data or visibility into the broader phenomenon, since only a fraction of private debt vehicles provides detailed and regular public filings.

Evaluating Potential Structural Vulnerabilities of Private Creditors

Much like banks, private lenders rely on proprietary screening and monitoring technology. As a result, it is time-consuming and costly otherwise for the borrower to switch lenders (Rajan, 1992) or, relatedly, for the lenders to sell their portfolio without incurring a substantial discount. In that sense, there is lender-dependence for many borrowers in the middle market; larger firms tend to be an exception. If a lender becomes constrained, it is a shock that could spillover to the borrowers, and the broader economy.

Neither BDCs nor credit funds are runnable, as they generally fund themselves with equity and long-term debt. However, leverage and reliance on market funding are two potential constraints that warrant careful attention when evaluating the structural vulnerabilities of private creditors.

Use of leverage – The vast literature on banking shocks and their spillovers points to capital constraints as a central mechanism in the propagation of financial stress. As discussed, private debt structures rely on leverage; however, the binding levels of leverage and capitalization are critical to understanding the potential economic impact. Private debt lenders operate with significantly more conservative leverage limits and capitalization standards than banks—for example, BDCs are typically subject to a 2:1 debt-to-equity limit, compared to approximately 10:1 for banks. As a result, even relatively small shocks to a bank's asset values can cause capital constraints to become binding, prompting banks to contract lending in order to meet regulatory requirements. In contrast, due to their lower leverage, BDCs are far less sensitive to such shocks.

Naturally, capitalization should have a risk-based assessment: loans on the balance sheets of private credit providers are much riskier than those held by banks, and, therefore, warrant higher capital levels. Chernenko, Ialenti, and Scharfstein (2025) provide a comprehensive analysis of this point. Using the bank regulatory framework to assess BDC capitalization, they find that as of 2023, the median risk-based capital ratio for BDCs was approximately 36%, compared to 10% for banks. They also find BDCs to be resilient to bank stress testing framework. So, however one looks at it, based on existing standards, the current capitalization of private credit lenders exceeds regulatory benchmarks by a significant margin. To critique this view, one would have to assume that the high-yield loans in private credit portfolios carry substantially more risk than traditional high-yield debt commonly does.

One additional point to highlight is that, traditionally, banks have been reluctant to raise equity to recapitalize following negative shocks to their assets. This could be due to incentives of incumbent equity holders to gamble for resurrection or government bailout. Alternative conglomerates are rich in unused capital and leverage capacity against this unused capital at the firm (vs. fund or BDC subsidiary) level.¹⁸ This access to capital makes it plausible that alternative conglomerates would inject new capital if necessary, rather than enter into portfolio unwinding mode as banks typically do.

Reliance on market funding – Unlike banks which rely on deposits, private debt depends on market funding. Specifically, BDCs depend on demand for bonds backed by a pool of

¹⁸ Capital commitments in private equity, private debt, and other types of alternative funds are typically raised—and tend to grow—during benign economic cycles. As a result, an adverse macroeconomic shock often finds alternative funds with substantial "dry powder" capital ready to deploy.

risky loans. This is similar to pressures faced by the CLOs – the key type of institutional investors in the leveraged loan market. (See Figure 4.)

The key point from a financial stability perspective is that, unlike BDCs, private credit equity capital is locked in over long horizons and is illiquid. As a result, credit fund structures are less sensitive to market fluctuations. Indeed, all major private debt managers employ a range of alternative funding structures, which—at least anecdotally—they view as complementary tools to diversify funding sources.

Exposures of Banks to Private Creditors

Roughly 20% of BDC funding comes from bank-provided revolving credit lines. This is an important observation, and several studies—including Berrospide, Cai, Lewis-Hayre, and Zikes (2025); Fillat, Landoni, Levin, and Wang (2025); and Haque, Jang, and Wang (2025)—have examined this connection, noting that many large U.S. banks are active in this space. A natural concern is whether this indirect exposure of the banking sector could serve as a channel through which potential problems in private creditor portfolios might spill over into the banking system.

Before getting to the banks' exposure specifically, we should lay out how risk could generally build up in a private creditor portfolio. The first is deterioration of due diligence standards, often something like that is a result of operational failure which is very hard to spot ex ante. Two more subtle mechanisms through which risk could escalate for investors in private credit warrant closer attention. Both have precedents in the history of the high-yield market. The first is the deterioration of credit standards; the second is the use of contingent credit.

A concerning scenario in the first case is one where competitive pressures or the drive for rapid growth push private creditors to loosen underwriting standards to such an extent that, if losses materialize, they are absorbed by senior creditors rather than by the equity tranche. As a rule, creditor governance is contractual, which means that creditors cannot initiate restructurings in absence of contractual violations. This is why loan agreements are expected to define and protect collateral, ensure creditors seniority in the capital structure, and put in place a system of reliable early warnings, through financial covenants, that prompt creditors to act. The history of the leverage loan market provides an informative example.

In 2009, approximately 30% of leveraged loans included quarterly compliance requirements for leverage and interest coverage limits. By 2015, over 90% of these loans had eliminated the interest coverage test, and the leverage test shifted from periodic to

conditional verification. At the same time, leverage limits were relaxed to accommodate higher indebtedness and were further weakened in various ways—including changes to the definitions of financial variables used for covenant testing and the introduction of broad exemptions (Ivashina and Vallée, 2025). Under these conditions, leveraged creditors faced the COVID-19 shock and its aftermath, which led to a wave of restructurings in which senior creditors absorbed significant risk. For instance, in 2024, the default rate in the leveraged loan market stood at 1.45%—well below its historical average—but an additional 3.25 percentage points of companies underwent distress-driven restructurings.¹⁹

It is somewhat early to say whether similar dynamics could emerge in the private credit market. Competitive pressure is certainly present and has, in part, driven the rapid consolidation of the industry. Moreover, fundraising booms create pressure to deploy capital—a dynamic that warrants particular attention as fundraising from semi-liquid, retail-oriented vehicles has increased in recent years. On the positive side, the private credit market remains largely bilateral, illiquid, and held on lenders’ balance sheets—unlike the broadly syndicated loan market, which functions more like an auction involving a wide range of smaller, dispersed creditors. Regardless, contractual data is very scarce.

Separately from covenant protection, private debt is expected to provide flexibility, and one such flexible feature is inclusion of PIK.²⁰ Borrowers are more likely to utilize PIK when they are struggling to meet cash obligations, thereby shifting the risk to the lender. Normally, leverage and interest coverage covenants would help to constrain use of PIK. (So, a potential erosion of covenants protection would enable more aggressive use of PIK.) The issue with PIK instruments was first raised by Kaplan and Stein (1993), who examined the wave of leveraged buyouts during the 1980s. At that time, high-yield bonds were the primary form of risky debt financing, with approximately 60% of bonds backing buyouts including a PIK feature at the end of the decade. Lacking meaningful covenant

¹⁹ See “Leveraged loan default stats show rift in restructuring landscape,” by Rachelle Kakouris, PitchBook News & Analysis, January 30, 2025.

²⁰ When PIK is exercised, the interest rate on a private credit loan usually increases by about 2 percentage points. For example, suppose that in the last quarter of 2024 a borrower owes \$2 million in quarterly interest on an 8% loan with \$100 million in principal and no amortization. If the borrower instead elects to use PIK, there is no cash outlay, but the principal rises to \$102 million and the interest rate increases to 10%. The following quarter, the interest payment would then be \$2.55 million. If the borrower continues to use PIK throughout 2025, the principal would grow to \$112.2 million by year-end.

protection, high-yield bonds became exposed to “gambling for resurrection” behavior of buyout equity investors.

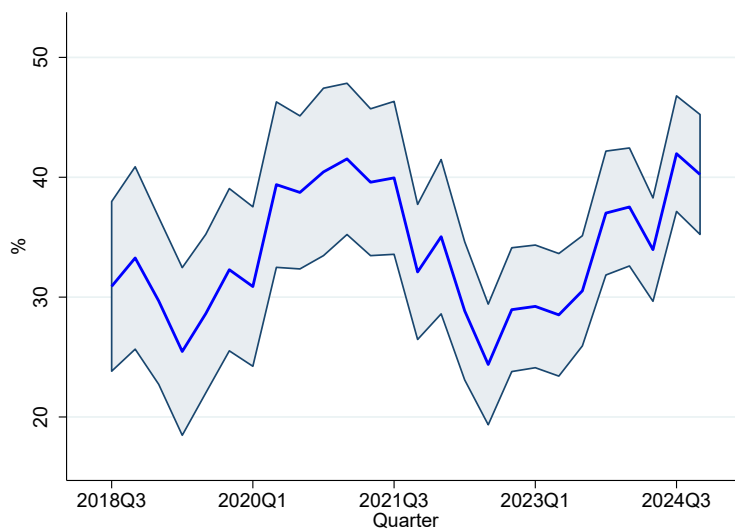
For private debt, catching use of PIK even for BDCs, where we have detailed portfolio data, is not straightforward. To keep it simple, I look at whether loans with PIK increase their principal. There is very minor amortization on the private credit loans, so, normally, loan principal should be decreasing; an increase in principal therefore seems like a reasonable flag for loans that are struggling to make payment in cash.

Using this proxy, Figure 5 shows that the share of loans exercising PIK provisions increased from roughly 30% in 2019 to around 40% during the pandemic. This trend is consistent with the view that PIK structures can act as a channel through which macroeconomic shocks transmit to the balance sheets of private creditors.

It is also worth noting that, after declining to its pre-crisis level, PIK use has recently been on the rise, returning to pandemic-era levels in the second half of 2024. This may signal a deterioration in the credit quality of the underlying portfolio. However, Figure 5 does not capture the severity of reliance on PIK structures. It may also overstate PIK usage, since principal balances can increase due to loan upsizing rather than financial distress.

Figure 5

Fraction of Pay-in-Kind (PIK) Loans Exercising the PIK Option



Note: The figure shows the fraction of loans with a PIK option that experienced an increase in principal in a given quarter. An increase in principal serves as a proxy for borrower use of the PIK option. The bold line represents the average across BDCs in the PitchBook BDC data, and the shaded brackets indicate 95% confidence intervals.

To assess the magnitude of this issue, Figure 6 examines the PIK income of the nine largest BDCs. The solid line represents PIK income as a percentage of total investment income. (The growth in dollar terms is expected, given the expansion of the overall private debt market.) PIK income has indeed been rising recently, increasing from 5.4% at the beginning of 2023 to 6.7% by the end of 2024. However, this remains well below the peak of 8.7% reached in Q3:2020, moreover the last three quarters have shown a consistent decline in the ratio.

This observation aligns with covenant defaults in the private debt space. According to Lincoln International, covenant default volume peaked in Q3 2023, with 4.5% of loan volume in technical default. After declining to 2.2% a year later, violations have begun rising again, reaching 3.4% as of Q2 2025.

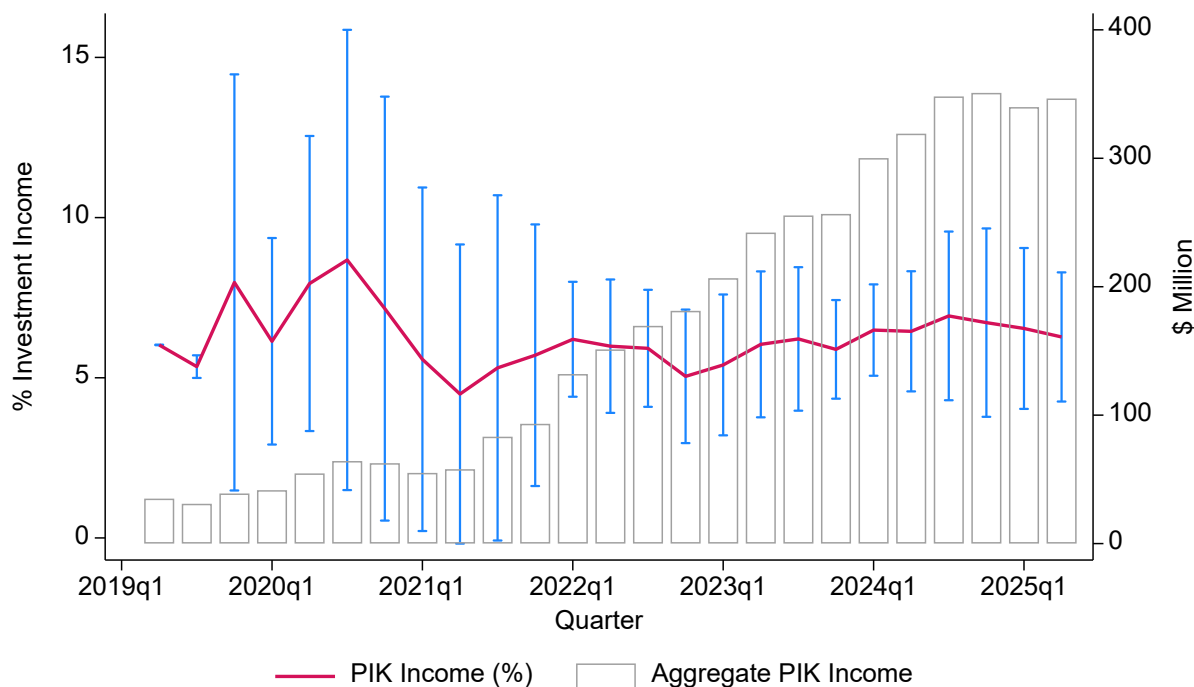
With these facts as a background, deterioration of private creditors' underwriting or credit standards would lead to overall loss in the credit portfolio. Based on Figures 5 and 6, some of it might be happening already, although the magnitudes remain modest. If and when a private creditor was to incur significant losses, it is important to keep in mind that banks typically provide senior secured debt to well-capitalized structures. As a result, to the extent that creditors are affected, it is highly unlikely that bank lenders would face impairment.

One important consideration is that private creditors are more likely to draw on their revolving credit lines as borrowers begin exercising PIK provisions. Studies looking into the bank revolving lined to credit funds report that approximately half of these revolving lines are currently being utilized. This implies that banks' exposure could potentially double just as the credit quality of the underlying portfolio begins to deteriorate.

To fully assess this risk, however, it is important to consider the financial covenants that govern the use of revolving credit lines. Given that these facilities are funded from bank balance sheets, history suggests that banks are likely imposing tight covenant structures. More broadly, the rising use of revolving credit is certainly something to monitor—though it poses a greater concern for private creditors than for banks. Bank covenants can become binding early on, and without the option to refinance, this may create liquidity pressures for private creditors.

Figure 6

Pay-in-Kind (PIK) Income for Largest BDCs



Note: The sample includes nine of the ten largest BDCs as of Q4:2024. Data are drawn directly from SEC quarterly and annual filings, using periods where disaggregated reporting of investment income is available. Because such reporting is not always consistent—and because some BDCs entered the sample later—the panel is unbalanced. The last two years consistently cover nine BDCs. The dataset initially covered the top ten BDCs, but one was dropped due to reporting gaps. Reported averages correspond to equal-weighted means across BDCs, and brackets denote 95% confidence intervals.

Is There Hidden Leverage?

Another concern raised in policy discussions—which I want to acknowledge and briefly address—is whether the expansion of private credit is leading to a CDO-squared-like accumulation of complexity and leverage.²¹ The specific concern is often not clearly articulated, but it suggests that, through a complex set of transactions, the same underlying cash flow stream supports a higher burden of leverage. Consequently, a negative shock to that cash flow could destabilize all of the related structures.

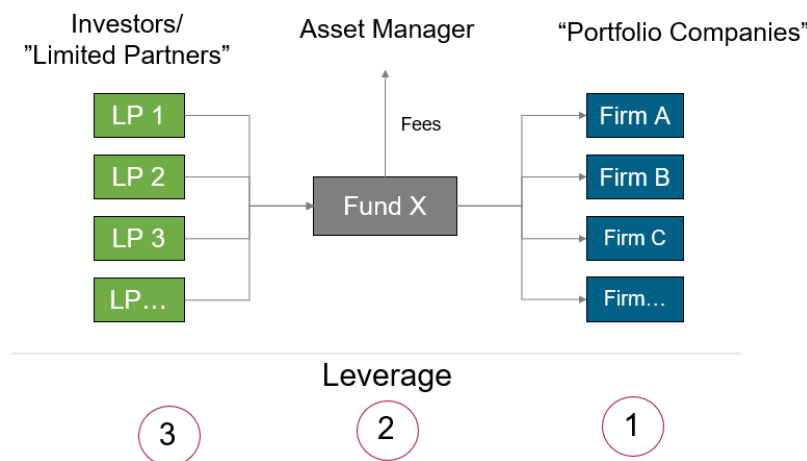
²¹ CDO-squared a complex financial product which came to represent the excess of financial innovations preceding the GFC. In a CDO-squared, the collateral for one CDO was comprised of tranches from other CDOs.

There is a buyout transaction, there is a fund that invests in buyouts, and there is a firm (e.g., Blackstone) that manages the fund. Historically, only the companies targeted in buyouts were leveraged. Today, each one of these can be levered, and that is what could seem alarming. With the acknowledgement that all significant leverage should be handled with care, let's reframe this phenomenon.

Figure 7 illustrates the structure of a typical private equity or private credit fund. The objective is to make investments – debt investments in the case of private debt and equity investments in the case of private equity. This is carried out through a fund owned by investors, also known as “limited partners.” The fund is managed by an intermediary, the alternative asset manager, which charges fixed, upfront management fees; these fees are essentially risk-free once the fund is closed. The numbers below represent the three main points of leverage. Node 1 is the traditional leverage taken on by a portfolio company in a leveraged buyout, issued against expected cash flows and secured by collateral.

Figure 7

Representative Private Equity Fund Structure



Fees to the manager represent a separate and largely independent stream of cash flows from the fund’s investment returns. Both the underlying buyout and the firm managing the fund can have their own capital structures – in other words, both can be levered.²² Importantly, it is generally the most established firms – those managing multiple funds

²² While this is a simplified representation, it conveys the essential intuition.

across various strategies – that are able to leverage their franchise value, including the future stream of management fees (node 2).

This brings us to leverage at the fund level (node 3). This form of leverage is effectively taken on by limited partners and is backed by a portfolio of loans (or equity investments). Whether it is a good or bad idea for a pension fund (the representative limited partner) to leverage its portfolio of investments is an important question, but one that lies beyond the scope of this paper.²³

Complementarity High-Yield Corporate Sectors

One final thought to close with as we reflect about potential macroeconomic spillover is that the existence of three distinct but complementary high-yield corporate markets also introduces a stabilizing element. Even before the private credit market reached significant scale, the interplay between the leveraged loan and high-yield bond markets provided meaningful flexibility. For example, during the 2009–2010 period – when CLO issuance remained effectively shut down (Figure 4) – PitchBook LCD data shows that \$179 billion in loans were refinanced through high-yield bond issuance.

Bond are inaccessible for smaller companies. Moreover, as rates started to raise after the pandemic, companies looked for flexibility and visibility into a potential restructuring process, should it become necessary. It is in this context that private debt become a more attractive option.

Table 1

Cross-Market Refinancing Flows: Leveraged Loans and Private Credit

(\$ billion)	2023	2024	H1:2025
Level loan refinancing private credit loan	1.99	28.86	16.11
Private credit refinancing leveraged loan	22.37	30.83	12.18
Net private credit	20.38	1.97	-3.93
New CLO issuance	115.81	201.94	99.86
Total institutional capital	98.83	211.40	93.72

Table 1 summarizes the total volume of loans refinanced in the leveraged loan market using private credit, and vice versa. The difference between total institutional capital and CLO issuance reflects inflows into loan mutual funds. In 2023, both the CLO market was

²³ If we are to draw a parallel to securitization – which, basically what this is – this structure resembles a CDO or CLO, but definitely not CDO-squared.

depressed and loan mutual funds experienced outflows. In this context, \$22.4 billion in loans were refinanced by taking on new loans from private credit providers to repay existing leveraged loans. By 2024, the situation began to shift as the leveraged loan market recovered, with the balance slightly reversing back toward the leveraged loan market in the first half of the year.

While switching lenders likely remains prohibitively costly for smaller companies, the coexistence of multiple sources of high-yield capital offers larger borrowers valuable funding diversification, which can be beneficial not only for the companies themselves but ultimately for the broader economy.

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