The Funding Fragility of Direct Lenders*

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Abstract

Private credit funds intermediate illiquid, long-horizon loans with bank-dependent and increasingly encumbered liabilities, without deposit-insurance or lender-of-last-resort backstops. We construct the first facility-level panel of the complete liability structure of U.S. Business Development Companies (BDCs), covering 195 BDCs and more than 2,900 funding facilities over 2017–2025, with $267 billion outstanding as of 2025, and ask whether their funding structure is itself a source of fragility. We document a three-tier funding hierarchy: secured bank credit lines, CLO issuances, and unsecured notes. Public BDCs substitute toward unsecured notes (a within-firm shift identified off BDCs that go public mid-sample), whereas 72% of private-BDC debt is bank-originated and the median private BDC has no unsecured market access. Private BDCs bear bank-dependent rollover risk concentrated in small and mid-sized funds, intensifying as portfolio credit quality deteriorates. Public BDCs face a growing unsecured maturity wall ($2.4 billion in 2023 to $18.1 billion in 2026) whose near-term exposure predicts larger stock-price declines during credit stress, but only since 2023, when the wall became material and the Fed Funds rate was elevated. Neither undrawn credit lines nor cash attenuate this repricing: investors appear to recognize that bank backstops cannot resolve a borrowing-base–constrained rollover problem.

JEL Classification: G21, G23, G28

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1 Introduction

Private credit has grown to an estimated USD 1.5 to 2 trillion globally. The funds at its center finance illiquid, long-horizon loans with short, bank-dependent, and increasingly encumbered liabilities—maturity transformation without deposit insurance or a lender of last resort. We ask whether that funding structure is itself a source of fragility, using a novel facility-level panel of the complete liability decomposition of 195 U.S. Business Development Companies (BDCs) from 2017 to 2025, covering USD 267 billion in outstanding (and USD 353 billion in committed) debt. BDCs are the only segment of the private credit market that files audited financial statements with the SEC, making them the natural laboratory for this question. A growing literature examines BDC funding: aggregate composition (e.g., Chernenko et al., 2026; Ivashina, 2025), bank credit supply (e.g., Acharya et al., 2026; Haque et al., 2025; Berg and Lee, 2026), and stress resilience (e.g., Chernenko and Scharfstein, 2025). None assesses the joint structure of the liability side, and the fragility it creates, at the facility level over time.

Public and private BDCs are fragile through different channels. Private BDCs face bank-dependent fragility: banks can simply decline to renew short-term credit at expiry. Public BDCs face a growing unsecured maturity wall, and for them this refinancing exposure is priced. Near-term maturity risk, invisible in the leverage ratios and stress-test loss rates on which BDCs are judged well-capitalized, predicts larger stock-price declines during credit stress, but only since 2023, when the maturity wall became material and short-term interest rates were elevated. Undrawn credit lines and cash do not attenuate this repricing: bank backstops cannot resolve a borrowing-base–constrained rollover problem, and investors appear to know it.

BDC liabilities are organized in a three-tier hierarchy (see Figure 1): secured bank funding (corporate revolvers and special purpose vehicle (SPV) facilities provided by individual bank counterparties), securitized funding (CLO issuance that transforms illiquid direct-lending positions into rated capital-markets instruments), and unsecured notes. Each tier carries different counterparties, different collateral arrangements, and different maturity structures—and therefore different risk-transmission channels. We identify around 2,900 different facilities across these debt types over the 2017 to 2025 period. SPV facilities alone, which are revolving credit lines from banks to bankruptcy-remote subsidiaries secured against pledged loan portfolios, account for about 40% of total BDC debt for the largest funds. These facilities encumber portfolio assets under borrowing-base mechanisms, creating structural subordination of unsecured creditors that is not visible in simple leverage ratios.[1] The rapid growth of private credit CLO issuance, which reached

[1] A borrowing base is a contractual ceiling on the amount a BDC may draw under a secured credit facility, typically defined as a percentage (the advance rate) of the fair value of eligible collateral pledged to the lender. Advance rates for performing first-lien middle-market loans are typically 60–65% of fair value (e.g., Chernenko et al., 2026).

USD 155 billion outstanding by October 2025 (Financial Stability Board, 2026), adds a further layer: BDCs securitize their own loan portfolios into rated tranches sold to insurance companies, pension funds, and banks, creating a direct transmission channel from private credit to public capital markets.

The Financial Stability Board's May 2026 report on vulnerabilities in private credit identifies bank–private credit interlinkages and valuation opacity as key concerns, but notes that significant data gaps make monitoring difficult.[2] We provide complementary micro-level evidence: our data show that the ten largest bank counterparties have committed over USD 150 billion in credit lines to BDCs, with substantial concentration—a single bank can have exposure to eight or more BDCs simultaneously through both corporate revolvers and SPV facilities.[3] When a BDC repays its corporate revolver and draws on SPV facilities instead, total banking-system exposure does not decline; it migrates from an unsecured to a secured claim, while simultaneously encumbering portfolio assets that would otherwise be available to absorb losses.

The 2025–2026 redemption episode at private BDCs makes these risks concrete. Faced with investor outflows, the largest funds did not sell assets. Instead, they layered on secured and unsecured leverage: SPV bank lines, CLO issuance, and unsecured bonds. Total debt grew by about 20 percent during a period of significant redemptions. Corporate credit lines, nominally the emergency liquidity backstop, were held at low utilization while term funding was extended through other channels. Bank commitments rose as lenders extended new revolvers and SPV credit lines. That liability management strategy resolved the immediate pressure, but at the cost of higher leverage, greater asset encumbrance, and deeper interconnectedness with bank and capital-market counterparties.[4] Fang et al. (2026) document the equity side of this episode. Semi-liquid BDCs met redemptions by selling illiquid loans, drawing bank credit lines, and deferring payments through repurchases payable, generating run-like dynamics among investors despite quarterly repurchase caps. We characterize the creditor side of the same balance sheet: the secured bank facilities these funds draw upon are short-dated and renewal-contingent, so that redemption pressure is transmitted into precisely the rollover and counterparty-concentration risks our facility-level panel quantifies.

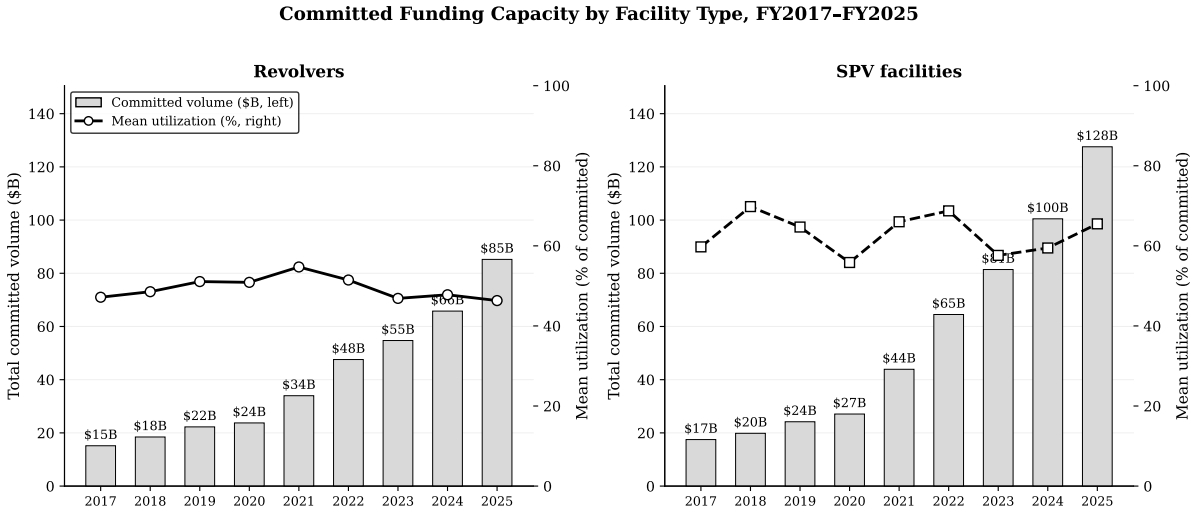
We start our analysis by examining what drives the composition of BDC funding. Larger BDCs have greater access to capital markets: they rely less on revolving bank credit and are more likely to issue CLOs. Public BDCs substitute away from bank-intermediated funding toward unsecured notes in a way that goes well beyond what

[2]See also Cera et al. (2026) for an ECB/ESRB three-stage stress scenario for private credit, which flags bank funding channels as the primary risk-transmission mechanism.

[3]Indeed, Berg and Lee (2026) show that supervisory data (Y-14) systematically undercounts BDC borrowings because each BDC borrows through multiple SPVs with distinct legal names that are not linked to the parent entity in regulatory filings—our facility-level 10-K data resolves precisely this identification challenge.

[4]See, for example, Steffen (2026), "The Banks Are Fine. That's the Problem."

Panel A: Bank-Intermediated Funding — Committed Volume and Utilization



Panel B: Capital-Markets Funding — Outstanding Volume

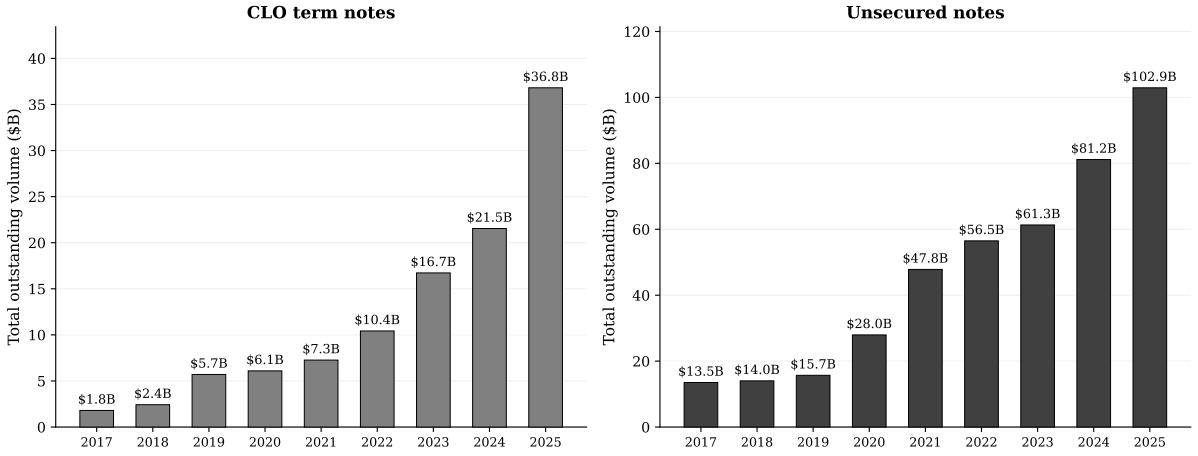


Figure 1: BDC funding market growth (2017–2025)

Notes: This figure shows the growth of BDC funding across all four funding types. Panel A shows total committed volume ($B, bars) and mean utilization (%, line) for revolving credit facilities (left) and SPV warehouse facilities (right). Panel B shows total outstanding volume ($B) for CLO notes (left) and unsecured notes (right). The number of BDCs in the sample grows from 70 in 2017 to 156 in 2025, reflecting both new BDC formation and improved data coverage.

their size would predict, reflecting the credibility and transparency that exchange listing provides to bond investors. 60% of private-BDC debt is bank-originated, through either corporate credit lines or SPV facilities, and the median private BDC has zero access to CLO or unsecured bond markets, except among the largest funds. BDCs with higher non-accrual shares rely more on drawn bank credit lines but less on SPV or CLO funding, consistent with the monitoring advantage of relationship banks (Diamond, 1991; Rajan, 1992) and with borrowing-base constraints tightening as collateral quality declines.

The listing–funding relationship could reflect selection: BDCs that go public may differ on unobservables that also drive their funding mix. We address this by exploiting listing transitions within our panel. BDCs that go public during the sample period switch their listing status mid-sample, so with BDC and year fixed effects the listing effect is identified *within BDC*, off these IPOs, rather than from cross-sectional comparisons between public and private funds. Listing raises a BDC's unsecured share by about 17 percentage points and reduces its reliance on bank SPV warehouse facilities by about 14, while leaving revolver and CLO shares unchanged. An event-study design shows no differential pre-trends and a substitution that emerges only after a fund lists; the result survives a dollar-level specification (ruling out a share-denominator artifact) and a staggered difference-in-differences estimator using never-listed BDCs as the control group.

Exchange listing *confers* access to the unsecured bond market, through the reputation, disclosure, and price discovery a public listing entails. This is central to our fragility argument: the funding-structure divide between public and private BDCs is not a fixed type difference but a margin that moves when a fund's access to public capital markets changes, leaving the majority of BDCs, those that never list, largely dependent on bank-intermediated, collateralized funding.

We then construct two measures of funding concentration (across funding types and across individual facilities) and find that larger BDCs diversify across both. Public BDCs also appear more diversified, but we show below that this reflects their size rather than their listing status. BDCs experiencing credit deterioration become more concentrated and maintain fewer active funding relationships, consistent with growing dependence on fewer bank relationship lenders. Five banks control 87% of all revolver commitments, and this concentration has not declined despite nine years of market growth.

Funding composition and concentration have different origins, a distinction we establish by asking whether each persists among the largest BDCs, where size variation is compressed. Funding composition is governed by listing status, not size: within both the top quartile and the top decile of BDCs by total assets, public BDCs hold a 20-to-25-percentage-point larger unsecured share, and a correspondingly lower bank-dependence share, while the size effect becomes statistically indistinguishable from zero. The public–private funding split is a structural feature of exchange listing, not scale. Funding concentration is the reverse: the apparent diversification advantage of public BDCs disappears

once we condition on the largest funds, and on a per-dollar basis, public BDCs in fact maintain fewer bank relationships, having substituted bank credit for capital-markets access. Diversification is a feature of size, and public BDCs appear diversified largely because they are large.

We next examine the maturity structure of BDC funding. Relative to bank revolvers, every alternative funding type lengthens the maturity profile—CLO securitizations most, reflecting their structurally long maturity tranches, and unsecured notes by staggering repayments across vintages. BDCs with higher non-accrual shares face more near-term maturities and shorter weighted-average maturity, consistent with banks shortening terms as collateral quality deteriorates. Weighted by outstanding debt, the rollover and maturity-extension advantage of listed BDCs is statistically indistinguishable from that of large private funds, which have converged to listed peers, though listed BDCs maintain more diversified maturity profiles.

Conditional on funding composition, size does not determine when debt comes due; the public–private rollover differential persists among mid-sized BDCs, vanishing among the smallest funds, which lack the scale to exploit a listing, and the largest, which already have broad market access regardless of listing. Unsecured capital-market access is effectively binary for private BDCs: present across the listed size distribution but absent for all but the largest non-traded funds, which instead raise much of their debt through SPV facilities. Bank-dependent rollover exposure therefore concentrates in small and mid-sized private funds that rely on revolvers and SPV lines and have no capital-markets alternative; listed BDCs carry comparable near-term exposure, but theirs runs through unsecured notes rather than bank facilities—the two rollover channels we trace separately below.

Beyond funding composition, a BDC's funding concentration independently shapes its maturity profile. We construct a Herfindahl-Hirschman index for funding maturities that captures the bunching of repayment obligations across annual buckets. Funding concentration (measured at both the type and facility level) strongly predicts whether maturities cluster, but not whether that cluster falls within the next 12 months (Rollover $\leq$12m regressions achieve R^2 of only 0.11). Unsecured notes reduce maturity bunching, as BDCs stagger note issuances across maturities. The number of facilities helps private BDCs extend their maturity profile but provides no additional benefit for public BDCs, whose credit lines already carry longer maturities. For regulators, HHI-based monitoring metrics would detect maturity walls but miss BDCs with near-term exposure driven by timing rather than concentration.

We test whether equity markets price these liability-side vulnerabilities using daily stock returns for publicly listed BDCs. Near-term unsecured maturity exposure does not predict average BDC returns, but BDCs with more near-term maturities experience significantly larger stock price declines during credit stress. The Stress $\times$ RolloverRisk

interaction is insignificant before 2023 and strongly significant afterward, coinciding with the emergence of a material unsecured maturity wall. Neither undrawn bank credit lines nor cash holdings attenuate this repricing, consistent with investors recognizing that bank liquidity backstops cannot resolve a rollover risk problem governed by borrowing-base constraints.

Related literature. Our paper contributes most directly to three concurrent studies of BDC balance sheets. Chernenko et al. (2026) document the cross-sectional composition of BDC debt (67% bank credit lines, 25% unsecured notes) and show that BDCs are well-capitalized under bank regulatory frameworks.[5] We extend this along four dimensions: a nine-year panel (917 BDC-year observations), a four-type funding decomposition (revolvers, SPV facilities, CLOs, unsecured notes), committed versus outstanding amounts, and facility-level maturity profiles. Consistent with their finding that bank facility spreads are similar across BDC types (∼225 bps) we show that banks discipline private BDCs through short-term maturity, not higher credit line pricing.

Chernenko and Scharfstein (2025) stress-test BDC solvency under GFC-level scenarios and conclude that no BDC defaults on bank debt, conditional on forbearance. Their model treats the liability side as given, assuming banks continue to provide credit during stress. Our maturity data show that 10.9% of private BDC credit line commitments mature within 12 months compared to just 0.5% for public BDCs. Banks need not call the loan; they simply decline to renew it at expiry. Ivashina (2025) provides a comprehensive descriptive account of private credit funding, documenting aggregate BDC capital structure as approximately 50% equity, 30% bonds, and 20% bank lines. Our facility-level panel reveals that these aggregates mask extreme heterogeneity: the median private BDC has zero unsecured market access, and the smallest BDCs are predominantly single-source funded. We show that this concentration is driven by size rather than listing status.

Several papers study why direct lending grew—through bank regulatory pressure (e.g., Loumioti, 2022; Davydiuk et al., 2024; Doerr et al., 2026), bank capital arbitrage (Chernenko et al., 2026), or the pull of PE-affiliated platforms (e.g., Robinson and Wallskog, 2025; Block et al., 2024). On the asset side, the literature documents BDC lending terms, monitoring intensity, and valuation practices (e.g., Jang, 2022; Davydiuk et al., 2023, 2025; Curtis and Raney, 2021). Hinzen et al. (2026) show that BDCs behave countercyclically, taking market share of leveraged loan market when this market tightens. Rintamäki and Steffen (2026) show that payment-in-kind activation in BDC portfolios predicts subsequent credit deterioration and triggers bank funding discipline—a channel that operates through the liability-side mechanisms we document here.

[5] Fillat et al. (2025) similarly document that most bank lending to BDCs takes the form of revolving credit lines with approximately 30% of commitments undrawn as of 2023Q4, consistent with our finding that banks' primary role is liquidity provision rather than term funding.

On financial stability, Matvos et al. (2026) argue that non-BDC private credit funds are structurally safe due to high equity buffers and long fund lives, while Jang and Rosen (2025) identify BDC funding chains as the most plausible transmission channel. Rotermund (2025) shows that private BDCs can sustain lending during COVID due to their limited parternship structure. Finally, Fang et al. (2026) show that semi-liquid (non-traded) BDCs are subject to run-like redemptions, providing a demand driven argument for capital structure adjustments of BDCs. We document supply-side driven rollover fragility due to short maturity of unsecured investors.

Bank–nonbank interlinkages have been studied from both directions. Berrospide et al. (2025) use FR Y-14Q supervisory data to document that bank committed credit to private credit vehicles grew from USD 8 billion in 2013 to USD 95 billion by end-2024, with 60% concentrated among five G-SIBs; Haque et al. (2026) show that private debt complements bank credit lines at the borrower level, implying that banks face exposure from two directions, as lenders to BDCs and as credit line providers to BDC borrowers; and Acharya et al. (2025) demonstrate that greater nonbank dependence leads banks to restrict credit line access, establishing a fragility channel that operates at both the borrower and intermediary level. Fleckenstein et al. (2026) document that nonbank credit supply is roughly three times as cyclical as bank lending, a pattern they attribute to the absence of government backstops. Li et al. (2026) show that bank lending to nonbank financial institutions crowds out lending to non-financial firms, but that the growth is driven primarily by reverse repos to securities-investing intermediaries rather than credit to funds that lend to firms. We contribute to this literature by showing that BDC funding *structure* is itself a source of fragility, independent of its level: maturity concentration, counterparty concentration, and the absence of alternative funding sources for the majority of BDCs create refinancing risk that is invisible in leverage ratios and stress-test loss rates but priced by equity markets during credit stress.

2 Data

2.1 Institutional Background

Business Development Companies (BDCs) are closed-end investment companies regulated under the Investment Company Act of 1940, as amended by the Small Business Incentive Act of 1980, and are the primary SEC-regulated vehicle for direct lending to middle-market firms in the United States. Unlike traditional bank lenders, BDCs originate and hold private credit assets (predominantly first-lien senior secured loans) that are illiquid and difficult to value, and may also elect to be treated as regulated investment companies (RICs) under Subchapter M of the Internal Revenue Code. This election exempts them from corporate-level taxation, but at a cost: BDCs must distribute at least 90% of taxable

income to shareholders, which constrains internal capital accumulation and makes them structurally reliant on external funding to sustain portfolio growth.

This external funding dependence operates within a strict statutory leverage constraint. Under Section 18 of the Investment Company Act, BDCs must maintain an asset coverage ratio (defined as total assets divided by total borrowings) of at least 150%, corresponding to a maximum debt-to-equity ratio of approximately 2.0x.[6] This constraint is mark-to-market: a decline in net asset value (NAV) mechanically reduces available debt capacity and may force deleveraging precisely when market conditions are most adverse (Chernenko and Scharfstein, 2025).

Within this regulatory framework, BDCs may be publicly listed on a stock exchange (NYSE, Nasdaq) or operate as private (non-traded) vehicles. While both types are required to file periodic reports with the SEC (10-K, 10-Q), publicly listed BDCs face an additional layer of market discipline through real-time share price discovery—a distinction that, as we document, shapes their funding structure. As of 2025, our sample contains 52 publicly listed and 124 private BDCs.

The private (non-traded) segment is itself heterogeneous along a dimension that is central to our analysis of rollover risk: the fund's intended life. We distinguish two structures. Perpetual-life BDCs are continuously offered, evergreen vehicles that sell shares at periodic net asset value and provide liquidity through a share-repurchase program, with no scheduled termination; this is the structure of the large wealth-channel non-traded BDCs that have grown rapidly since 2020 (e.g., Blackstone's BCRED, Blue Owl Credit Income, Apollo's ADS). Non-perpetual BDCs are finite-life vehicles: investors commit capital that is drawn over an investment period, after which the fund harvests its portfolio and either winds down or pursues a liquidity event at a stated term. Whereas the funding of a perpetual BDC bears no mechanical relation to a fund-level horizon, the debt of a finite-life BDC is, in principle, scheduled to mature with the fund—a distinction we exploit further below. Of the 124 private BDCs in our 2025 cross-section, 72 are perpetual and 52 finite-life.

Figure 2 situates these three types (public, private perpetual, and private non-perpetual) within the growth of the BDC universe. Panel A reports the number of BDCs formed in each vintage year, dated by the filing of the Form N-54A election; Panel B reports the total assets of all BDCs alive at each fiscal year-end. Public-BDC formation peaked in the decade after 2004 and has been near zero since 2017; essentially all entry over our sample period is private. The universe has expanded substantially in asset terms: the total assets of live BDCs rise from $95 billion in 2017 to $545 billion in 2025, even as the public share falls from 78% to 33%. This growth is concentrated in perpetual-life private vehicles,

[6]The minimum asset coverage was 200% (maximum D/E of 1.0x) until the Small Business Credit Availability Act (SBCAA) of 2018 allowed BDCs to reduce the threshold to 150% with shareholder or board approval. Most BDCs have adopted the lower threshold.

which alone reach $316 billion by 2025. The modern BDC universe is predominantly private and, by assets, dominated by a small number of continuously-offered perpetual funds.

2.2 Sample Construction

We hand-collect facility-level funding data from annual 10-K filings on SEC EDGAR for all U.S. BDCs with available filings for fiscal years 2017 through 2025. The primary data source is Note 7 (Borrowings) of the financial statements, which discloses each credit facility's type, counterparty, committed amount, outstanding balance, interest rate or spread, and maturity date—contractual detail not available in prior work. We supplement this with data from the cover page of the SEC filings as well as LSEG BDC Collateral data (for example, total assets, net asset value, and the asset coverage ratio).

For each fiscal year, we construct a comprehensive funding panel containing every individual facility for every BDC. The raw extraction yields approximately 4,000 facility-year observations across 917 BDC-year observations and 201 unique BDCs over the nine-year sample period. Six BDCs are excluded from regression analyses due to missing control variables, yielding a regression sample of 195 unique BDCs. Not all BDCs appear in every year; the sample grows from 70 BDCs in 2017 to 156 in 2025, reflecting both new BDC formation and the entry of private (non-traded) BDCs that began filing with the SEC during this period. Publicly listed BDCs account for approximately half of all BDC-year observations over the sample period — a figure that masks an important compositional asymmetry: while public BDCs are fewer in number, they report consistently throughout the sample, whereas private BDCs enter gradually and with greater variation in filing continuity, resulting in a roughly equal share of observations despite representing nearly twice as many unique entities.

We apply a set of cleaning steps to each fiscal year. We compare annual balance sheet totals obtained from SEC filings with those obtained from LSEG BDC Collateral and mapped via the CIK identifier (for example, total assets, net asset value (NAV) and total debt).

Because the public/private distinction and the perpetual/finite life structure are central to our analysis, and because standard vendor classifications (such as BDC Collateral) are time-invariant, we construct a time-varying classification by hand from primary SEC filings. For every BDC we record the date it elected BDC status (the Form N-54A filing) and, for listed BDCs, the date its shares began trading on an exchange and, where applicable, the date they ceased to trade through merger, withdrawal of the BDC election, or liquidation. A BDC is coded public in a given fiscal year only if its shares are exchange-listed at fiscal year-end; the pre-IPO years of the 19 funds that listed during our sample are accordingly coded private. For private BDCs, we read each fund's Form

N-2 and 10-K to classify its life structure as perpetual or finite and, for finite-life funds, to record the scheduled fund term and investment period. Relative to the time-invariant vendor flag, this hand classification reassigns 101 BDC-year observations—almost all of them pre-listing years of large private vehicles that subsequently converted to listed status (e.g., Blue Owl/Owl Rock, Blackstone Secured Lending).

We then reclassify and deduplicate facilities: some BDCs report the same facility under multiple names or split a single revolver into sub-facilities by currency tranche. Finally, we reconcile total debt from BDC balance sheets with aggregate detail-level facility data, flagging and manually investigating discrepancies above 5%. For year 2025, the aggregate across all 156 BDCs is $267.3 billion in our panel versus $266.9 billion in the balance sheet — a discrepancy of less than 0.1%. At the BDC level, 65% of observations match within 5% of the balance sheet total and 76% within 10%, with remaining discrepancies concentrated among smaller BDCs with non-standard disclosure formats or off-balance-sheet SPV structures whose consolidation timing differs from the 10-K snapshot date.[7]

Subsequent cleaning steps standardize bank names using a manually curated mapping of 227 raw names to clean counterparty identifiers, parse spread information by extracting basis-point margins over SOFR, LIBOR, or equivalent base rates, convert text-format maturity dates to a standardized date field and compute remaining tenor in years from fiscal year-end, and standardize counterparty country classifications. The output is a cleaned facility-level panel for each fiscal year, which we then collapse to the BDC-year level and merge with quarterly balance sheet trackers on CIK, retaining only BDC-years with non-missing and non-zero total assets and total debt.

2.3 Funding Classification

We classify all BDC debt into four funding types based on two economic dimensions: the identity of the funding provider and whether the instrument is secured against specific collateral. Bank-intermediated funding encompasses revolving credit facilities, term loans, and SPV warehouse facilities — all provided by banks against secured collateral. Capital-markets funding encompasses CLO notes and unsecured notes, which are placed with institutional investors and carry fixed maturities. This taxonomy underpins the concentration and rollover risk measures developed throughout the paper.

Secured bank funding comprises revolving credit facilities (revolvers) and term loans. Revolvers are committed credit lines provided by one or more banks, secured by the BDC's loan portfolio (or a subset thereof), with a stated maturity date typically 2–5 years from origination. Term loans have similar characteristics but are fully drawn at

[7]Online Appendix Table OA1 shows a detailed overview of the completeness of the data obtained from SEC filings.

origination and amortize on a fixed schedule. Revolvers account for the vast majority of secured bank funding, while term loans are rare with only $0.8 billion outstanding across all BDCs in 2025.

SPV warehouse facilities are asset-backed credit lines provided by banks to special-purpose vehicles (SPVs) established by the BDC. The BDC contributes loans to the SPV, which pledges them as collateral to the warehouse lender. SPV facilities are subject to borrowing-base tests and eligibility criteria: if the collateral pool deteriorates (e.g., through downgrades or defaults), the available borrowing capacity shrinks, potentially forcing the BDC to inject equity or reduce borrowings. SPV facilities also are the natural "on-ramp" for future CLO securitizations, as the loan pool assembled in the warehouse provides the collateral backing for the eventual CLO issuance.

CLO notes represent term securitizations in which the BDC issues multiple tranches of notes backed by a diversified pool of loans. CLO tranches have fixed maturities typically 10–13 years from issuance, and are fully placed at closing. Unlike revolvers and SPV facilities, CLO notes do not have a commitment concept — the outstanding amount equals the issued amount.

Unsecured notes are publicly or privately placed debt securities that are not backed by specific collateral. They carry fixed coupons and fixed maturities typically 3–7 years. Access to the unsecured note market is effectively limited to the largest and most established BDCs, as we document in Section 3.2, making it both a marker of funding sophistication and a source of cross-sectional heterogeneity in rollover exposure.

For revolvers and SPV facilities, we distinguish committed amounts (the maximum drawable) from outstanding amounts (the currently drawn portion). Where the committed amount is missing or reported below the outstanding amount due to incomplete filing data, we floor the committed amount to the outstanding. For term loans, CLO notes, and unsecured notes, the committed amount equals the outstanding or principal amount because these are fully drawn instruments. This committed/outstanding distinction lets us measure utilization rates and unused capacity across BDCs, both of which are central to the paper's analysis of funding fragility and liquidity risk. Table A1 in the Appendix provides formal definitions of all variables.

2.4 Summary Statistics

Table 1 reports pooled BDC-year summary statistics for the full sample. Panel A shows wide size dispersion. The median BDC-year has $953 million in total assets, yet the standard deviation of $5,600 million signals a highly dispersed distribution. This dispersion reflects the coexistence of two structurally different populations: publicly listed BDCs, which tend to cluster in the mid-to-large size range, and private BDCs, which span a much wider spectrum—from very small single-facility vehicles to some of the largest

entities in the sample.

Portfolio composition skews toward senior secured lending, with a median first-lien share of 84.3% and a median non-accrual rate of 0.9%, suggesting that the typical BDC maintains a conservative, senior-oriented credit profile. The cross-sectional variation in size and listing status shapes funding structure in ways we document throughout the paper. On the liability side, the median BDC operates with leverage of 0.96x debt-to-equity and an asset coverage ratio of 207.5%, comfortably above the 150% statutory minimum imposed by the Investment Company Act of 1940.

Turning to funding composition (Panels B and C), the data exhibit substantial cross-sectional heterogeneity. The mean shares across the four types are SPV facilities (39.0%), unsecured notes (29.7%), secured bank (25.2%), and CLO notes (6.2%). The standard deviations (16–39 percentage points) are of the same order as the means, and medians differ markedly from means: the median CLO share is zero, and the median secured bank share is only 8.9%.

This pattern is further corroborated by the 25th percentile values in Panel B: even though total commitments at the 25th percentile are $250 million, every individual funding category records a P25 of zero, signalling that BDCs tend to specialize in one or two funding sources rather than spreading across all four. Many BDCs are effectively at corner solutions in their funding structure. This specialization reflects the concentration in BDC funding relationships and the persistent dependence on a small number of banks that characterizes the market, both of which carry direct implications for rollover risk and funding fragility.

Utilization rates differ substantially between facility types (Panel D). Revolvers have a mean utilization of 49.1%, indicating that BDCs maintain significant unused credit line capacity. SPV facilities run at higher utilization, equal to 62.2% on average, consistent with borrowing-base constraints that limit the maximum draw relative to the eligible collateral pool.

3 BDC Funding Composition

3.1 The Growth of BDC Funding

Figure 1 documents the growth of BDC funding across all four funding types over the 2017 to 2025 period. Panel A shows bank-intermediated funding. Revolver committed capacity grew from $15 billion to $85 billion, a 5.7× increase, while SPV committed capacity grew from $17 billion to $128 billion, an increase equal to 7.5×. Utilization rates remained broadly stable throughout: revolvers at 40–50% and SPV facilities at 60–70%. The stability of utilization rates indicates that growth reflects new bank capacity

entering the market rather than increased drawdowns on existing credit lines.[8]

Panel B shows capital-markets funding. CLO outstanding grew from $1.8 billion to $36.8 billion (approximately 20×), making it the fastest-growing segment. Unsecured notes grew from $13.5 billion to $102.9 billion, a 7.6× increase, and remain the largest capital-markets category by dollar volume. CLO growth accelerated sharply after FY2021, coinciding with the broader private credit boom. Banks expanded their BDC lending platforms over this period while BDCs built out capital-markets funding channels in parallel.

3.2 Funding Composition

3.2.1 Descriptive Patterns

Figure 3 contrasts the five largest publicly listed and five largest private BDCs by total assets as of year 2025. The two groups fund themselves through different instruments. The five largest public BDCs by assets (Blue Owl Credit Income at $37.0B, Ares Capital at $31.2B, Blue Owl Capital at $17.2B, Blue Owl Technology Finance at $14.7B, and Blackstone Secured Lending at $14.7B) are tilted toward unsecured notes, which range from 34% to 67% of outstanding debt (top-five mean 56.6%) and constitute the single largest funding layer for four of the five. The five largest private BDCs (Blackstone Private Credit at $86.0B, HPS Corporate Lending at $26.3B, Ares Strategic Income at $22.7B, Goldman Sachs Private Credit at $16.3B, and Golub Capital Private Credit at $10.2B) fund predominantly through bank channels: revolvers plus SPV warehouse facilities account for 46.3% of debt on average, with unsecured notes a secondary 38.2%. The gap is not a size artifact. Blackstone Private Credit is more than twice the size of the largest public BDC, yet it relies on bank channels. Exchange listing provides the credibility and disclosure that support unsecured-bond issuance, whereas private BDCs remain anchored to relationship banks even at the top of the size distribution.[9]

[8] "Total" reported revolver capacity blends binding and contingent commitments. A large share of total revolver capacity is an "accordion", an uncommitted option permitting the borrower to request an increase in the facility up to a stated maximum, which lenders are not obligated to fund and which typically requires their consent or new commitments. Across our sample the accordion accounts for roughly 40–50% of aggregate revolver capacity in each year (about 45% in 2025): total revolving capacity rises from $27 billion in 2017 to $155 billion in 2025, of which the committed (binding) portion grows from $15 billion to $85 billion and the uncommitted accordion from $12 billion to $70 billion (Appendix Figure OA1). Because accordion capacity is contingent rather than committed, and least likely to be funded precisely in stress, total revolver commitment overstates the liquidity available to BDCs. We therefore measure revolver capacity throughout in this paper using committed amounts only, excluding the accordion.

[9] Although each group contains only five BDCs, the compositional gap is statistically reliable. Online Appendix Table OA2 reports permutation tests over all $\binom{10}{5} = 252$ partitions of the ten BDCs: the 18.4-percentage-point difference in unsecured share is significant at the 5% level (p=0.040). The 14.6-percentage-point bank-dependence gap runs in the expected direction but is insignificant in this small sample (p=0.135). We provide regression evidence below on a larger sample, which retains significance within the largest decile.

Within the private group, diversification tracks size, not listing. Blackstone Private Credit maintains twelve bank relationships across forty-nine facilities, a treasury operation resembling that of the largest public BDCs, while Goldman Sachs Private Credit and Golub Capital Private Credit operate with only three and two bank relationships, respectively. This size-driven gradient in *concentration*, distinct from the listing-driven gradient in *composition*, is the subject of Section 3.3.

3.2.2 Regression Evidence

Table 2 reports OLS regressions of funding-composition shares on BDC characteristics. For each of the four funding-type shares *Revolver/TD*, *SPV/TD*, *CLO/TD* and *Unsecured/TD*, where TD is defined as Total Debt of the BDC, we estimate

$$Y_{i,t} = \alpha + \beta\,\text{Public}_{i,t-1} + \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + (\alpha_i) + \varepsilon_{i,t}. \tag{1}$$

The dependent variable is the share of total outstanding debt represented by funding type Y. The sample is pooled over the 2018 to 2025 perio (2017 used to construct the lagged controls). BDC fixed effects α_i enter only in the two-way FE specification. The same equation is estimated by Tobit (censored at 0 and 1) to address the bounded–fractional nature of Y.

In Panel A (bank-intermediated funding), ln(Total Assets) is negative on Revolver/TD, indicating that as BDCs grow, they reduce their reliance on revolving bank credit. % First Lien is strongly positive on SPV/TD, indicating that collateral-rich portfolios enable more SPV borrowing. % Non-Accrual is positive on Revolver/TD and negative on SPV/TD, suggesting that BDCs with deteriorating portfolio credit quality rotate toward revolvers and away from SPV borrowing, consistent with borrowing-base constraints tightening as collateral quality declines.

In Panel B (capital-markets funding), the Public dummy is the single strongest predictor of unsecured access, corresponding to a 36 percentage point increase in the unsecured funding share, while simultaneously reducing SPV reliance, capturing a systematic substitution by publicly listed BDCs away from bank-intermediated financing and toward capital markets. ln(Total Assets) is positive on CLO/TD: only large BDCs issue CLOs consistent with the fixed costs and minimum scale required for CLO issuance. % First Lien is strongly negative on Unsecured/TD: collateral-heavy portfolios securitize rather than issue unsecured debt.

The BDC fixed effects specification identifies within-BDC dynamics and produces a sharp increase in explanatory power: adjusted R^2 rises from 0.08 to 0.78 for Revolver/TD and from 0.52 to 0.79 for Unsecured/TD. This increase indicates that funding composition is overwhelmingly a persistent BDC-level characteristic, with limited time-series variation within individual BDCs. Within the residual variation that exists, listing status and

asset growth are the dominant driver. Given a sizeable number of BDCs that go public during our sample period, we can compare within the same BDC before and after IPO and find significant evidence that public BDCs have lower SPV funding and issue more unsecured debt relative to total debt. Including BDC and year fixed effects, listing raises the unsecured share by +0.167 ($t = 3.34$) and lowers the SPV share by −0.144 ($t = -2.28$), while revolver and CLO shares are unaffected. The within-BDC estimates are smaller than the pooled cross-sectional coefficient (+0.308) but remain economically large and statistically strong, indicating that the listing effect is not solely an artifact of cross-sectional selection.

Ln(Total Assets) enters at -0.077^{**} on Revolver/TD and $+0.075^{***}$ on Unsecured/TD, indicating that as a given BDC grows over time, it reallocates from revolvers toward unsecured notes. Most cross-sectional predictors, including % First Lien and % Non-Accrual on SPV/TD, lose significance with BDC fixed effects, suggesting that these relationships reflect selection into funding types at BDC inception rather than dynamic reallocation within a BDC over time.[10]

3.2.3 Event Study around BDC IPOs

One possible concern related to our cross-sectional *Public* coefficient could be selection: BDCs that choose to list may differ on unobservables that also drive their funding mix. We address this by exploiting the listing transitions in our panel. The listing effect on funding choice is then identified *within* BDC off the 14 funds that transition from private to public during the sample window.

To distinguish a causal listing effect from cross-sectional selection, we estimate a dynamic event-study specification around the year each BDC transitions from private to public. The treatment is the listing event itself: of the BDCs in our panel, 14 transition from private to public during the sample window (their listing year is denoted IPO_i), while never-listed (always-private) BDCs serve as the control group and the single delisting BDC is absorbed by its own fixed effect. Stacking treated and control BDCs, we estimate

$$s_{it} \;=\; \sum_{\substack{k=-3 \\ k\neq -1}}^{+3} \theta_k \, D_{it}^{k} \;+\; \mathbf{x}'_{i,t-1}\,\boldsymbol{\beta} \;+\; \alpha_i \;+\; \lambda_t \;+\; \varepsilon_{it}, \tag{2}$$

where s_{it} is the funding-type share of total outstanding debt for BDC i in fiscal

[10]The high explanatory power of BDC fixed effects implies that unobservable time-invariant BDC characteristics are the primary determinants of funding composition. Plausible candidates include sponsor or manager identity (BDCs within the same platform, e.g., Blackstone, Ares, Blue Owl, likely share bank relationships and capital-markets access), vintage effects and founding conditions (initial funding arrangements tend to persist), and the breadth of the parent sponsor's fund complex (which may determine investor recognition and bank willingness to extend credit). Online Appendix Table OA3 and OA4 reports Tobit estimates that account for the bounded nature of the dependent variables. Online Appendix Table OA5 reports robustness tests with advisor and advisor x year fixed effects. The results remain unchanged.

year t — the unsecured-notes share (Unsecured / TD) in the left plot of Panel A and the SPV-facility share (SPV / TD) in the right plot. The event-time indicators $D_{it}^{k} = \mathbf{1}\{\, t - \text{IPO}_i = k \,\}$ switch on k years before or after BDC i lists; they are binned as $k \in \{\leq -3,\ -2,\ 0,\ +1,\ +2,\ \geq +3\}$, with the two endpoints accumulating all earlier and later event years. The year immediately before listing ($k = -1$) is the omitted year, so each coefficient θ_k measures the change in funding share relative to that pre-listing benchmark. We plot the estimate $\hat{\theta}_k$ with 95% confidence intervals. Always-private control BDCs never switch on any D_{it}^{k} and therefore identify only the fixed effects and the control coefficients, providing the counterfactual time path against which the listers' funding mix is compared.

The vector $\mathbf{x}_{i,t-1}$ collects one-year-lagged BDC controls (ln(Total Assets), leverage, the asset-coverage ratio, the first-lien share, the non-accrual share, and return on equity) so that the estimated listing dynamics are net of contemporaneous size and portfolio-quality changes. BDC fixed effects α_i absorb all time-invariant heterogeneity across funds, and year fixed effects λ_t absorb common shocks to the BDC funding market (e.g., the post-2021 CLO boom or the 2023 rate cycle); θ_k is thus identified purely from within-BDC variation around listing transitions. Standard errors are clustered by BDC (CIK). The estimation sample is the pooled 2018 to 2025 panel of treated and never-listed BDCs with positive total assets and total debt, with the year 2017 used to construct the one-year lags.

Figure 4 shows this graphically. In the years leading up to listing the coefficients are flat and statistically indistinguishable from zero—consistent with the parallel-trends assumption (the in-panel FF F-test does not reject $\theta \leq -3 = \theta - 2 = \theta$) while from the listing year onward the unsecured share rises steadily and the SPV share declines. The figure thus shows the unsecured-for-SPV substitution materializing only after a BDC lists, not before, supporting a causal interpretation of the within-BDC listing effect.[11]

Table 3 validates the within-BDC listing effect along two further dimensions. Panel A restates the baseline from Table 2. Panel B re-estimates it on dollar outstandings ($\ln(1+$ Outstanding)), confirming a real reallocation of funding ($+1.963$, $t = 2.89$) rather than a share artifact.

Panel C addresses the concern that, with staggered listing dates, the two-way fixed-effects estimator can be contaminated by "forbidden comparisons" in which already-listed BDCs serve as controls for later listers. We therefore report the Callaway and Sant'Anna (2021) group-time average treatment effect on the treated, which restricts the comparison group to never-listed (always-private) BDCs. We estimate a separate cohort-by-event-time Average Treatment effect on the Treated (ATT) for each IPO cohort and

[11] We repeat the exercise on dollar outstandings ($\ln(1 + \text{Outstanding})$) rather than shares, so that the effect is identified on a real reallocation of funding dollars rather than a share-denominator artifact. The results are qualitatively unchanged.

post-listing horizon and aggregate them, weighting by cohort size, into an overall effect across event times $k \in \{0, 1, 2, \geq 3\}$; inference uses a 500-replication block bootstrap that resamples treated and never-treated BDCs. The resulting ATTs, an unsecured-share increase of $+0.184$ ($p = 0.027$) and an SPV-share decline of -0.194 ($p = 0.073$), are close in magnitude to the two-way fixed-effects estimates, indicating that contamination from heterogeneous treatment timing is minor and that the listing effect reflects a genuine within-BDC reallocation from secured warehouse funding toward unsecured debt.

3.3 Funding Concentration and Diversification

Table 2 documents the composition of funding types, i.e. *what* BDCs borrow. But a BDC that finances, for example, 50% through revolvers and 50% through SPV facilities may source both from a single bank or from several different counterparties. Composition alone does not capture how exposed a BDC is to the withdrawal of any single funding source. We therefore examine funding concentration, whether a BDC's outstanding debt is spread across multiple types and facilities or concentrated in one or two, as well as its determinants.

3.3.1 Concentration Measures

To measure funding concentration, we construct three measures, on the funding type and facility level.

Type HHI. Our first measure is constructed using the funding type. With $K = 4$ broad funding types (Secured Bank = Revolvers + Term Loans, SPV facilities, CLO notes, Unsecured notes) and $s_X = \text{Out}_X/\text{Total}$:

$$\text{Type HHI}_{i,t} = \frac{\sum_{k=1}^{4} s_k^2 - 1/4}{1 - 1/4} \quad \in [0, 1].$$

The denominator $1-1/K = 3/4$ rescales the raw HHI from its lower bound of $1/K = 0.25$ (perfect diversification across the four types) to a normalized $[0, 1]$ scale. The value 1 corresponds to a single-type BDC; 0 to a BDC with equal shares in all four types.

Facility HHI. Our second measures exploits the more than 4,000 BDC-year facility observations. For BDC i at year t with $N_{i,t}$ facilities of positive outstanding amounts $\{a_1, \ldots, a_N\}$:

$$\text{Facility HHI}_{i,t} = \frac{\sum_{j=1}^{N} \left(a_j / \sum_k a_k\right)^2 - 1/N}{1 - 1/N} \quad \in [0, 1].$$

By convention Facility HHI $= 1$ when $N = 1$ (single-facility BDC). Unlike Type HHI, the normalization $1/N$ varies across BDCs; this matters because larger BDCs mechanically tend to have more facilities and lower raw HHI, so the renormalization makes cross-BDC comparisons interpretable on a common scale.

ln(#Facilities). Our third measure is the natural logarithm of the number of facilies issued by the BDC across the different funding types.

Table OA6 reveals the first pattern: the mean Type HHI of 0.547 and mean Facility HHI of 0.290 indicate that the typical BDC is heavily concentrated in one or two funding types but somewhat more diversified at the facility level within each type. The median BDC maintains just 3 facilities in total (typically a single revolver, one or two SPV lines, and a small number of unsecured note series), and the P75 of only 6 confirms that even well-diversified BDCs operate with a handful of relationships.

3.3.2 Determinants of Funding Concentration

We run the following cross-sectional regression via OLS (with cluster-robust standard errors):[12]

$$Z_{i,t} = \alpha + \beta \, \text{Public}_{i,t-1} + \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + \varepsilon_{i,t}. \tag{3}$$

Table 4 examines what drives funding concentration. Ln(Total Assets) is the dominant predictor: strongly negative on both Type HHI and Facility HHI, and strongly positive on # Facilities. The Public dummy reduces both Type HHI and Facility HHI, indicating that public BDCs are more diversified even controlling for size.

% Non-Accrual is positive on both HHI measures and negative on # Facilities: BDCs experiencing credit deterioration become more concentrated and reduce their number of active funding relationships, consistent with funding sources withdrawing during stress and creating a potential fragility spiral in which deterioration leads to concentration and increased vulnerability to any single counterparty.

3.4 Listing versus Size: The Funding Structure of the Largest BDCs

The funding-composition and concentration results documented so far raise an identification question: because public BDCs are, on average, larger than private BDCs, the differences attributed to listing status could instead reflect size. We address this directly by re-estimating the composition and concentration regressions on progressively larger subsamples, the top quartile and the top decile of within-year total assets, where size variation is sharply compressed. If listing proxies for size, the Public coefficient should attenuate toward zero as the sample narrows to the largest funds. Table 5 reports the results.

[12] As robustness tests, we estimate the HHI variables by two-sided Tobit (censored at 0 and 1) and ln(#Facilities) by Poisson GLM on the facility count itself. The results are available upon request.

The composition results (Panel A) show that listing status, not size, drives *what* the largest BDCs borrow. The Public coefficient on the unsecured share is 0.356 in the full sample, 0.247 in the top quartile, and remains 0.209 ($t = 3.63$) in the top decile, an economically large 20-percentage-point effect among the twenty-one largest BDCs in the panel. Bank dependence mirrors this pattern, with Public entering at −0.381, −0.305, and −0.315 across the three samples. Within these subsamples the size coefficient itself attenuates to insignificance: at the top decile, ln(Total Assets) is statistically zero for both unsecured access (−0.006) and bank dependence (−0.006), while the listing coefficient retains its magnitude and significance. Conditional on being large, it is exchange listing rather than scale that determines the substitution from bank-intermediated funding toward unsecured notes.[13]

The concentration results (Panel B) reveal the opposite pattern, and sharpens the interpretation of the diversification advantage documented in Table 4. The Public coefficient on Type HHI falls from −0.189 in the full sample to a statistically insignificant 0.006 in the top quartile and a statistically significant at 10% 0.121 in the top decile; the coefficients on Facility HHI (−0.281 → −0.055 → −0.015) and on ln(#Facilities) (0.534 → −0.031 → −0.160) follow a similar pattern of attenuation toward zero, though they remain insignificant throughout. The listing effect on concentration vanishes when the sample is restricted to large funds, while ln(Total Assets) remains strongly significant throughout (for example, +0.403, +0.513, and +0.615 on the facility count across the three samples). The unconditional finding that public BDCs are more diversified therefore reflects their larger size, not their listing status.[14]

The two panels separate the public/private divide into a listing-driven component and a size-driven component. *Composition*, the mix of bank versus capital-markets funding, is a property of listing status that persists among the largest BDCs. *Concentration*, the number and balance of funding relationships, is a property of size. This matters for the interpretation that follows: the funding-model difference between public and private BDCs is structural and does not disappear as private BDCs grow, whereas their greater concentration is a transitory feature of scale that recedes as they approach the size of their listed peers.

[13]These conclusions are insensitive to how *large* is defined: Online Appendix Table OA7 re-estimates the Public coefficient across alternative cutoffs (top quartile, top ten) and size metrics (total-asset rank, total-debt rank), and the estimates are stable at 0.19–0.21 on unsecured access and −0.20 to −0.23 on bank dependence, significant at the 1% level in every specification except the thinnest top-ten-by-assets slice ($N = 80$), where the coefficients keep their sign but lose power; ranking the same ten-BDC cut by debt outstanding restores significance.

[14]This distinction is reinforced once relationship and facility counts are scaled by debt outstanding. Online Appendix Table OA8 shows that, among the largest BDCs, public listing is associated with *fewer* bank counterparties per dollar of debt, the mechanical counterpart of the composition result: public BDCs replace bank relationships with unsecured-market access, so on a per-dollar basis their distinguishing feature is a thinner bank footprint rather than a broader one.

3.5 Bank Concentration in BDC Funding

Figure 5 maps the bank-level market structure of BDC lending. Panel A shows that the revolver market is akin to an oligopoly of arranging banks. The top five lead arrangers, JPMorgan Chase ($27B), Truist ($21B), SMBC ($10B), Citibank ($9B), and ING ($7B), control approximately $74 billion of the $85 billion total committed, an 87% market share. SMBC maintains the most BDC client relationships (19 BDCs) despite smaller dollar volume; it is the dominant Japanese-bank lender in the sector.

Panel B shows that the SPV counterparty market is more competitive. The top five, JPMorgan Chase ($14B), BNP Paribas ($13B), Wells Fargo ($12B), Bank of America ($10B), and Citibank ($8B), control approximately 45% of committed capacity. European banks (BNP Paribas, Société Générale, Deutsche Bank) have a much stronger presence in the SPV market, consistent with collateral protection lowering entry barriers for foreign lenders. The international dimension (Japanese and European banks hold significant positions) creates a cross-border channel through which stress in the U.S. private credit market could propagate to European (and other non-US banks).[15]

The cost of BDC funding follows a monotonic ladder consistent with the collateral and seniority hierarchy, revolvers (175 bps), SPV facilities (199 bps), CLO notes (222 bps), and unsecured notes (265 bps), and spreads compressed across all four types between 2021 and 2025, most in unsecured notes (-45 bps) (see Online Appendix Figure OA3).

4 Maturity Structure

In the previous sections, we documented BDC funding composition and concentration. We have not discussed when liabilities become due. Yet from a financial stability perspective, the maturity structure of BDC liabilities is at least as important as their composition or concentration. For example, a BDC that finances entirely through unsecured notes may be stable if those revolvers mature in five years, or fragile if they mature in six months. Maturity determines the horizon over which a funding shock must be absorbed: a BDC with substantial near-term maturities must either refinance or deleverage, or draw down committed credit lines, with potential spillover of private credit related stress into

[15]The public/private distinction lies in the funding instrument, not the counterparty. Online Appendix Table OA9 documents that the five largest public and five largest private BDCs draw on a nearly common lender base: of nineteen distinct bank counterparties across the two groups, thirteen lend to both, yielding a Jaccard similarity of 0.68. JPMorgan Chase, BNP Paribas, Société Générale, and Bank of America each lend to multiple BDCs in both groups simultaneously. Public and private BDCs thus do not insulate the banking system from one another; they expose the same large lenders through different claims—unsecured-backstop revolvers for the publicly listed funds and drawn SPV warehouse lines for the private funds. Importantly, we are highlighting the concentration of lead arranger (credit lines to BDCs) and counterparty banks (credit lines to SPVs). These loans are eventually syndicated to a broader set of banks, i.e., the amounts disclosed are not the final exposures of the banks highlighted in our analysis. Online Appendix Figure OA2 shows that the bank-concentration HHI is stable at 0.8 over the nine year period.

the banking sector.

4.1 Maturity Structure Descriptives

To investigate the maturity structure of BDC funding types, we construct three varibales.

Rollover$_{\leq 12m}$. We define the rollover ≤12m share as the share of all outstanding debt (across all funding types) that matures within a 12-months period.

WAM. Weighted-average-maturity (WAM) is the dollar-weighted average of remaining tenor (in years) across all facilities with non-null maturity:

$$\text{WAM}_{i,t} = \frac{\sum_j a_j \cdot \tau_j}{\sum_j a_j},$$

where τ_j is the remaining tenor of facility j (clipped at zero so matured facilities contribute 0 weight to the numerator). "No-date" facilities are excluded from both sums.

Maturity HHI measures how concentrated outstanding debt is across maturity buckets. Five annual buckets are defined based on remaining tenor from fiscal year-end: $[0, 1)$, $[1, 2)$, $[2, 3)$, $[3, 4)$, $[4, \infty)$ years. For each BDC–year, let b_k denote the sum of outstanding amounts of facilities falling into bucket k, restricted to facilities with a parseable maturity date ("no-date" facilities are excluded from both numerator and denominator). The normalized index is

$$\text{Maturity HHI}_{i,t} = \frac{\sum_{k=1}^{5} (b_k / \sum_\ell b_\ell)^2 - 1/5}{1 - 1/5},$$

clipped to $[0, 1]$. A BDC with all outstanding in one bucket (e.g., bullet maturity) receives Maturity HHI = 1; a BDC with outstanding equally distributed across the five annual buckets receives Maturity HHI = 0. BDCs with no dated facilities are assigned Maturity HHI = missing and drop out of the maturity regressions (about 22 BDC-years across the panel).

Summary statistics. Table 6 reports summary statistics for BDC-level maturity measures. The Rollover ≤12m share has a mean of 0.105 and a median of 0.000: more than half of BDC-years have no debt maturing within 12 months, and the mean is driven by a right tail of BDCs with bullet unsecured maturities or short-dated revolvers. The weighted-average remaining maturity (WAM) has a mean of 3.89 years (median 3.70), and Maturity HHI has a mean of 0.609 (median 0.526), indicating moderate maturity bunching. The zero-inflated distribution of near-term rollover motivates the regression analysis that follows: what explains the cross-sectional variation in near-term maturity exposure?

4.2 Funding Composition and Maturity

4.2.1 Determinants of funding maturity

For each rollover-risk dependent variable $R \in \{\text{Rollover}_{\leq 12m},\ \text{WAM},\ \text{Maturity HHI}\}$, we run the following OLS regression.

$$\begin{aligned} R_{i,t} = \alpha + \beta_1 \left(\text{SPV/TD}\right)_{i,t} + \beta_2 \left(\text{CLO/TD}\right)_{i,t} \\ + \beta_3 \left(\text{Unsecured/TD}\right)_{i,t} + \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + \varepsilon_{i,t}. \end{aligned} \tag{4}$$

The four funding-type shares sum to one, so the residual *secured-bank* category (revolvers + term loans) is the omitted reference. Coefficients β_1, β_2, β_3 are interpreted relative to secured-bank funding. Panel A of Table 7 reports the results.[16]

All three alternative funding types reduce near-term maturity exposure relative to revolvers: SPV/TD, CLO/TD, and Unsecured/TD. CLO funding has the largest maturity-extending effect on WAM, reflecting the structural 8+ year maturities of CLO tranches. Unsecured funding reduces maturity bunching, consistent with BDCs issuing notes across multiple vintages.

Beyond funding type, listing status independently shapes maturity outcomes. The Public dummy is -0.076^{***} on Rollover $\leq$12m and -0.122^{***} on Maturity HHI. Since revolvers are the omitted category, this captures the public-private gap at the revolver baseline: a public BDC that is 100% revolver-funded has 7.6 percentage points less near-term maturity exposure than an otherwise identical private BDC. Finally, % Non-Accrual enters at $+1.315^{***}$, indicating that BDCs experiencing credit deterioration face more near-term maturities—consistent with banks shortening terms for BDC with a larger share of distressed borrowers. In fact, these BDCs have lower average maturities and exhibit more (short-term) maturity bunching.

Time-series of maturities by funding type. We plot the dollar-weighted average maturity (WAM) by funding type over the 2017 to 2025 period for publicly listed BDCs (Panel A) and private BDCs (Panel B) in Figure 6. The most striking pattern is the secular extension of secured bank maturities among non-traded BDCs. Revolver WAM roughly doubled from two years in 2017 to four years by 2025, with SPV facility WAM following a similar trajectory. Publicly listed BDCs, by contrast, entered the sample with revolvers already at approximately four years' WAM, which remained stable throughout, suggesting that exchange-traded BDCs had already achieved the maturity terms that private BDCs spent the subsequent eight years converging toward. CLO securitizations stand apart with WAM consistently above nine years in both segments, reflecting their structural design as termed-out, match-funded vehicles largely immune to rollover risk.

[16] Term loans average less than 1% of outstanding across the panel, so the reference category is essentially revolvers.

The more consequential trend concerns unsecured notes: WAM declined from approximately 4.7 years in 2017 to under three years by 2025 for listed BDCs, and from 4.8 years to around 3.5 years for non-traded BDCs, consistent with a compression of issuance tenors in precisely the funding layer most exposed to capital-market disruptions.

These maturity dynamics across funding types suggest a convergence of maturities for private and public BDCs. On a dollar-weighted basis, non-traded BDC revolver and SPV maturities roughly doubled over the sample period, largely closing the gap with publicly listed BDCs by 2025. The remaining cross-sectional variation in maturity outcomes thus runs primarily along the size dimension rather than the public/private margin: larger BDCs (regardless of listing status) access longer-tenor facilities and represent the bulk of outstanding debt. An unweighted OLS regression would give equal voice to a $50 million BDC and a $30 billion one, characterizing the maturity structure of the typical entity rather than the typical dollar. We thus estimate the maturity regressions using WLS with total outstanding debt as weights.

WLS regressions of maturity structures. Panel B of Table 7 reports the results using WLS. The WLS estimates identify which funding types deliver maturity benefits at the dollar level. Relative to secured bank funding, CLO securitization is the only channel that unambiguously extends maturity: a ten-percentage-point reallocation raises WAM by 0.7 years (t = 11.37) and reduces the short-term rollover share by 1.2 percentage points (t = -2.33). The SPV effect, by contrast, vanishes entirely — all three coefficients are insignificant once we weight by outstanding debt. This is the econometric counterpart to the convergence documented in Figure 6: the large BDCs that dominate dollar-weighted estimation have negotiated SPV tenors indistinguishable from their revolver terms. Unsecured funding contributes not through maturity extension — the WAM coefficient is not statistically significant (0.553, t = 1.51) — but through diversification: BDCs with capital-market access spread refinancing needs more evenly across time (Maturity HHI: -0.385, t = -4.92), reducing the concentration of rollover exposure in any single year. The Public dummy reinforces the convergence narrative. Under OLS, listed BDCs exhibit significantly lower rollover risk (-0.076, t = -2.92) and more diversified maturity profiles (-0.122, t = -3.41). Under WLS, the rollover and WAM coefficients lose significance — the dollar-weighted maturity structure of large private BDCs is now statistically indistinguishable from that of their publicly listed peers. The one dimension where public status still matters is maturity concentration: listed BDCs retain significantly lower HHI (-0.083, t = -2.18), reflecting their access to a broader menu of instruments and tenors. The overall picture is one in which the public/private divide has narrowed on the maturity margin but persists on the diversification margin, a distinction with direct implications for rollover risk in stress scenarios.

4.2.2 Funding by listing status and size

The results in Table 5 raise an interesting question: the Public dummy is significant under OLS but not under WLS, while funding-composition coefficients shift in magnitude across estimators. Both patterns are consistent with size being the underlying driver—larger BDCs access different funding channels and dominate the dollar-weighted estimation—but the aggregate regressions cannot distinguish whether listing status has an independent effect on maturity outcomes or merely proxies for size. Table 8 disaggregates the funding structure by size quartile within each listing-status group to examine where these differences originate.[17] The most striking result concerns unsecured market access. Among publicly listed BDCs, unsecured notes constitute a material funding source across the entire size distribution, with median shares ranging from 42% to 66% across quartiles. Among non-traded BDCs, the median unsecured share is zero in the bottom three quartiles and rises to 25% only in Q4. Unsecured capital-market access for private BDCs is effectively binary, with a threshold that excludes three-quarters of the non-traded population. Private BDCs below this threshold rely on SPV facilities for 48–60% of their funding, compared with 19–25% for listed BDCs of comparable size. CLO issuance requires scale in both segments: the median CLO share is zero across all quartiles regardless of listing status, confirming that this funding channel is concentrated among a small number of the largest platforms. The resulting maturity profiles reflect these compositional differences, rollover risk in Q4 is 6.7% for private and 5.7% for public BDCs, a gap that is economically negligible relative to the within-group dispersion across size quartiles. That dispersion is itself informative. Among private BDCs, the share of debt maturing within twelve months falls monotonically from 15.7% (Q1) and 17.6% (Q2) to 6.7% at Q4. The acute near-term rollover risk in the private segment thus sits with the small and mid-size funds, whose maturing facilities are almost entirely revolvers and SPV lines — the bank-dependent channel concentrated precisely in the funds that have no capital-markets alternative. The gradient is broad-based: it survives dropping the three largest contributors in each quartile, and a fifth to a quarter of small and mid-size private BDC-years carry near-term maturities above 5%, though the quartile medians are

[17] We provide this table for the full sample of public and private BDCs in Table OA10 in the Online Appendix. Unsecured access rises sharply with size—Q4 mean 41.1% (median 44.7%) versus Q1 mean 24.9% (median 0%)—though the zero Q1 median confirms that most small BDCs have no unsecured market access at all. CLO access follows a similar gradient, rising from near-zero at Q1 (0.9%) to 9.1% at Q4, with zero medians throughout, indicating that CLO issuance remains confined to a subset of larger BDCs. Secured bank funding moves in the opposite direction, declining monotonically from 37.0% at Q1 to 20.1% at Q4, reflecting the growing reliance on bank revolvers among the smallest BDCs. SPV facilities are broadly stable across the lower three quartiles (37–46%) but compress at Q4 (29.7%), consistent with larger BDCs substituting toward capital-markets instruments. Near-term maturity exposure ($\leq$12 months) declines monotonically from 16.1% for Q1 to 5.8% for Q4. Leverage, by contrast, is flat across quartiles (0.84–0.97×), indicating that funding fragility arises from funding *structure*, not funding *amount*.

zero, so it reflects an exposed tail rather than the typical fund.[18]

The patterns in Table 8 suggest that the relevant margin is not public versus private per se but rather the interaction of listing status with size. A small listed BDC with 63.1% unsecured funding and a small private BDC funded almost entirely through secured facilities carry similar total debt levels but face different refinancing structures. To test whether listing status retains an independent effect on maturity outcomes after accounting for these size-dependent funding differences, Table 9 augments the baseline specification with size-quartile indicators interacted with the Public dummy and funding-composition shares. With $\mathrm{Q}_q \equiv \mathbf{1}[\text{BDC } i \text{ in size quartile } q \text{ of year } t]$, where quartiles are constructed within each fiscal year on Total Assets:

$$\begin{aligned} R_{i,t} = \alpha &+ \beta_1 \left(\text{SPV/TD}\right)_{i,t} + \beta_2 \left(\text{CLO/TD}\right)_{i,t} + \beta_3 \left(\text{Unsecured/TD}\right)_{i,t} \\ &+ \sum_{q=2}^{4} \mu_q \, \mathrm{Q}_q + \sum_{q=1}^{4} \phi_q [\text{Public}_i \times \mathrm{Q}_q] \\ &+ \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + \varepsilon_{i,t}. \end{aligned} \tag{5}$$

The omitted reference is Private BDCs in size quartile 1 (smallest non-traded BDCs). Each ϕ_q therefore reads as the Public-vs-Private differential within size quartile q. The Public main effect is omitted from the regressor list because it would be perfectly collinear with the sum of the four Public $\times$ Q_q interactions. Size quartiles are year-relative, so q identifies a BDC's position in the FY-t size distribution rather than the all-sample distribution. Standard errors clustered at the BDC level.

Importantly, we find that size quartile dummies are uniformly insignificant for rollover and WAM, i.e., conditional on funding composition, size per se does not determine rollover risk. The exception is Maturity HHI: larger BDCs have significantly lower maturity concentration, suggesting they spread maturities more evenly regardless of funding mix. The public-private differential in rollover risk is concentrated in mid-sized BDCs. Public $\times$ Q2 (-0.136, t = -2.68) and Public $\times$ Q3 (-0.076, t = -1.93) are significant, while the smallest and largest quartiles show no significant difference. This is consistent with mid-sized public BDCs exploiting their listing advantage to reduce rollover exposure, while the smallest public BDCs lack scale to benefit and the largest (public and private) BDCs already have sufficient market access. For Maturity HHI, being public reduces concentration across Q1 through Q3 (all significant), but the effect disappears in Q4, again consistent with the largest private BDCs already achieving diversified maturity profiles.

[18] A portion of the most extreme cases are finite-life drawdown vehicles whose entire facility matures at term by design; the gradient is robust to excluding them.

4.3 Rollover risk by funding type

We next ask how near-term rollover exposure differs across funding types. For each type we compute the share of outstanding debt that matures within 3, 6, and 12 months of fiscal year-end, separately for public and private BDCs (Table 10).

Table 10 shows that private BDCs face substantially higher near-term rollover across the bank-provided funding types. Within twelve months, 10.9% of private revolver funding matures versus just 0.5% for public BDCs (a roughly twentyfold gap), and SPV facilities show a similar pattern (4.2% versus 2.2%). Unsecured notes display the opposite pattern: public BDCs face higher near-term unsecured rollover (11.6% within twelve months) than private BDCs (8.0%), consistent with listed BDCs issuing unsecured notes more frequently and at shorter tenors while holding undrawn bank facilities as liquidity insurance.[19]

Could this gap simply reflect scheduled maturities rather than rollover risk? Many private BDCs are closed-end, finite-life vehicles, and one might suspect that their bank facilities are designed to mature as the fund reaches its term and returns capital, i.e. a planned wind-down rather than a genuine funding exposure. The evidence rejects this interpretation. Figure 7 dates the scheduled term of every finite-life private BDC. Of the 66 non-perpetual funds, only 47 carry a hard, dated term, and those terms cluster in 2027–2031 (Panel B): essentially no hard-finite fund reaches its scheduled wind-down within our 2017–2025 sample. The short-dated bank facilities we observe in-sample are genuinely short-tenor instruments, committed for one to three years and contingent on renewal, scheduled independently of the fund's terminal date. The elevated near-term maturity of private bank funding is thus ongoing rollover risk, not the mechanical run-off of funds in their final year.

4.4 Funding Concentration and Maturity

Our results so far show that funding composition shapes rollover risk, but composition does not capture whether a BDC spreads its borrowing across many facilities or concentrates it in a few large ones. We now test whether funding concentration, across types and across individual facilities, independently predicts maturity outcomes, holding composition constant.

For each of our funding maturity measure R we run the following OLS regression:

$$R_{i,t} = \alpha + \beta_1 \,\mathrm{HHI}_{i,t} + \beta_2 \,\ln(\#\mathrm{Facilities})_{i,t} + \beta_3 \,(\mathrm{Unsecured/TD})_{i,t} + \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + \varepsilon_{i,t}. \tag{6}$$

[19] Public BDCs report 1,621 unsecured facility-years versus 400 for private; the higher near-term public unsecured share reflects both more frequent issuance and shorter issued tenors.

Unsecured/TD is included because unsecured bullet maturities are the primary mechanical driver of near-term rollover risk; including it lets us isolate the incremental effect of concentration.

Table 11 reports the results. Type HHI is insignificant on Rollover but predicts shorter WAM and more maturity bunching. Facility HHI shows a similar pattern, with significance only on Maturity HHI. The number of facilities increases WAM with Type HHI, and reduces Maturity HHI: more facilities mechanically create more staggered maturities. Maturity HHI regressions achieve R^2 of 0.56–0.62, while Rollover $\leq$12m achieves only 0.11. Concentration explains maturity *structure*—whether maturities cluster in a few years—but not near-term *exposure*—whether the cluster falls within the next 12 months. A BDC with highly bunched maturities may have years until its maturity wall arrives. Regulators using only HHI-based metrics would detect maturity walls but miss BDCs with near-term exposure driven by poor timing rather than concentration.

Analogous to euqation (6), with the Public dummy and three interactions:

$$\begin{aligned} R_{i,t} = \alpha &+ \beta_1 \,\mathrm{HHI}_{i,t} + \beta_2 \,\ln(\#\mathrm{Facilities})_{i,t} + \beta_3 \,(\mathrm{Unsecured/TD})_{i,t} + \theta \,\mathrm{Public}_i \\ &+ \phi_1[\mathrm{HHI}_{i,t} \times \mathrm{Public}_i] + \phi_2[\ln(\#\mathrm{Fac})_{i,t} \times \mathrm{Public}_i] \\ &+ \phi_3[(\mathrm{Unsec/TD})_{i,t} \times \mathrm{Public}_i] + \boldsymbol{X}'_{i,t-1}\boldsymbol{\gamma} + \delta_t + \varepsilon_{i,t}. \end{aligned} \tag{7}$$

Table 12 interacts concentration measures with the Public dummy. For private BDCs, Type HHI predicts shorter WAM and more bunching, and ln(# Facilities) reduces Rollover $\leq$12m. The interaction ln(# Facilities) $\times$ Public is positive on Rollover $\leq$12m: adding facilities reduces near-term exposure for private BDCs, but this effect is attenuated for public BDCs. Public BDCs' near-term exposure is already low, so additional facilities might not provide further benefits.

The Wald test confirms that Facility HHI [Public] = $+0.460^{***}$ on Maturity HHI: concentration increases bunching for public BDCs, even more strongly than for private BDCs. Private BDCs thus benefit from adding facilities because each additional facility extends their (already short) maturity profile, while public BDCs do not because their maturities are already long.

For private BDCs, unsecured/TD compresses WAM (-1.578, t = -2.34) but has no effect on Maturity HHI (0.075, insignificant). Private BDCs issue unsecured notes infrequently and at longer tenors, so the few issuances don't diversify the maturity profile. For public BDCs, unsecured funding reduces both WAM (-1.664, t = -2.02) and Maturity HHI (-0.248, t = -3.11), consistent with public BDCs issuing multiple unsecured tranches across vintages that spread maturities across buckets.

5 Market Pricing of Rollover Risk

The previous sections establish that BDC funding structure is characterized by extreme heterogeneity in composition, concentration, and maturity across listing status and size. We ask whether equity markets recognize these liability-side risks: specifically, whether near-term rollover exposure is priced, and if so, through which channel and under what conditions.

We first investigate whether daily stock returns of publicly listed BDCs load on near-term unsecured rollover exposure (*Roll*), defined as the lagged share of outstanding unsecured notes maturing within 12 months, winsorized at 1/99 and standardized to zero mean / unit SD within each fiscal year. For the daily return $r_{i,t}$ of Public BDC i on trading day t we run the following OLS regression:

$$\begin{aligned} r_{i,t} = \alpha_i + \delta_{ym(t)} + \beta_1 \,\mathrm{Stress}_t + \beta_2 \,\mathrm{Roll}_{i,y-1} \\ + \beta_3 \,(\mathrm{Stress}_t \times \mathrm{Roll}_{i,y-1}) + \gamma \,\mathrm{Mkt}_t + \boldsymbol{X}'_{i,y-1}\boldsymbol{\delta} + \varepsilon_{i,t}. \end{aligned} \tag{8}$$

Stress_t is one of three daily measures: ΔVIX, ΔHY OAS in basis points, or the S&P 500 return. Mkt_t is the daily S&P 500 return. Two-way clustered standard errors at the ticker and date levels. Our sample period start on April 1, 2022, covering the post zero-rate-floor period, the Fed hiking cycle, 2023 regional-bank stress, and subsequent credit normalization). Market data is sourced from Bloomberg.

Three stress measures enter significantly as expected: ΔVIX (-0.126***), ΔHY OAS (-0.021***), and S&P 500 return (+0.543***). The rollover risk level effect is statistically insignificant, though borderline in some specifications (t up to +1.75): maturity exposure does not robustly predict average BDC returns. The interaction Stress × Rollover Risk is significant for ΔHY OAS (-0.0003, t = -2.48) and the S&P 500 return (+0.0021, t = +2.10), but insignificant for ΔVIX (t = -1.53). The market prices rollover risk only during credit stress.

The significance through high-yield spread widening rather than VIX is consistent with maturity exposure being priced as credit risk, not equity-market volatility. A one-standard-deviation increase in rollover exposure amplifies the stock price decline by 0.03 basis points per basis point of HY OAS widening. On a day with a 50 bps spread move—not unusual during the 2022–2023 hiking cycle—a BDC one standard deviation above the mean in rollover exposure would experience an additional 1.5 basis points of stock price decline relative to a BDC at the mean. Results are robust to the inclusion of BDC-level controls, the coefficients are virtually unchanged.

Maturity Wall. Figure 8 shows that the BDC unsecured-note rollover wall was negligible through the 2022 to 2023 period ($0.1–$2.4B) but jumped to $6.2B in year 2024 and $10.7B in year 2025, an order of magnitude increase that coincided with the

peak of the federal funds rate at 5.33%. If the market learns to price rollover risk only when the maturity wall becomes economically material, the baseline interaction in Table 13 should be driven entirely by the post-2023 subsample.[20]

In Table 14, we decompose the Stress × Rollover Risk interaction into pre-2023 (year $\leq$ 2023) and post-2023 (year $>$ 2023) regimes using the full daily panel during the 2018 to 2026 period. The result is clear: all three interaction coefficients are insignificant in the pre-2023 regime. In the post-2023 regime, all three turn significant and increase substantially in magnitude: ΔHY OAS -0.0005 (t = -3.03), S&P 500 +0.0041 (t = +3.27), and ΔVIX -0.0013 (t = -1.99). The Wald test rejects equality of pre- and post-2023 coefficients for ΔHY OAS (F = 8.49, p = 0.004) and S&P 500 (F = 7.97, p = 0.005).

The equity market confirms the liability-side vulnerabilities documented in the cross-section. Rollover risk goes unpriced until the maturity wall becomes material; once it does, near-term unsecured exposure is penalized precisely when refinancing conditions deteriorate.

Liquidity Backstop. We test whether BDCs with larger liquidity buffers, e.g., undrawn credit lines or cash holdings, are insulated from the stress-driven repricing documented above, using ΔHY OAS as the stress measure (Online Appendix Table OA14).

The five measures capture distinct dimensions of available liquidity: (1) undrawn revolver capacity as a share of total revolver commitments, (2) the analogous undrawn share for SPV facilities, (3) combined undrawn revolver-plus-SPV capacity, (4) cash-to-total-assets, and (5) total liquid headroom — cash plus all undrawn commitments, scaled by total assets. Each is standardized within fiscal year and enters with a one-year lag.

None of the five triple interactions is significant. Undrawn revolver capacity has a coefficient of essentially zero, undrawn SPV capacity is similarly negligible, combined drawdown capacity shows no effect, cash holdings are marginally positive but insignificant, and total headroom likewise fails to attenuate the repricing. The baseline Stress × Rollover Risk interaction remains significant in the specifications where the moderator does not absorb observations. Liquidity buffers, whether measured as undrawn bank commitments, on-balance-sheet cash, or the combination of both, do not shield BDCs from the market's repricing of near-term unsecured rollover exposure during credit stress.

[20] Online Appendix Figure OA4 shows the full maturity profile of outstanding unsecured notes as of Q4 2025: over $91 billion matures in 2026–2030, peaking at $20.7 billion in 2029. Its composition shifts across years — in 2026 nearly all maturing unsecured debt is public, but by 2028–2031 private BDCs account for 42.6%, and the private unsecured stock maturing within five years has tripled, from $10.3 billion (2023) to $33.3 billion (2025). Online Appendix Table OA15 shows this is a within-fund effect: among private BDCs, a one-log-unit increase in total assets raises the market-funding (CLO + unsecured) share by roughly nine percentage points with BDC fixed effects. The largest private BDCs increasingly adopt the capital-markets funding model of their listed peers, so that market-dependent rollover risk is migrating into the private segment. This migration is not confined to the largest platforms: the within-fund slope does not differ by entry size, and a fifth of small-entrant private BDCs eventually cross a 10% unsecured share, but its *scale* rises steeply with size, so the unsecured wall is overwhelmingly composed of the largest private BDCs.

BDCs usually hold little cash that can serve as a buffer. Moreover, banks use covenants and borrowing bases to prevent BDCs from utilizing their commitments during stress periods (e.g., Rintamäki and Steffen, 2026), consistent with investors not pricing those as credible liquidity backstops.

6 Conclusion

This paper provides the first facility-level analysis of the complete liability structure of U.S. Business Development Companies. Using hand-collected data from SEC EDGAR 10-K filings covering 195 BDCs over the 2017 to 2025 period and more than 2,900 different funding facilities, we document a three-tier funding hierarchy, secured bank credit, securitized funding, and unsecured notes, that is highly heterogeneous across funds. Funding composition, concentration, and maturity are primarily determined by size and listing status: publicly listed BDCs substitute away from bank-intermediated funding toward unsecured notes, maintain more diversified funding relationships, and face lower near-term rollover exposure on aggregate. Private BDCs, which hold 63% of total sector funding, are overwhelmingly dependent on short-dated bank revolvers from a small number of lenders, with the median private BDC having zero unsecured market access.

Near-term rollover exposure differs sharply by listing status. Private BDCs face bank-dependent fragility: 10.9% of their revolver funding matures within 12 months compared to just 0.5% for public BDCs, and banks discipline private BDCs through this maturity channel rather than pricing — spreads are statistically identical across listing status. Public BDCs face market-dependent fragility: 11.6% of their unsecured notes mature within 12 months, exposing them to capital-markets refinancing risk. Credit lines for public BDCs (which carry longer maturities) may serve as a liquidity backstop for unsecured noteholders; for private BDCs they are the primary funding source and a possible source of rollover risk. Five banks control 87% of revolver commitments, and bank-level concentration has not declined despite nine years of market growth.

Equity markets confirm the capital-markets fragility channel for public BDCs. Near-term unsecured rollover exposure does not predict average BDC stock returns, but BDCs with more near-term maturities experience significantly larger stock price declines during credit stress. This pricing channel emerged only after 2023, precisely when the unsecured-note maturity wall scaled from \$2.4B to over \$10B. Neither undrawn bank credit lines nor cash holdings attenuate this repricing, consistent with investors recognizing that bank backstops cannot resolve a capital-markets refinancing problem.

These findings bear directly on regulatory monitoring of private credit. Current frameworks, including the FSB's May 2026 assessment, focus on leverage ratios and stress-test loss rates. These metrics miss two distinct sources of fragility: bank-dependent rollover risk for private BDCs, where a handful of lenders can decline to renew short-dated credit

lines, and market-dependent rollover risk for public BDCs, where a growing unsecured maturity wall must be refinanced in potentially disrupted capital markets. Three questions remain. First, we document the liability side but cannot observe the terms under which banks actually renew or withdraw credit during stress — supervisory data on credit line renewals would allow a direct test. Second, the interaction between liability-side fragility and asset-side valuation remains unexplored: if BDCs delay marking down deteriorating assets, the bank discipline channel we document is weakened precisely when it matters most. Third, European and Japanese banks hold significant SPV and revolver positions in U.S. BDCs, creating a transmission channel from U.S. private credit stress to foreign banking systems that current macroprudential frameworks do not capture.

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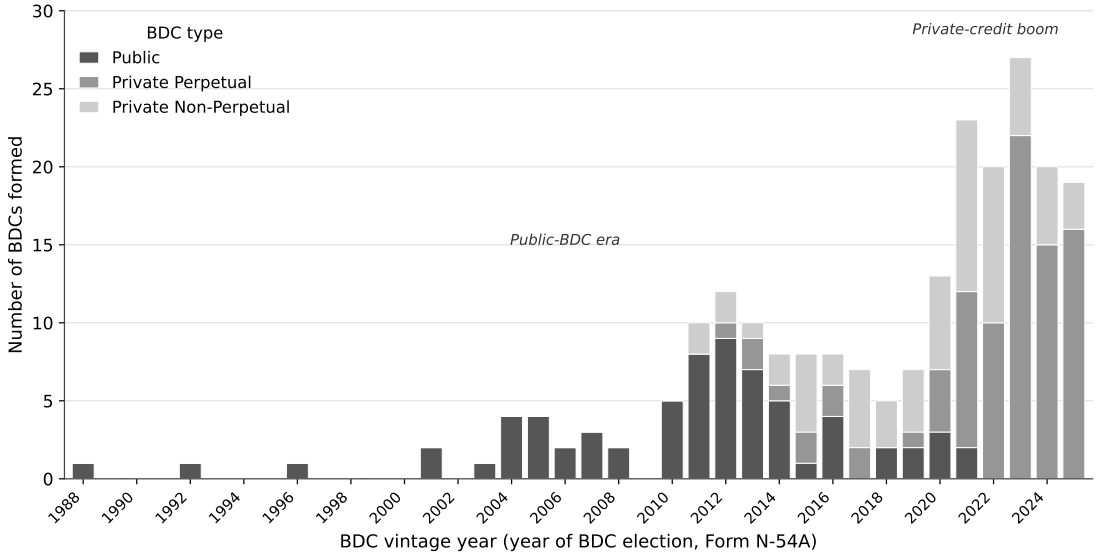
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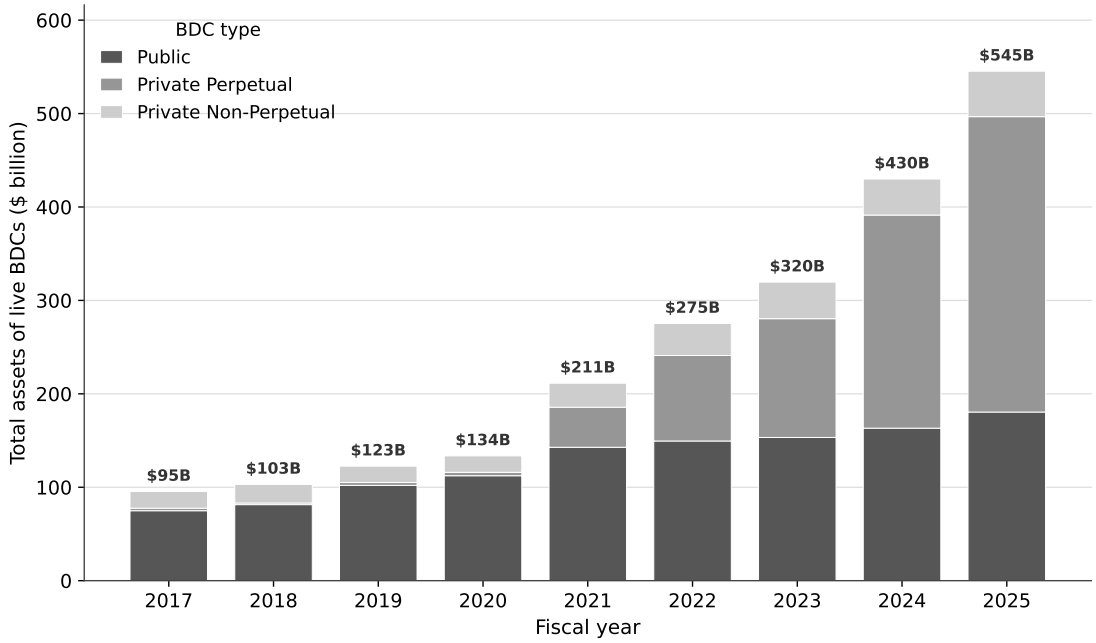
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Figure 2: BDC types by vintage

This figure plots the growth and changing composition of the BDC universe, by type. Panel A reports the number of business development companies (BDCs) formed in each vintage year; Panel B reports the total assets of all BDCs alive at each fiscal year-end. In both panels BDCs are partitioned into three mutually exclusive types: Public (exchange-listed), Private Perpetual (non-traded, perpetual/evergreen life), and Private Non-Perpetual (non-traded, finite life).



(a) BDC by vintage year



(b) Assets outstanding by BDC type

Figure 3: Funding structure of the five largest public and five largest private BDCs (2025)

This figure contrasts the liability composition of the five largest publicly listed and five largest private (non-traded) BDCs, ranked by total assets among BDCs with positive outstanding debt at fiscal year-end 2025. The left panels show public BDCs (Ares Capital, Blue Owl Capital, Blue Owl Technology Finance, Blackstone Secured Lending, FS KKR Capital); the right panels show private BDCs (Blackstone Private Credit, Blue Owl Credit Income, HPS Corporate Lending, Ares Strategic Income, Goldman Sachs Private Credit). The figure in parentheses after each BDC name is total assets; the stacked bars decompose total outstanding debt into five funding types: revolving credit facilities, SPV warehouse facilities, CLO notes, unsecured notes, and term loans. The top panels report dollar amounts ($M outstanding); the bottom panels report the same decomposition as shares of each BDC's total debt. Annotations to the right of each bar report the number of distinct bank counterparties and the number of individual facilities.

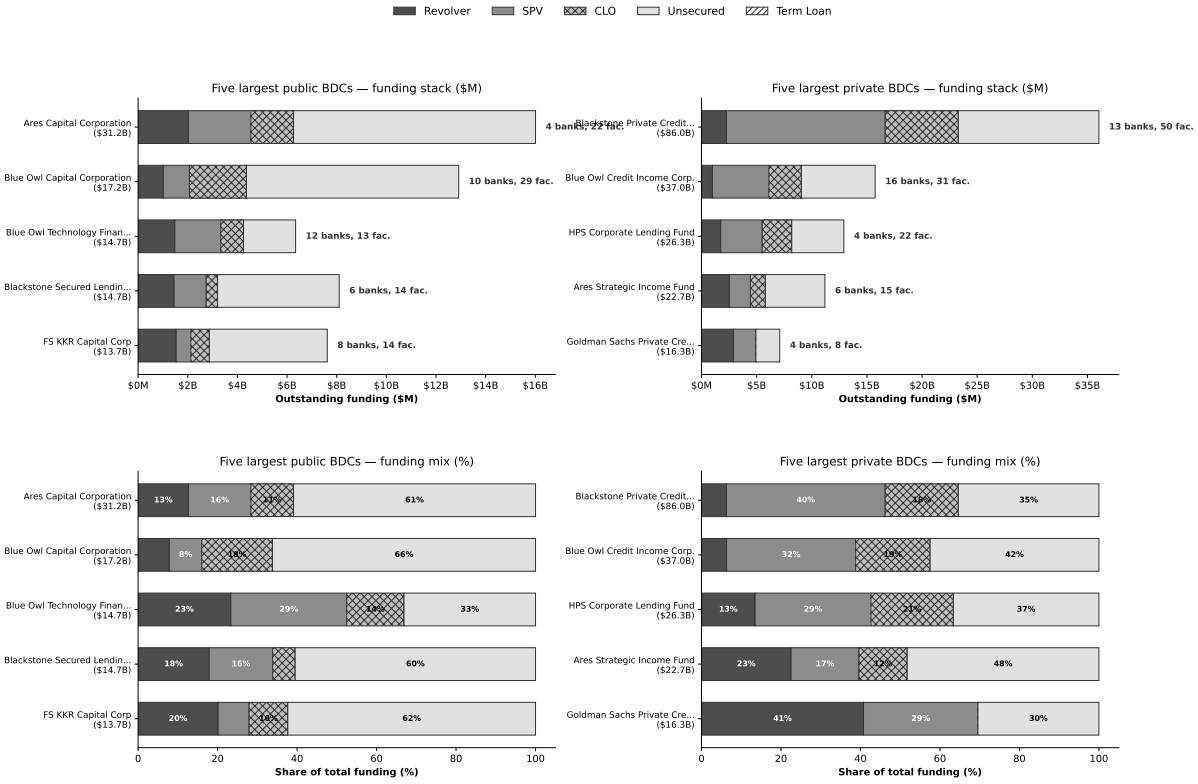


Figure 4: Funding composition around BDC listing transitions: event study

Each panel plots event-study coefficients θ_k on funding composition in event time relative to the year a BDC transitions from private to public ($k = 0$ is the listing year), estimated with BDC and year fixed effects and lagged BDC controls. We also show 95% confidence intervals from standard errors clustered by BDC. Within each panel, the left plot is the unsecured-notes outcome and the right plot is the SPV-facility outcome. The figure uses funding-type shares of total outstanding debt (Unsecured / TD and SPV / TD). The year before listing ($k = -1$) is the omitted reference. The in-panel F-statistic is a joint test that the two pre-listing coefficients ($k \leq -3$ and $k = -2$) equal zero. The estimation sample comprises the 14 BDCs that list during 2018–2025 together with never-listed (always-private) BDCs.

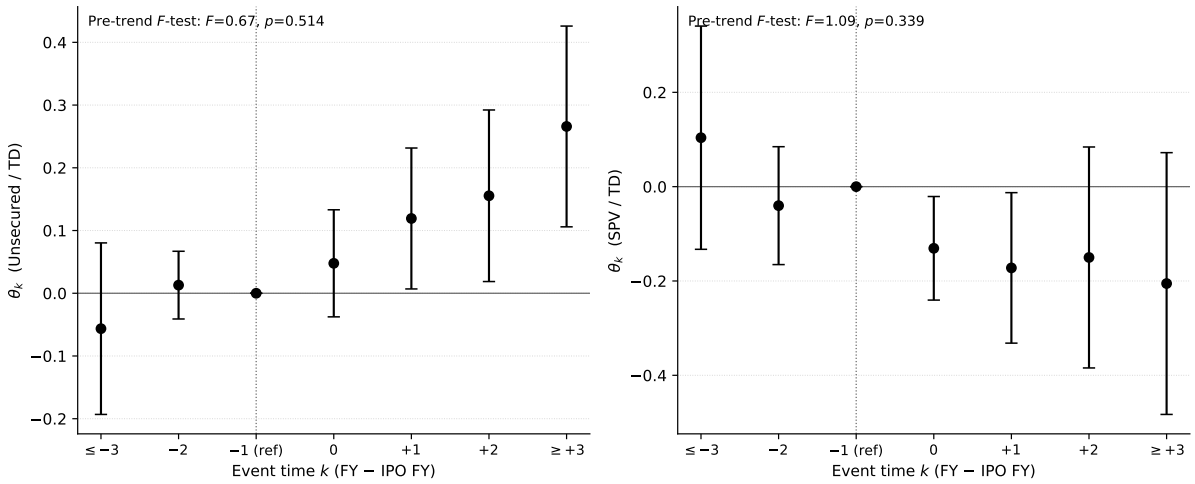
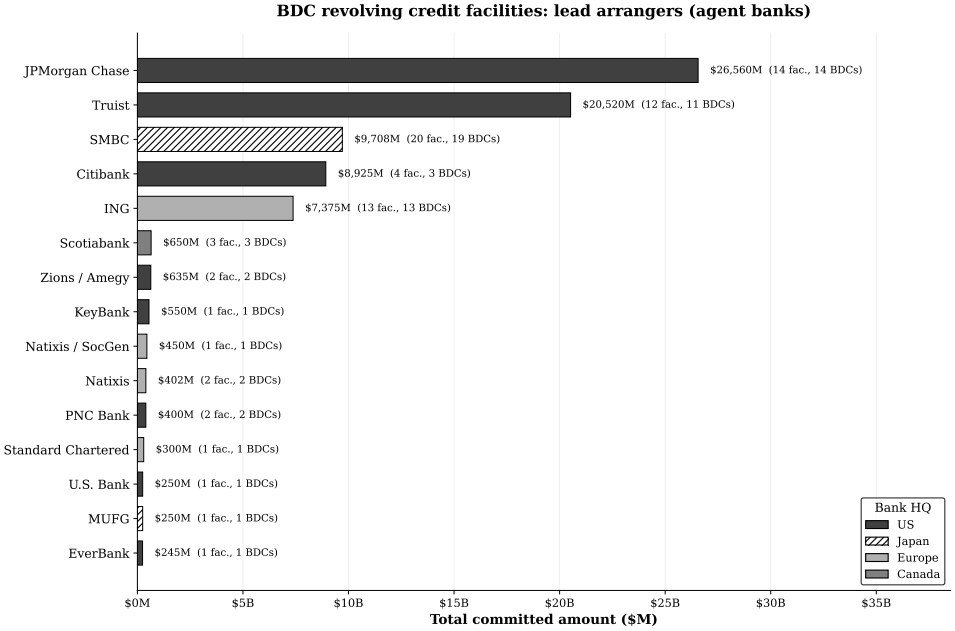


Figure 5: BDC revolving credit and SPV facility lenders (Q4 2025)

This figure shows the top 15 agent banks for BDC revolving credit facilities (Panel A) and SPV warehouse and asset-based lending facilities (Panel B), ranked by total committed amount as of FY2025.

Panel A: Revolvers to BDCs - Agent banks



Panel B: Credit lines to SPVs - Counterparty banks

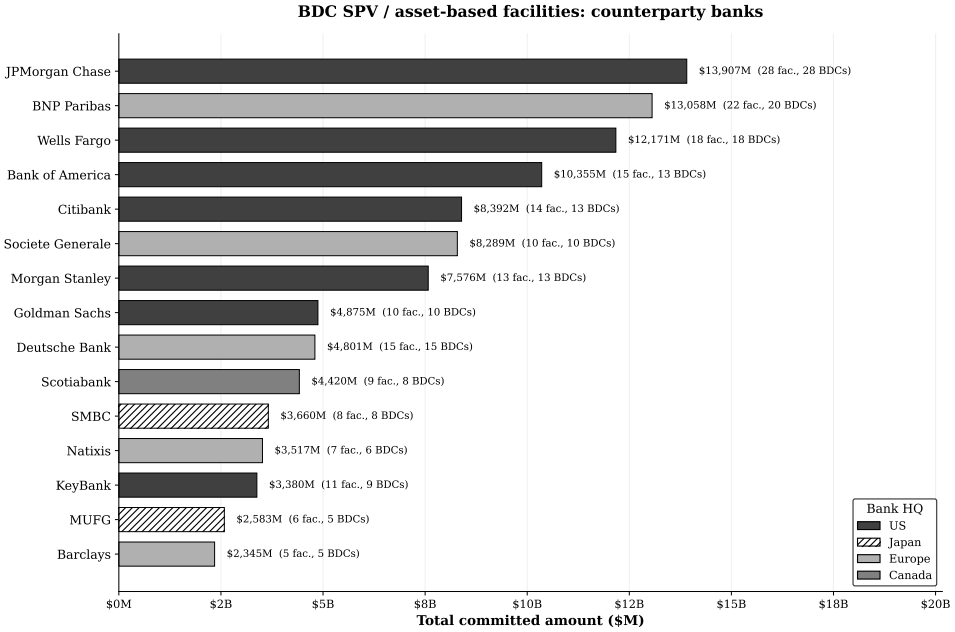
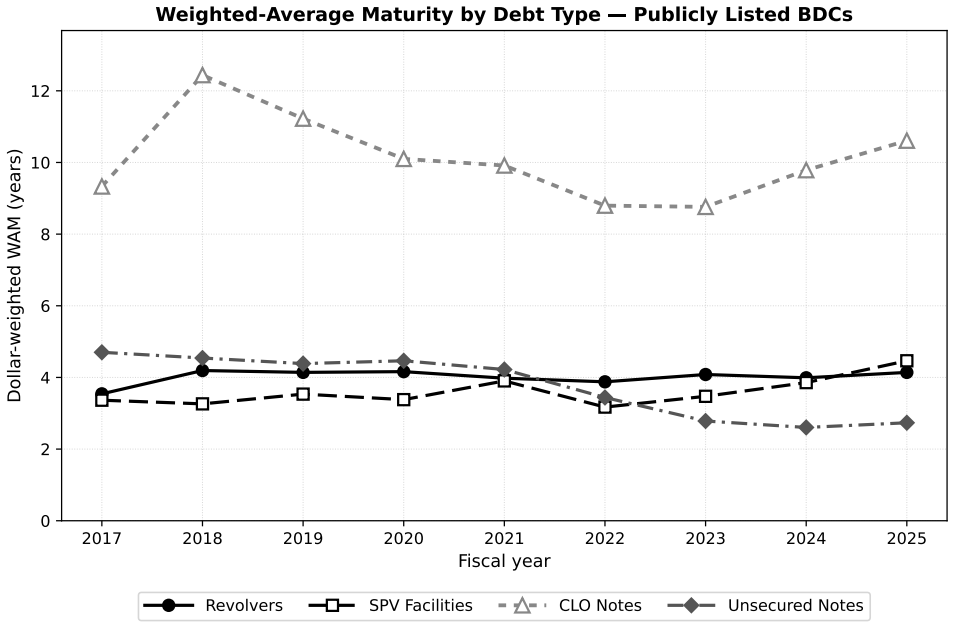


Figure 6: WAM by debt type-public vs private BDCs (2017-2025)

Each panel plots the dollar-weighted WAM, in years, of four major debt types (revolvers,SPV facilities, CLO notes, and unsecured notes) for the indicated listing-status subsample. For each (fiscal year, debt type) cell, WAM is computed as $\text{WAM}_c = \sum_{j \in c} a_j \cdot \tau_j / \sum_{j \in c} a_j$, where a_j is the outstanding dollar amount of facility j and τ_j its remaining tenor in years from fiscal year-end. Facility-year observations with no maturity are excluded from WAM.

(a) Publicly listed BDCs



(b) Non-traded (Private) BDCs

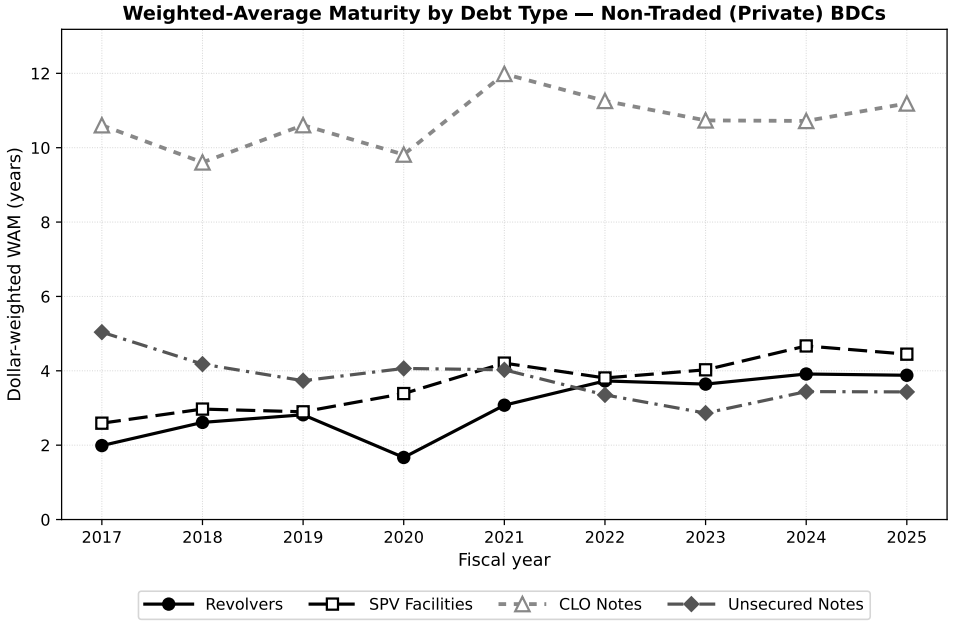
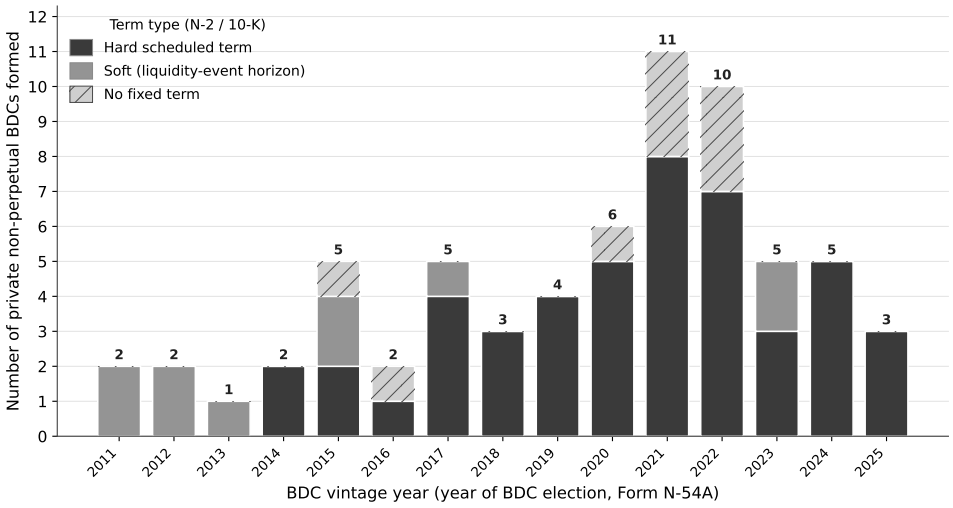


Figure 7: Non-perpetual private BDCs (term types)

This figure shows the finite-life private BDC universe: vintage and scheduled term. Panel A reports the number of private non-perpetual (finite-life) BDCs formed in each vintage year, by the type of their stated term. Panel B reports the scheduled fund-term-end year of the private BDCs with a hard finite term, distinguishing funds still active at fiscal year-end 2025 from those that had already exited.

(a) Term types by vintage year



(b) Scheduled fund-term end

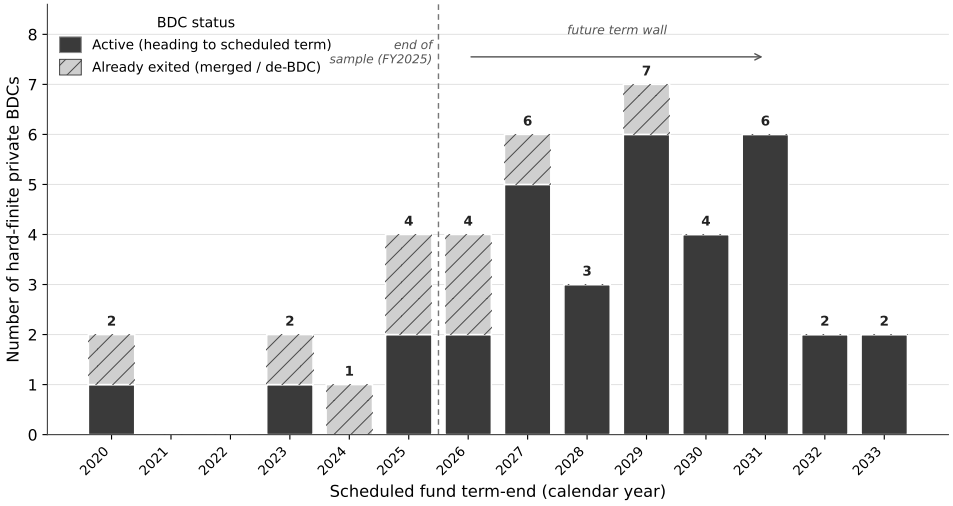


Figure 8: BDC unsecured-note rollover wall, 2020–2026

Each bar reports total BDC unsecured-note principal maturing in calendar year Y. Bars are stacked by listing status (private vs public); light-gray shading marks the 2024 to 2025 period. The solid line is the U.S. Federal Fund Rate.

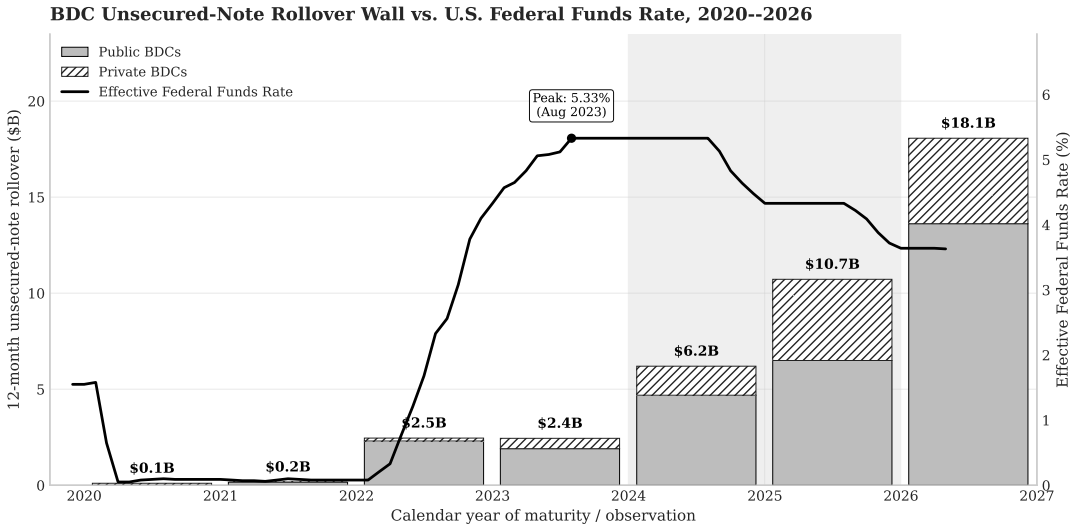


Table 1: Summary Statistics: BDC Funding Structure

Pooled BDC-year summary statistics for the 2017 to 2025 period. The sample contains 915 BDC-year observations across 201 unique BDCs after merging per-year funding-structure data with quarterly balance-sheet data and dropping BDC-years with missing or zero total assets or total debt. Panel A reports BDC-level characteristics: Total assets and Asset coverage are computed from the Q4 balance-sheet; Public is a 0/1 indicator based on exchange-listing status (mean reported as percent); Leverage is total debt divided by net assets; % First lien, % Non-accrual, and ROE-NII come from annual balance sheets. Panel B reports total committed amounts in millions of USD by facility type; Revolvers and Term loans are sub-components of secured bank funding. Panel C reports BDC-year funding-composition shares (% of total outstanding debt). Panel D reports utilization rates (outstanding as a percentage of committed) conditional on a non-zero commitment in the corresponding facility type.

	N	Mean	Median	SD	P25	P75
Panel A: BDC characteristics						
Total assets ($M)	915	2,310	953	5,600	414	2,112
Public (%)	915	50.5	—	—	—	—
Leverage (x)	915	1.00	0.96	0.62	0.73	1.23
Asset coverage (%)	915	238.7	207.5	120.7	182.8	239.8
% First lien	915	77.9	84.3	22.9	68.0	95.8
% Non-accrual	915	2.7	0.9	5.0	0.0	3.3
ROE, NII (%)	883	9.5	9.8	5.7	7.8	11.7
Panel B: Total commitments ($M)						
Total	915	1,465	600	3,393	250	1,375
Secured bank	915	392	85	799	0	400
Revolvers	915	387	80	790	0	400
Term loans	915	5	0	38	0	0
SPV facilities	915	517	220	1,360	0	600
CLO notes	915	111	0	414	0	0
Unsecured notes	915	445	58	1,237	0	340
Panel C: Funding composition (% of total outstanding)						
% Secured bank	915	25.2	8.9	33.3	0.0	37.0
% SPV facilities	915	39.0	29.2	38.5	0.0	72.2
% CLO notes	915	6.2	0.0	16.2	0.0	0.0
% Unsecured notes	915	29.7	20.8	32.8	0.0	53.2
Panel D: Utilization (% of committed)						
Revolvers (N=564)	564	49.1	50.1	27.7	29.2	70.5
SPV facilities (N=630)	630	62.2	66.0	24.6	48.8	80.0

Table 2: Determinants of Funding Composition (OLS)

OLS with cluster-robust standard errors at the BDC level. All four dependent variables are funding-type shares of total outstanding debt; the residual "secured-bank" category (revolvers + term loans) is the omitted reference. Panel A reports bank-intermediated funding (Revolver / TD and SPV / TD); Panel B reports securitization and capital-markets funding (CLO / TD and Unsecured / TD). t-statistics in parentheses. Continuous controls winsorized at 1% / 99%. Sample: pooled 2018 to 2025 period (2017 used to construct one-year-lagged controls); restricted to BDC-years with positive Total Assets and positive Total Debt. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Panel A: Bank-Intermediated Funding

	(1)	(2)	(3)	(4)	(5)	(6)
	Revolver / TD			SPV / TD		
ln(Total Assets)	-0.025*	-0.025	-0.077**	-0.026	-0.023	-0.006
	(-1.66)	(-1.61)	(-2.57)	(-1.33)	(-1.17)	(-0.16)
Public	-0.092*	-0.092	-0.079	-0.276***	-0.290***	-0.144**
	(-1.69)	(-1.63)	(-1.38)	(-5.55)	(-5.81)	(-2.28)
Leverage	-0.033	-0.038	0.041	-0.025	0.003	-0.071
	(-0.66)	(-0.67)	(1.28)	(-0.45)	(0.05)	(-1.39)
Asset Coverage	0.038*	0.037*	0.012	-0.021	-0.015	-0.002
	(1.78)	(1.71)	(1.05)	(-0.95)	(-0.67)	(-0.13)
% First Lien	-0.013	-0.014	-0.091	0.292***	0.337***	0.049
	(-0.12)	(-0.12)	(-0.96)	(3.14)	(3.55)	(0.40)
% Non-Accrual	1.359**	1.362*	-0.402	-1.306***	-1.232***	-0.097
	(1.97)	(1.93)	(-0.76)	(-3.29)	(-3.02)	(-0.23)
ROE (NII)	0.292	0.284	0.325	-0.313	-0.242	-0.417
	(0.48)	(0.43)	(0.95)	(-0.66)	(-0.48)	(-1.18)
Year FE	No	Yes	Yes	No	Yes	Yes
BDC FE	No	No	Yes	No	No	Yes
Observations	688	688	688	688	688	688
Number of BDCs	163	163	163	163	163	163
Adj. R^2	0.093	0.086	0.783	0.298	0.304	0.760

Panel B: Securitization and Capital-Markets Funding

	(1)	(2)	(3)	(4)	(5)	(6)
	CLO / TD			Unsecured / TD		
ln(Total Assets)	0.019***	0.021***	0.011	0.029	0.024	0.075***
	(2.71)	(2.93)	(0.50)	(1.62)	(1.34)	(3.55)
Public	0.032	0.027	0.033	0.338***	0.356***	0.167***
	(1.13)	(1.00)	(0.83)	(9.46)	(10.12)	(3.34)
Leverage	0.055*	0.068*	0.034	0.003	-0.033	-0.008
	(1.65)	(1.89)	(1.37)	(0.06)	(-0.68)	(-0.18)
Asset Coverage	-0.004	-0.003	0.001	-0.013	-0.019*	-0.011
	(-0.75)	(-0.48)	(0.24)	(-1.11)	(-1.72)	(-0.81)
% First Lien	0.089*	0.099*	-0.011	-0.364***	-0.416***	0.054
	(1.76)	(1.84)	(-0.13)	(-3.64)	(-4.10)	(0.51)
% Non-Accrual	-0.466***	-0.444***	-0.067	0.383	0.284	0.564
	(-3.19)	(-3.07)	(-0.44)	(0.87)	(0.65)	(1.10)
ROE (NII)	-0.213	-0.255	0.242	0.286	0.267	-0.129
	(-1.03)	(-1.23)	(1.08)	(0.82)	(0.75)	(-0.41)
Year FE	No	Yes	Yes	No	Yes	Yes
BDC FE	No	No	Yes	No	No	Yes
Observations	688	688	688	688	688	688
Number of BDCs	163	163	163	163	163	163
Adj. R^2	0.073	0.081	0.563	0.493	0.515	0.786

Table 3: Within-BDC Public effect on funding composition

This table reports the effect of being public on funding composition of BDCs. *Public* is the time-varying listing dummy lagged one year. Panel A reports the within-BDC Public coefficient from Table 2. Panel B is the dollar-level robustness: each dependent variable is replaced with ln(1 + Outstanding) for the corresponding funding type, so the IPO effect is identified on a real reallocation of dollars rather than a share-denominator artifact. Panel C reports the Callaway and Sant'Anna (2021) overall ATT for the same share dependent variable, computed using never-treated (always-private) BDCs as the control group and aggregating cohort-time ATTs across IPO cohorts and event times; the reported t-statistic is from a 500-replication block bootstrap that resamples treated and never-treated BDCs. BDC controls (lagged) are ln(Total Assets), Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE. Continuous controls winsorized at 1/99 of the pooled panel. Cluster-robust standard errors at the BDC (CIK) level. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	Unsecured / TD (1)	SPV / TD (2)	Revolver / TD (3)	CLO / TD (4)
Panel A: within-BDC Public coefficient (share dep. var.)				
Public_{t-1}	$+0.167^{***}$	-0.144^{**}	-0.079	+0.033
	(+3.34)	(-2.28)	(-1.38)	(+0.83)
Panel B: dollar-level robustness, ln(1 + *Outstanding*)				
Public_{t-1}	$+1.963^{***}$	-0.928^{*}	+0.234	+0.809
	(+2.89)	(-1.82)	(+0.67)	(+1.17)
Panel C: Callaway–Sant'Anna overall ATT, never-treated controls (share dep. var.)				
$\widehat{\text{ATT}}^{IPO}$	$+0.184^{**}$	-0.194^{*}	-0.016	+0.006
	(+2.21)	(-1.79)	(-0.13)	(+0.09)
Panels A–B				
BDC FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
BDC controls (lagged)	Yes	Yes	Yes	Yes
Observations	688	688	688	688
Number of BDCs	163	163	163	163
Panel C				
Treated BDCs (IPO)	12	12	12	12
Control BDCs (never-treated)	69	69	69	69
Observations	292	292	292	292

Table 4: Funding Concentration and Diversification (OLS)

Type HHI is the Herfindahl–Hirschman Index computed over four funding-type shares (Secured Bank, SPV facilities, CLO notes, Unsecured notes), normalized to $[0, 1]$ as $(\text{SS} - 1/4)/(1 - 1/4)$ where SS is the sum of squared shares. Facility HHI is the analogously normalized HHI computed over outstanding amounts of all individual facilities (revolvers, term loans, SPV facilities, CLO tranches, unsecured notes) extracted from the cleaned funding panels: $(\text{SS} - 1/N)/(1 - 1/N)$ where N is the number of facilities. # Facilities is the count of individual funding instruments with positive outstanding. Estimation: OLS with cluster-robust standard errors at the BDC level. All right-hand-side variables are lagged one year. The five continuous controls (Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) are winsorized at the 1st and 99th percentiles of the pooled panel. Sample: BDC-year observations over the 2018 to 2025 period; 2017 data is used to construct the lagged regressors. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	(1)	(2)	(3)	(4)	(5)	(6)
	Type HHI		Facility HHI		# Facilities	
ln(Total Assets)	-0.118***	-0.119***	-0.103***	-0.103***	2.437***	2.437***
	(-7.55)	(-7.45)	(-5.77)	(-5.65)	(4.19)	(4.15)
Public	-0.191***	-0.189***	-0.281***	-0.281***	1.094	1.151
	(-4.47)	(-4.29)	(-5.88)	(-5.57)	(1.35)	(1.42)
Leverage	0.043	0.039	-0.042	-0.048	2.180***	2.187***
	(0.86)	(0.73)	(-0.67)	(-0.71)	(3.28)	(3.23)
Asset Coverage	0.030**	0.031**	0.042**	0.043**	0.312	0.289
	(2.15)	(2.05)	(2.41)	(2.34)	(1.62)	(1.52)
% First Lien	-0.313***	-0.318***	-0.066	-0.059	-0.926	-1.113
	(-3.33)	(-3.20)	(-0.57)	(-0.50)	(-0.89)	(-1.05)
% Non-Accrual	0.767**	0.754**	0.938*	0.950*	-12.722***	-12.931***
	(2.16)	(2.08)	(1.75)	(1.72)	(-2.98)	(-2.98)
ROE (NII)	0.769**	0.801**	0.345	0.372	-6.939	-8.152*
	(2.44)	(2.38)	(0.68)	(0.69)	(-1.51)	(-1.65)
Method	OLS	OLS	OLS	OLS	OLS	OLS
Year FE	No	Yes	No	Yes	No	Yes
Observations	688	688	688	688	688	688
Number of BDCs	163	163	163	163	163	163
Adj. R^2	0.342	0.338	0.351	0.349	0.422	0.422

Table 5: Listing status holds within the largest BDCs: composition and concentration regressions on top-quartile and top-decile subsamples

OLS regressions on the pooled BDC-year panel 2018–2025. Panel A reports funding-composition regressions; Panel B (next page) reports funding-concentration regressions. Regressors are lagged one year. Continuous controls (Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) are winsorized at the 1st and 99th percentiles. Year fixed effects are included; standard errors clustered at the BDC (CIK) level, t-statistics in parentheses. The Q4 subsample restricts to BDC-years in the top quartile of within-year total assets; Top10% restricts to the top decile. *Bank Dependence* = (Revolver outstanding + SPV outstanding) / Total funding. *, **, *** denote significance at the 10%, 5%, and 1% level.

Panel A: Funding composition

	Unsecured / TD			SPV / TD			Bank Dep. (Rev+SPV)/TD		
	Full	Q4	Top10%	Full	Q4	Top10%	Full	Q4	Top10%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ln(Total Assets)	0.024	0.036**	-0.006	-0.023	-0.010	0.047**	-0.047***	-0.037*	-0.006
	(1.34)	(2.04)	(-0.22)	(-1.17)	(-0.61)	(2.20)	(-2.60)	(-1.65)	(-0.20)
Public	0.356***	0.247***	0.209***	-0.290***	-0.351***	-0.237***	-0.381***	-0.305***	-0.315***
	(10.12)	(5.09)	(3.63)	(-5.81)	(-5.76)	(-4.64)	(-10.19)	(-6.00)	(-4.66)
Leverage	-0.033	-0.313***	-0.312***	0.003	0.175	0.153	-0.035	0.239***	0.251***
	(-0.68)	(-3.77)	(-2.89)	(0.05)	(1.36)	(1.32)	(-0.70)	(2.66)	(3.20)
Asset Coverage	-0.019*	-0.063***	-0.081***	-0.015	-0.015	0.068***	0.022**	0.089***	0.102***
	(-1.72)	(-2.78)	(-3.17)	(-0.67)	(-0.26)	(3.92)	(2.08)	(3.68)	(4.28)
% First Lien	-0.416***	-0.203	-0.470***	0.337***	-0.202	0.092	0.323***	-0.036	0.169
	(-4.10)	(-1.50)	(-3.18)	(3.55)	(-1.63)	(0.70)	(3.39)	(-0.40)	(1.32)
% Non-Accrual	0.284	1.269*	0.223	-1.232***	-1.888	-0.353	0.130	-0.889	0.613
	(0.65)	(1.93)	(0.26)	(-3.02)	(-1.50)	(-0.36)	(0.28)	(-0.76)	(0.42)
ROE (NII)	0.267	1.447*	2.146	-0.242	-0.360	0.679	0.042	1.022	1.905*
	(0.75)	(1.67)	(1.50)	(-0.48)	(-0.51)	(0.82)	(0.11)	(0.95)	(1.86)
N	688	178	73	688	178	73	688	178	73
# BDCs	163	51	21	163	51	21	163	51	21
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (BDC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5, continued

Panel B: Funding concentration

	Type HHI			Facility HHI			ln(# Facilities)		
	Full	Q4	Top10%	Full	Q4	Top10%	Full	Q4	Top10%
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ln(Total Assets)	-0.119***	-0.072***	-0.051**	-0.103***	-0.029***	-0.017***	0.403***	0.513***	0.615***
	(-7.45)	(-5.00)	(-2.11)	(-5.65)	(-3.33)	(-4.73)	(10.73)	(7.23)	(9.00)
Public	-0.189***	0.006	0.121*	-0.281***	-0.055	-0.015	0.534***	-0.031	-0.160
	(-4.29)	(0.10)	(1.77)	(-5.57)	(-1.19)	(-1.16)	(5.79)	(-0.21)	(-1.18)
Leverage	0.039	0.048	-0.168	-0.048	0.239**	0.015	0.305***	0.273	0.550**
	(0.73)	(0.38)	(-0.72)	(-0.71)	(2.13)	(0.73)	(3.10)	(0.91)	(2.01)
Asset Coverage	0.031**	0.068**	0.008	0.043**	0.103*	-0.004	-0.017	-0.125*	0.004
	(2.05)	(2.26)	(0.26)	(2.34)	(1.82)	(-1.38)	(-0.63)	(-1.86)	(0.07)
% First Lien	-0.318***	-0.236*	-0.199	-0.059	0.073	0.019	0.016	-0.626*	0.143
	(-3.20)	(-1.70)	(-1.22)	(-0.50)	(0.82)	(0.72)	(0.07)	(-1.74)	(0.36)
% Non-Accrual	0.754**	1.182	0.808	0.950*	0.393	0.233	-3.100***	-8.622***	-3.185
	(2.08)	(1.08)	(0.66)	(1.72)	(0.69)	(0.90)	(-3.70)	(-3.85)	(-1.13)
ROE (NII)	0.801**	2.306***	2.555***	0.372	0.333	0.099	-1.204	-0.666	0.909
	(2.38)	(3.23)	(4.36)	(0.69)	(0.72)	(0.42)	(-1.48)	(-0.22)	(0.27)
N	688	178	73	688	178	73	688	178	73
# BDCs	163	51	21	163	51	21	163	51	21
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (BDC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 6: Maturity Structure: Summary Statistics

Pooled BDC-year sample, 2017 to 2025 period. Rollover ≤12m share is the share of total outstanding debt maturing within 12 months. WAM is the facility-weighted average remaining maturity (years). Maturity HHI is the Herfindahl index across five annual maturity buckets, normalized to $[0, 1]$.

Variable	N	Mean	SD	P25	Median	P75
Rollover ≤12m share	895	0.105	0.247	0.000	0.000	0.068
WAM (years)	895	3.89	2.26	2.68	3.70	4.66
Maturity HHI	895	0.609	0.328	0.354	0.526	1.000

Table 7: Funding Composition and Rollover Risk

Comparison of two estimators of the funding-composition specification. Panel A (columns 1-3) reports the baseline ordinary least squares (OLS) estimates where each BDC-year observation receives equal weight. Panel B (columns 4-6) reports the value-weighted least squares (WLS) estimates with weights proportional to BDC total assets (in \$M). The three dependent variables are: Rollover ≤12m share of total outstanding debt maturing within 12 months of fiscal year-end; WAM is the weighted-average remaining maturity in years; and Maturity HHI measures the concentration of outstanding debt across annual maturity buckets, normalized to $[0, 1]$. Funding-composition shares are contemporaneous; the residual *secured-bank* category (revolvers + term loans) is the omitted reference, so coefficients on SPV / TD, CLO / TD, and Unsecured / TD are interpreted relative to secured-bank funding. Continuous controls (Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) winsorized at the 1st and 99th percentiles of the pooled panel. Standard errors clustered at the BDC level reported in parentheses below each coefficient as t-statistics. Sample: pooled BDC-year panel, 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	Panel A: OLS			**Panel B: WLS**		
	(1)	(2)	(3)	(4)	(5)	(6)
	Rollover ≤12m	WAM	Maturity HHI	Rollover ≤12m	WAM	Maturity HHI
SPV / TD	-0.123***	1.029***	-0.041	-0.065	0.280	-0.082
	(-2.59)	(3.76)	(-1.15)	(-1.44)	(0.78)	(-1.33)
CLO / TD	-0.168***	8.173***	0.119	-0.116**	7.045***	0.127
	(-3.33)	(7.96)	(1.50)	(-2.33)	(11.37)	(1.45)
Unsecured / TD	-0.145**	1.121***	-0.321***	-0.089	0.553	-0.385***
	(-2.42)	(3.12)	(-5.80)	(-1.59)	(1.51)	(-4.92)
Controls (continuous variables winsorized at 1/99)						
ln(Total Assets)	-0.006	0.070	-0.100***	0.002	-0.001	-0.088***
	(-0.68)	(1.04)	(-10.42)	(0.38)	(-0.04)	(-8.87)
Public	-0.076***	0.213	-0.122***	-0.028	0.010	-0.083**
	(-2.92)	(1.04)	(-3.41)	(-1.40)	(0.05)	(-2.18)
Leverage	0.085**	-0.051	-0.096**	0.049	-0.039	-0.030
	(2.15)	(-0.19)	(-2.38)	(1.52)	(-0.10)	(-0.44)
Asset Coverage	0.024	0.022	0.017*	0.021	0.091	0.052**
	(1.14)	(0.24)	(1.68)	(1.21)	(0.69)	(2.57)
% First Lien	-0.058	-0.317	-0.046	-0.041	-0.520	-0.069
	(-0.75)	(-0.44)	(-0.65)	(-1.02)	(-1.26)	(-0.80)
% Non-Accrual	1.315***	-6.216***	0.519*	1.590***	-9.469***	0.363
	(2.88)	(-2.78)	(1.74)	(3.29)	(-3.45)	(0.83)
ROE (NII)	-0.156	-1.518	0.060	0.193	-3.556	0.331
	(-0.65)	(-0.47)	(0.23)	(0.90)	(-1.04)	(0.80)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Estimator	OLS	OLS	OLS	WLS	WLS	WLS
Weights	–	–	–	TA	TA	TA
Observations	863	863	863	863	863	863
Number of BDCs	193	193	193	193	193	193
Adj. R^2	0.130	0.424	0.443	0.132	0.440	0.475

Table 8: Funding Structure by BDC Size, 2017–2025

This table reports the funding structure of BDCs by total-asset size quartile, pooled across 2017 to 2025. Panel A restricts the sample to publicly listed BDCs; Panel B restricts to non-traded BDCs ("Private"). Quartiles are constructed *within each listing-status sample and within each fiscal year*, so size definitions are status- and year-relative. The resulting BDC-year observations are pooled across years. Secured bank funding includes revolving credit facilities and term loans. SPV facilities are on-balance-sheet warehouse vehicles consolidated by the BDC. CLO notes are tranches issued by middle-market collateralized loan obligations sponsored or held by the BDC. Unsecured notes include all publicly and privately placed unsecured debt. Means are reported on the first row of each variable; medians are reported in brackets on the second row.

Panel A: Publicly Listed BDCs

	Q1 (Small)	Q2	Q3	Q4 (Large)	All
N (BDC-years)	109	104	100	106	419
N (unique BDCs)	29	30	27	24	70
Total assets range ($M)	2–840	400–1,883	611–3,324	1,629–37,011	2–37,011
Total funding ($B, pooled)	17.7	50.6	91.0	378.3	537.7
Funding composition (%)					
Secured bank	15.6	11.4	25.5	19.4	17.9
	[0.0]	[0.0]	[25.9]	[16.9]	[6.3]
SPV facilities	18.6	24.5	19.9	15.7	19.6
	[0.0]	[13.0]	[7.6]	[10.9]	[8.6]
CLO notes	2.7	11.3	10.2	10.1	8.5
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Unsecured notes	63.1	52.7	44.4	54.7	54.0
	[65.5]	[50.3]	[41.9]	[57.1]	[53.7]
Maturity profile (%)					
Rollover $\leq$12m	13.6	3.8	6.2	5.7	7.4
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Leverage					
Debt-to-equity	0.97	1.10	1.11	0.98	1.04
	[0.89]	[1.08]	[1.14]	[1.01]	[1.08]

Table 8, continued

Panel B: Non-Traded (Private) BDCs

	Q1 (Small)	Q2	Q3	Q4 (Large)	All
N (BDC-years)	133	126	125	128	512
N (unique BDCs)	64	78	65	49	153
Total assets range ($M)	2–481	125–1,205	560–2,242	1,286–85,992	2–85,992
Total funding ($B, pooled)	9.0	29.3	70.5	384.4	493.1
Funding composition (%)					
Secured bank	45.1	37.4	26.7	15.4	31.3
	[28.3]	[11.3]	[10.2]	[9.2]	[10.6]
SPV facilities	47.5	58.0	59.6	53.7	54.6
	[42.1]	[79.9]	[65.2]	[49.6]	[59.7]
CLO notes	0.0	1.3	8.1	7.7	4.2
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Unsecured notes	7.4	3.3	5.7	23.2	9.9
	[0.0]	[0.0]	[0.0]	[24.7]	[0.0]
Maturity profile (%)					
Rollover $\leq$12m	15.7	17.6	9.0	6.7	12.3
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Leverage					
Debt-to-equity	0.80	0.85	0.93	0.77	0.84
	[0.77]	[0.84]	[0.84]	[0.81]	[0.81]

Table 9: Funding Composition and Rollover Risk — Size Quartiles × Public Interactions

OLS with cluster-robust standard errors at the BDC level. Each column estimates the funding-composition specification augmented with within-year size quartile fixed effects and four Public×SizeQuartile interactions. Size quartiles are constructed within each fiscal year, using Total Assets, so size definitions are year-relative; Q1 is the smallest, Q4 the largest. The omitted reference is Private BDCs in size quartile 1 (smallest non-traded BDCs). Each Public×Q_k coefficient therefore reads as the Public-vs-Private differential within that size quartile. The residual "secured-bank" category (revolvers + term loans) is the omitted reference for the composition shares (SPV / TD, CLO / TD, Unsecured / TD). t-statistics in parentheses. Sample: pooled panel 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	(1) Rollover ≤12m	(2) WAM	(3) Maturity HHI
SPV / TD	-0.114**	1.058***	-0.037
	(-2.34)	(3.43)	(-1.09)
CLO / TD	-0.152***	8.200***	0.146*
	(-2.92)	(7.79)	(1.94)
Unsecured / TD	-0.126**	1.197***	-0.266***
	(-2.11)	(3.01)	(-5.02)
Size quartile main effects (Q1 omitted = reference)			
Size Q2 (small-mid)	0.025	-0.333	0.053
	(0.43)	(-0.91)	(1.54)
Size Q3 (mid-large)	-0.017	-0.246	-0.138***
	(-0.31)	(-0.64)	(-2.67)
Size Q4 (largest)	-0.032	-0.420	-0.283***
	(-0.48)	(-0.85)	(-4.03)
Public premium within size quartile (Private = baseline)			
Public × Q1 (smallest)	-0.102*	-0.315	-0.211***
	(-1.68)	(-0.76)	(-3.94)
Public × Q2	-0.136***	0.336	-0.293***
	(-2.68)	(0.75)	(-6.25)
Public × Q3	-0.076*	0.363	-0.116**
	(-1.93)	(1.03)	(-2.39)
Public × Q4 (largest)	-0.035	0.208	-0.024
	(-1.54)	(0.83)	(-0.50)
Continuous controls (winsorized 1/99)			
ln(Total Assets)	-0.006	0.131	-0.046***
	(-0.31)	(1.00)	(-2.98)
Leverage	0.083**	-0.045	-0.107***
	(2.20)	(-0.17)	(-2.76)
Asset Coverage	0.023	0.027	0.013
	(1.13)	(0.28)	(1.30)
% First Lien	-0.063	-0.480	-0.065
	(-0.82)	(-0.64)	(-0.99)
% Non-Accrual	1.359***	-6.049***	0.489*
	(3.02)	(-2.74)	(1.76)
ROE (NII)	-0.206	-1.572	-0.200
	(-0.84)	(-0.50)	(-0.79)
Year FE	Yes	Yes	Yes
Observations	863	863	863
Number of BDCs	193	193	193
Adj. R^2	0.130	0.425	0.476

Table 10: Near-Term Rollover Share by Funding Type and Listing Status

Pooled 2017–2025 facility-year observations across all BDCs. Each cell is the dollar-weighted share of outstandings within a funding type that mature within h months of fiscal year-end, $\sum_{j \in \mathcal{F}_{\leq h}} a_j / \sum_{j \in \mathcal{F}} a_j$. Facilities that have matured or lack a disclosed maturity are excluded from both numerator and denominator. CLO term notes show zero near-term rollover because the shortest disclosed legal-final maturity in the panel exceeds 12 months from any sample-year fiscal year-end, and most carry 10–15-year legal-finals governed by reinvestment-period rules and call provisions rather than economic life.

	≤3 months		≤6 months		≤12 months	
	Public	Private	Public	Private	Public	Private
Revolvers	0.0	1.3	0.1	4.3	0.5	10.9
SPV Facilities	0.6	0.1	0.9	0.6	2.2	4.2
CLO Notes	0.0	0.0	0.0	0.0	0.0	0.0
Unsecured Notes	4.6	1.7	6.3	2.6	11.6	8.0

Table 11: Funding Concentration and Rollover Risk

The dependent variables are three measures of rollover risk. Type HHI measures funding concentration across 4 funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. Facility HHI measures concentration across individual facilities. Columns (1)/(3)/(5) use Type HHI; columns (2)/(4)/(6) use Facility HHI. Unsecured / TD is included as a control because unsecured bullet maturities are the primary mechanical driver of near-term rollover risk. All variables contemporaneous. Standard errors clustered at BDC level. Continuous controls winsorized at 1/99. Sample: pooled panel 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	(1)	(2)	(3)	(4)	(5)	(6)
	Rollover ≤12m		WAM		Maturity HHI	
Type HHI	0.049		-0.741**		0.235***	
	(1.49)		(-2.16)		(4.27)	
Facility HHI		0.037		-0.373		0.388***
		(0.92)		(-1.10)		(10.31)
ln(# Facilities)	-0.015	-0.017	0.612**	0.697***	-0.150***	-0.097***
	(-0.76)	(-0.86)	(2.27)	(2.72)	(-5.28)	(-4.29)
Unsecured / TD	-0.040	-0.023	-1.343**	-1.576***	-0.178***	-0.062
	(-0.85)	(-0.51)	(-2.40)	(-2.87)	(-3.08)	(-1.30)
ln(Total Assets)	0.002	0.001	-0.053	-0.040	-0.009	-0.013
	(0.14)	(0.09)	(-0.48)	(-0.37)	(-0.81)	(-1.28)
Public	-0.069***	-0.074***	0.683**	0.764***	-0.028	-0.037
	(-2.69)	(-3.00)	(2.29)	(2.58)	(-0.73)	(-1.13)
Leverage	0.091**	0.094**	0.175	0.118	-0.019	-0.015
	(2.06)	(2.15)	(0.51)	(0.35)	(-0.55)	(-0.58)
Asset Coverage	0.027	0.027	0.004	-0.005	0.013	0.001
	(1.38)	(1.37)	(0.04)	(-0.05)	(1.59)	(0.23)
% First Lien	-0.054	-0.059	-0.337	-0.249	0.042	0.034
	(-0.66)	(-0.74)	(-0.42)	(-0.33)	(0.75)	(0.71)
% Non-Accrual	1.462***	1.453***	-8.416***	-8.300***	0.153	0.100
	(3.00)	(3.01)	(-3.06)	(-3.06)	(0.77)	(0.53)
ROE (NII)	-0.140	-0.128	-3.001	-3.213	-0.237	-0.210
	(-0.58)	(-0.53)	(-0.73)	(-0.80)	(-1.32)	(-1.51)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	863	863	863	863	863	863
Number of BDCs	193	193	193	193	193	193
Adj. R^2	0.111	0.111	0.138	0.134	0.560	0.621

Table 12: Funding Concentration and Rollover Risk: Public vs. Private BDCs

Base coefficients on funding-concentration variables give the effect for Private BDCs (Public = 0). Interaction terms capture the additional effect for Public BDCs. Columns (1)/(3)/(5) use Type HHI; columns (2)/(4)/(6) use Facility HHI. The "Effect for Public BDCs" rows report the sum of base and interaction coefficients with significance from a Wald test. Type HHI measures funding concentration across 4 funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. Facility HHI measures concentration across individual facilities. Unsecured / TD is included as a control because unsecured bullet maturities are the primary mechanical driver of near-term rollover risk. Other controls (ln(Total Assets), Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) are included but not shown. All variables are contemporaneous. Standard errors clustered at the BDC level. Continuous controls winsorized at 1/99. Sample: pooled panel 2017 to 2025. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	(1)	(2)	(3)	(4)	(5)	(6)
	Rollover ≤12m		WAM		Maturity HHI	
Base effects (Private BDCs)						
Type HHI	0.014		-1.031**		0.332***	
	(0.25)		(-2.29)		(3.80)	
Facility HHI		-0.017		0.113		0.380***
		(-0.34)		(0.29)		(7.64)
ln(# Facilities)	-0.044	-0.055**	0.660***	1.013***	-0.164***	-0.096***
	(-1.63)	(-2.13)	(2.59)	(3.77)	(-3.73)	(-2.76)
Unsecured / TD	-0.022	-0.027	-1.578**	-1.261*	0.075	-0.005
	(-0.36)	(-0.48)	(-2.34)	(-1.91)	(0.78)	(-0.05)
Interactions with Public						
Type HHI × Public	0.042		0.938		-0.107	
	(0.47)		(1.16)		(-0.85)	
Facility HHI × Public		0.103		-0.836		0.080
		(1.15)		(-0.95)		(1.01)
ln(# Facilities) × Public	0.048*	0.063***	-0.106	-0.556*	0.029	-0.004
	(1.87)	(2.61)	(-0.31)	(-1.68)	(0.59)	(-0.11)
Unsecured / TD × Public	-0.027	0.018	-0.086	-0.534	-0.323***	-0.074
	(-0.31)	(0.27)	(-0.08)	(-0.62)	(-2.61)	(-0.65)
Public	-0.142**	-0.182***	0.481	1.806***	0.068	-0.030
	(-2.29)	(-3.53)	(0.80)	(3.12)	(0.64)	(-0.40)
Effect for Public BDCs (base + interaction)						
Type/Facility HHI [Public]	0.056	0.086	-0.094	-0.723	0.225**	0.460***
	(0.83)	(1.17)	(-0.13)	(-0.93)	(2.40)	(7.24)
ln(# Facilities) [Public]	0.005	0.008	0.553	0.456	-0.135***	-0.101***
	(0.21)	(0.40)	(1.58)	(1.44)	(-4.05)	(-3.91)
Unsecured / TD [Public]	-0.049	-0.010	-1.664**	-1.795***	-0.248***	-0.078
	(-0.69)	(-0.18)	(-2.02)	(-2.67)	(-3.11)	(-1.35)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	863	863	863	863	863	863
Number of BDCs	193	193	193	193	193	193
Adj. R^2	0.111	0.112	0.140	0.137	0.570	0.622

Table 13: Stock Returns and Rollover Risk

The dependent variable is the daily Public-BDC stock return (in %). Each pair of columns reports two specifications: without and with BDC-level controls log(Total Assets), Leverage (D/E), Asset Coverage (%), % First Lien, % Non-Accrual (Cost), and ROE (Net Investment Income), all measured at the most recent fiscal year-end; these enter the regression but their coefficients are suppressed and indicated with the *BDC controls* row. The *Mkt* row indicates whether the daily S&P 500 return enters as a separate market control: it does in all specifications, but in the S&P 500 columns it is perfectly collinear with the Stress regressor itself and is dropped. *Stress* is one of three daily measures sourced from Bloomberg: ΔVIX (level change), ΔHY OAS (Bloomberg U.S. High Yield Option-Adjusted Spread, basis points), or the S&P 500 return (%). *RolloverRisk* is the share of the BDC's total outstanding unsecured notes that mature within 12 months of the prior fiscal year-end, winsorized at the 1st and 99th percentiles within each fiscal year and standardized to have mean zero and unit standard deviation. *RolloverRisk* enters with a one-year lag. Standard errors clustered two-way by ticker and by date. Sample: Public BDCs only, 2022-04-01 onward (post zero-rate-floor period covering the Fed hiking cycle, 2023 regional-bank stress, and subsequent credit normalization). Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

	(1)	(2)	(3)	(4)	(5)	(6)
	ΔVIX		ΔHY OAS (bps)		S&P 500 return (%)	
Stress	-0.1256***	-0.1257***	-0.0208***	-0.0208***	+0.5413***	+0.5433***
	(-5.56)	(-5.50)	(-4.92)	(-4.85)	(+13.73)	(+13.86)
RolloverRisk	+0.0005*	+0.0004	+0.0005*	+0.0004	+0.0004	+0.0003
	(+1.67)	(+1.45)	(+1.75)	(+1.56)	(+1.26)	(+1.07)
Stress × RolloverRisk	-0.0008	-0.0008	-0.0003**	-0.0003**	+0.0022**	+0.0021**
	(-1.53)	(-1.50)	(-2.48)	(-2.48)	(+2.12)	(+2.10)
Mkt (r_SP500) control	Yes	Yes	Yes	Yes	—	—
BDC controls	No	Yes	No	Yes	No	Yes
BDC FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	50,086	49,631	50,086	49,631	50,086	49,631
R^2 (within)	0.1352	0.1383	0.1365	0.1396	0.1286	0.1316

Table 14: Stock Returns and Rollover Risk — Pre/Post-2023 Decomposition

Pre/Post-2023 decomposition of the *Stress* × *RolloverRisk* interaction from Table 13, using the full daily panel (covering the 2018 to 2026 period). The dependent variable is the daily Public-BDC stock return (in %). Each column estimates the saturated two-regime specification $r_{i,t} = \alpha_i + \delta_{ym(t)} + \sum_{g\in\{\text{pre,post}\}} \beta_{S,g}\,\text{Stress}_t{\cdot}\mathbf{1}[g(t)] + \sum_g \beta_{R,g}\,\text{Roll}_{i,y-1}{\cdot}\mathbf{1}[g(t)] + \sum_g \beta_{SR,g}\,\text{Stress}_t{\cdot}\text{Roll}_{i,y-1}{\cdot}\mathbf{1}[g(t)] + \gamma\,\text{Mkt}_t + \mathbf{X}'_{i,y-1}\boldsymbol{\delta} + \varepsilon_{i,t}$, where the two regimes are defined as pre $= \{y(t) \le 2023\}$ and post $= \{y(t) > 2023\}$. *Stress* is one of three daily measures sourced from Bloomberg: ΔVIX (level change), ΔHY OAS (Bloomberg U.S. High Yield Option-Adjusted Spread, basis points), or the S&P 500 return (%). *RolloverRisk* is the share of the BDC's total outstanding unsecured notes that mature within 12 months of the prior fiscal year-end, winsorized at the 1st and 99th percentiles within each year and standardized to zero mean / unit SD. *RolloverRisk* enters with a one-year lag. The vector $\mathbf{X}_{i,y-1}$ collects the BDC-level controls log(Total Assets), Leverage (D/E), Asset Coverage (%), % First Lien, % Non-Accrual (Cost), and ROE (Net Investment Income). The regime-specific $\beta_{S,g}$ and $\beta_{R,g}$ lower-order coefficients are included in the regression but suppressed from the table for clarity. BDC fixed effects and year-month fixed effects are absorbed. Standard errors are clustered two-way by ticker and by date. Sample: Public BDCs only, full daily panel from January 2018 to May 2026. Significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

	(1) ΔVIX	(2) ΔHY OAS (bps)	(3) S&P 500 return (%)
Regime-specific Stress × RolloverRisk effects			
Stress × Roll × **Pre** (year ≤ 2023)	-0.0003	+0.0001	-0.0006
	(-0.48)	(+0.73)	(-0.62)
Stress × Roll × **Post** (year > 2023)	-0.0013**	-0.0005***	+0.0041***
	(-1.99)	(-3.03)	(+3.27)
H_0: $\beta_{SR,\text{pre}} = \beta_{SR,\text{post}}$ (Wald test, clustered SE)			
F-stat	1.28	8.49	7.97
p-value	0.258	0.004***	0.005***
Regime-specific Stress level + Roll level effects (suppressed); Mkt + BDC controls included			
BDC FE	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes
Mkt (r_SP500) control	Yes	Yes	—
BDC controls	Yes	Yes	Yes
Observations (Pre / Post)	70,135 / 28,749	70,135 / 28,749	70,135 / 28,749
R^2 (within)	0.1470	0.1598	0.1464

Appendix

Table A1: Variable Definitions

Variable	Definition
Panel A: BDC Characteristics	
Total Assets ($M)	Total assets as reported in the 10-K filing, in millions of dollars. Sourced from the balance sheet; where missing in the funding panel, filled from the quarterly balance sheet file.
NAV ($M)	Net asset value (total net assets), in millions of dollars. Sourced from the balance sheet.
Debt-to-Equity (x)	Ratio of total outstanding debt to NAV. Calculated as Total Outstanding / NAV.
Asset Coverage (%)	Asset coverage ratio as reported in the 10-K, expressed as a percentage. BDCs are required to maintain a minimum of 150% under the Investment Company Act of 1940 (reduced from 200% by the Small Business Credit Availability Act of 2018).
Public	Indicator variable equal to one if the BDC is listed on a public stock exchange (NYSE, Nasdaq), zero otherwise. Classification is based on exchange-listing status from the quarterly balance sheet tracker, not SEC filing status.
ln(Total Assets)	Natural logarithm of total assets in millions.
Panel B: Funding Amounts	
Total Committed ($M)	Sum of all facility commitments. For revolvers and SPV facilities, this is the committed (maximum drawable) amount; for term loans, CLO notes, and unsecured notes, commitment equals the outstanding or principal amount (fully drawn instruments). Where committed is missing or less than outstanding, committed is floored to outstanding.
Total Outstanding ($M)	Sum of outstanding amounts across all funding types: secured bank + SPV + CLO + unsecured.
Secured Bank Committed/Outstanding ($M)	Sum of revolver and term loan commitments / outstanding amounts.
Revolver Committed/Outstanding ($M)	Total committed / drawn amount across all revolving credit facilities.
SPV Committed/Outstanding ($M)	Total committed / drawn amount across all SPV warehouse and asset-based lending facilities.
CLO Outstanding ($M)	Total outstanding across CLO securitization tranches. CLO notes are fully placed; commitment equals outstanding.
Unsecured Notes Outstanding ($M)	Total principal outstanding across all unsecured notes (publicly and privately placed). Fully drawn; commitment equals principal.
Panel C: Funding Composition	
Secured Bank / TD	Share of total outstanding debt from secured bank funding (revolvers + term loans).
SPV / TD	Share of total outstanding debt from SPV warehouse and asset-based lending facilities.
CLO / TD	Share of total outstanding debt from CLO securitization tranches.
Unsecured / TD	Share of total outstanding debt from unsecured notes (publicly and privately placed).
% First Lien	Share of total investment portfolio at fair value held in first-lien senior secured loans.
% Non-Accrual	Share of total investment portfolio at fair value on non-accrual status.
ROE (NII)	Return on equity measured as net investment income divided by average net asset value.

Continued on next page

Table A1 (continued)

Variable	Definition
Panel D: Utilization	
Revolver Utilization (%)	Outstanding divided by committed for revolving credit facilities, expressed as a percentage. Reflects the drawn portion of available bank credit lines.
SPV Utilization (%)	Outstanding divided by committed for SPV warehouse facilities, expressed as a percentage. Reflects borrowing-base usage.
Panel E: Concentration and Diversification	
Type HHI	Herfindahl-Hirschman Index of funding concentration across four funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. Calculated as $\sum_{k=1}^{4} s_k^2$ where s_k is the share of type k in total outstanding. Values near 1 indicate single-source funding; values near 0.25 indicate equal diversification across all four types.
Facility HHI	Herfindahl-Hirschman Index of funding concentration across individual facilities, normalized to $[0, 1]$. Calculated as $\sum_{j=1}^{N} s_j^2$ where s_j is the share of facility j in total outstanding.
# Facilities	Count of individual funding instruments (revolvers, term loans, SPV facilities, CLO tranches, unsecured note issuances) with positive outstanding balance.
ln(# Facilities)	Natural logarithm of the number of facilities.
Panel F: Rollover Risk	
Rollover $\leq$12m	Share of total outstanding debt maturing within 12 months of fiscal year-end. Computed from individual facility maturity dates parsed from 10-K filings. Facilities with missing maturity dates are excluded from the denominator.
WAM (years)	Weighted-average remaining maturity in years, where weights are each facility's outstanding amount as a share of total outstanding with non-missing maturity dates.
Maturity HHI	Herfindahl-Hirschman Index measuring the concentration of outstanding debt across annual maturity buckets, normalized to $[0, 1]$. Higher values indicate that maturities are bunched in fewer years, creating maturity walls.
Remaining Tenor (years)	Facility-level remaining time to maturity from fiscal year-end, in years. Used in facility-level analysis.
Spread (bps)	Facility-level stated spread over the base rate (SOFR, LIBOR, EURIBOR, or equivalent), in basis points. Available for revolvers and SPV facilities. Used in facility-level analysis.
Panel G: Feedback Loop Variables (First Differences)	
ΔRollover12m	Year-over-year change in the share of total outstanding debt maturing within 12 months, within a given BDC.
ΔWAM	Year-over-year change in weighted-average remaining maturity (years).
ΔNon-Accrual	Year-over-year change in the share of portfolio at fair value on non-accrual status.
ΔROE	Year-over-year change in return on equity (net investment income / average NAV).
ΔLeverage	Year-over-year change in debt-to-equity ratio.
Δ% First Lien	Year-over-year change in the share of first-lien senior secured loans in the portfolio.
ΔAsset Coverage	Year-over-year change in the asset coverage ratio.

Online Appendix

The Funding Structure of Direct Lenders

Elisavet Mistopoulou Sascha Steffen

Frankfurt School of Finance & Management

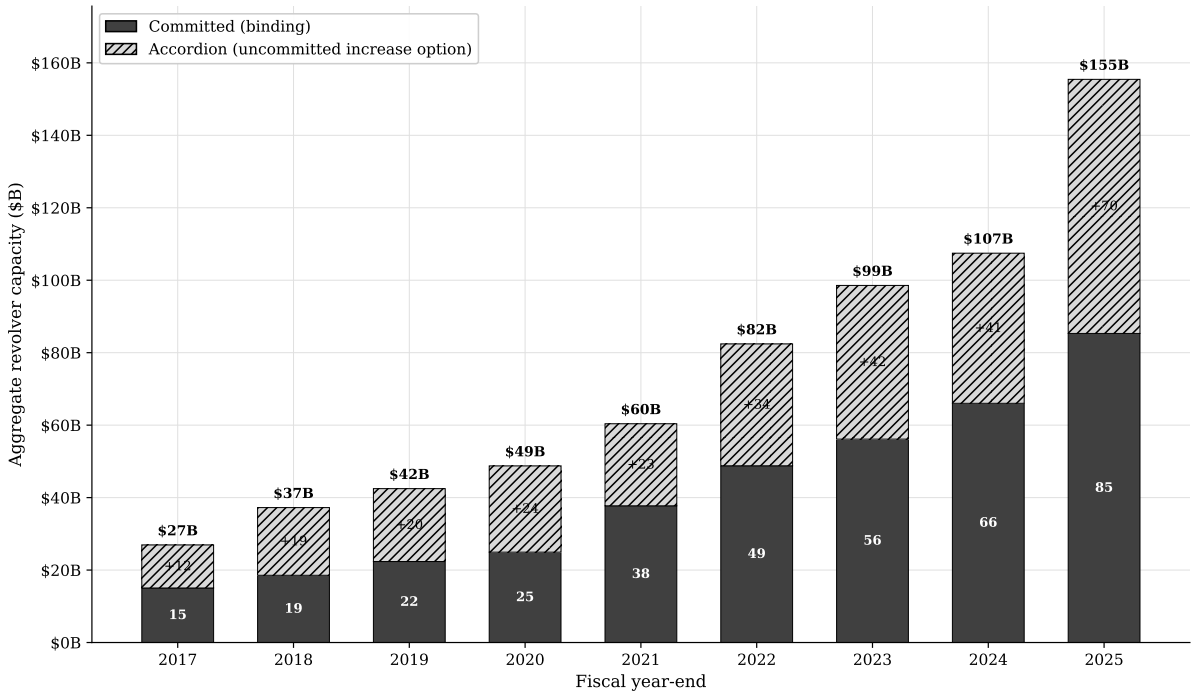


Figure OA1: Aggregate BDC revolver capacity: committed versus accordion

Notes: The figure plots, for each fiscal year-end, the aggregate maximum capacity of revolving credit facilities across all BDCs in our sample, decomposed into the committed (binding) amount that lenders are contractually obligated to provide and the accordion, an uncommitted option to increase the facility that lenders are not bound to fund.

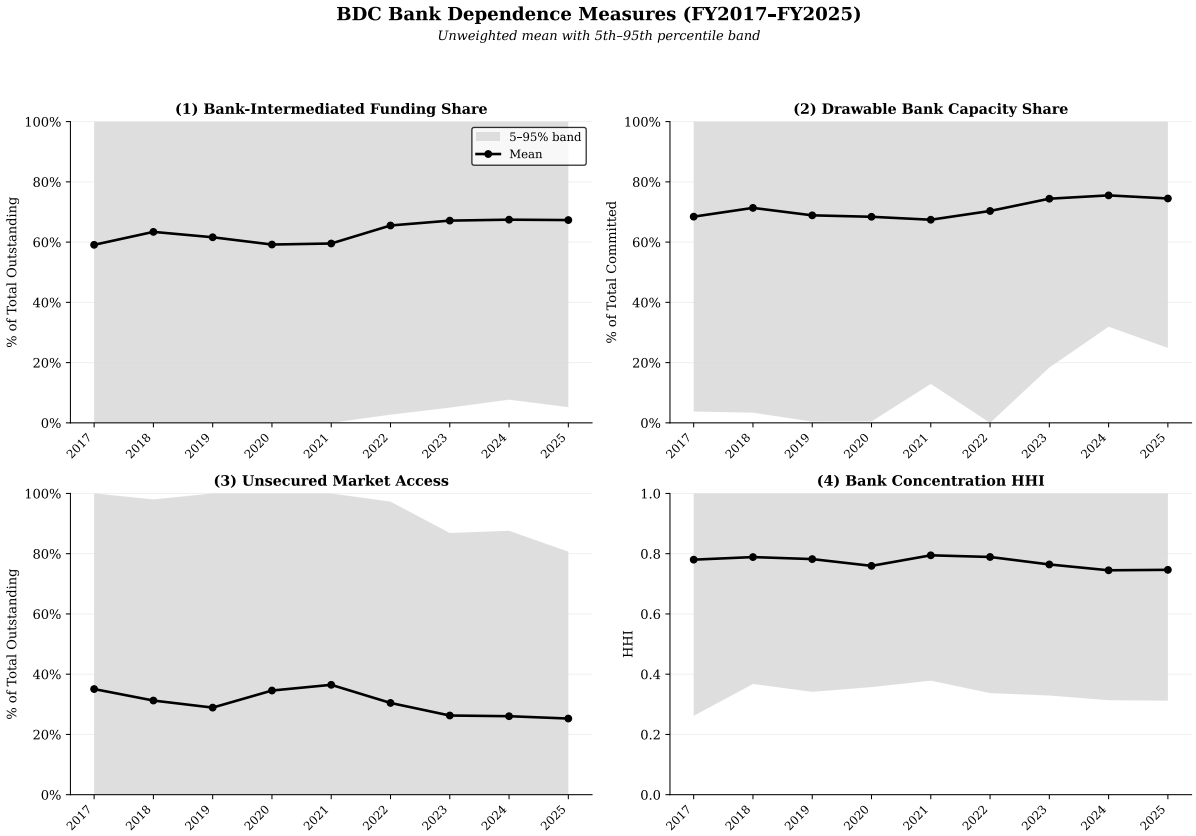


Figure OA2: BDC Bank Dependence Measures, 2017–2025

Notes: This figure shows four measures of BDC bank dependence over time. Panel (1): bank-intermediated funding (revolvers + term loans + SPV facilities) as a share of total outstanding. Panel (2): drawable bank capacity (revolver + SPV commitments) as a share of total commitments. Panel (3): unsecured notes as a share of total outstanding, measuring capital-markets access. Panel (4): bank-level Herfindahl-Hirschman Index across identified lender relationships, where 1 indicates a single-bank relationship. Lines show unweighted cross-sectional means; shaded bands show the 5th–95th percentile range.

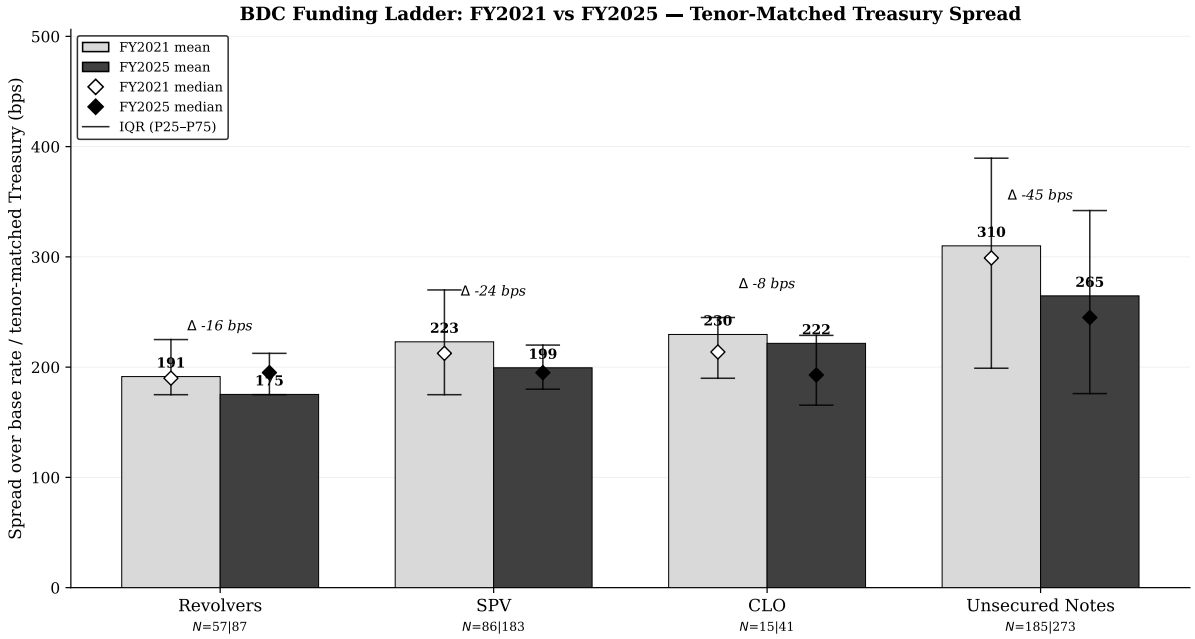


Figure OA3: BDC Funding Ladder: 2021 vs 2025 — Tenor-Matched Treasury Spread

Notes: This figure compares the cost of BDC funding across four facility types between FY2021 and FY2025. For floating-rate facilities (revolvers, SPV, CLO), spreads are the stated margin over the base rate (SOFR/LIBOR/EURIBOR). For unsecured notes (fixed-rate), spreads are computed as the stated coupon minus the tenor-matched U.S. Treasury yield at issuance, matched to the nearest benchmark tenor (2y/3y/5y/7y/10y). Bars show means; diamonds show medians; whiskers show the interquartile range (P25–P75). The Δ labels report the change in mean spread from FY2021 to FY2025. Sample sizes (FY2021 | FY2025) are shown below each facility type.

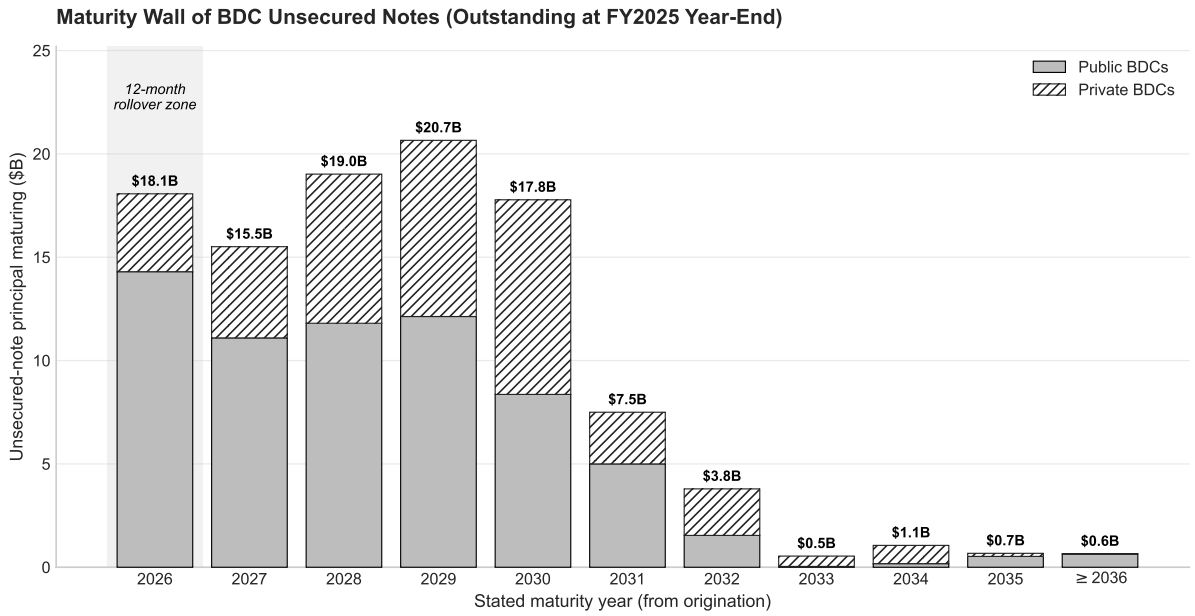


Figure OA4: BDC unsecured-note rollover wall, 2026–

Notes: Each bar reports total BDC unsecured-note principal maturing in calendar year Y. Bars are stacked by listing status (private vs public); light-gray shading marks the 2026 period.

Table OA1: Sample of Business Development Companies and Data Completeness

Notes: The table reports all 225 unique BDCs appearing in the panel across FY2017–FY2025, sorted by total assets in the last available year. Type is Public (exchange-traded) or Private (non-traded). Perp. indicates whether the private BDC has a perpetual life structure (Yes) or a fixed dissolution date (No); "–" denotes cases where the classification is unavailable; the column is blank for public BDCs. TA is total assets in the last available year. First and Last are the first and last fiscal years (20xx) in which the BDC appears in the panel; Yrs is the count of years present. # Sec. is the count of secured credit facilities with facility-level detail (revolvers, term loans, SPV borrowing facilities); # CLO is the count of CLO/securitization vehicles; # Uns. is the count of unsecured note series — all evaluated in the last available year. Completeness classifies the availability of facility-level fields (spreads, maturities, counterparty banks) in the last available year: "Full" (157 BDCs) = all detail fields populated; "Near-compl." (36) = minor gaps (e.g., a missing CLO rate or maturity); [a]"Partial" (9) = material gaps in at least one funding category; [b]"No debt" (23) = zero outstanding borrowings, no facility-level decomposition applicable. Sample composition: 68 public, 87 private perpetual, 68 private non-perpetual, 2 private with perpetual status unavailable.

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
1	BCRED	Blackstone Private Credit Fund	Private	Yes	86.0	21	25	5	18	12	20	Near-compl.
2	ORCIC	Blue Owl Credit Income Corp.	Private	Yes	37.0	24	25	2	11	8	11	Near-compl.
3	ARCC	Ares Capital Corporation	Public		31.2	17	25	9	8	3	11	Full
4	HLEND	HPS Corporate Lending Fund	Private	Yes	26.3	22	25	4	6	4	12	Partial[a]
5	ADS	Apollo Debt Solutions BDC	Private	Yes	25.9	24	25	2	6	10	10	Partial[a]
6	ASIF	Ares Strategic Income Fund	Private	Yes	22.7	23	25	3	4	3	8	Full
7	OLRCIC	Blue Owl Credit Income Corp.	Private	Yes	17.3	20	23	4	10	5	6	Near-compl.
8	OBDC	Blue Owl Capital Corporation	Public		17.2	17	25	9	5	7	9	Partial[a]
9	GSPCCP	Goldman Sachs Private Credit Corp.	Private	Yes	16.3	23	25	3	4	0	4	Full
10	OTF	Blue Owl Technology Finance Corp.	Public		14.7	18	25	8	5	3	5	Near-compl.
11	BXSL	Blackstone Secured Lending Fund	Public		14.7	18	25	8	5	1	8	Full
12	FSK	FS KKR Capital Corp	Public		13.7	17	25	9	4	2	8	Full
13	GBCPCF	Golub Capital Private Credit Fund	Private	Yes	10.2	23	25	3	3	2	6	Near-compl.
14	GBDC	Golub Capital BDC, Inc.	Public		8.9	17	25	9	1	1	5	Full
15	SIXSLP	Sixth Street Lending Partners	Private	No	8.7	22	25	4	2	0	3	Full
16	FSKR	FS KKR Capital Corp. II	Public		8.0	17	20	4	7	0	1	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
17	OAKSCF	Oaktree Strategic Credit Fund	Private	Yes	7.3	21	25	5	4	0	3	Full
18	ADSBDC	Apollo Debt Solutions BDC	Private	Yes	7.2	21	23	3	5	0	7	Full
19	NHPIFL	North Haven Private Income Fund LLC	Private	Yes	7.0	22	25	4	4	0	9	Near-compl.
20	PSEC	Prospect Capital Corporation	Public		6.8	17	25	9	1	0	2	Partial[a]
21	MSDINC	MSD Investment Corp.	Private	Yes	6.6	22	25	4	3	1	9	Near-compl.
22	OWLRTI	Blue Owl Technology Income Corp.	Private	Yes	6.5	21	25	5	5	1	3	Near-compl.
23	MCIPCO	Monroe Capital Income Plus Corporation	Private	Yes	6.1	18	25	8	6	3	6	Full
24	MAIN	Main Street Capital Corporation	Public		5.7	17	25	9	2	0	5	Full
25	BARPCC	Barings Private Credit Corporation	Private	Yes	5.1	21	25	5	3	1	6	Full
26	HTGC	Hercules Capital, Inc.	Public		4.6	17	25	9	2	1	9	Partial[a]
27	ATBCIF	TPG Twin Brook Capital Income Fund	Private	Yes	4.5	22	25	4	3	1	7	Full
28	ANSCRF	Antares Strategic Credit Fund	Private	Yes	4.3	24	25	2	2	0	1	Full
29	FBSPCC	Franklin BSP Capital Corporation	Private	Yes	4.2	20	25	6	3	0	3	Full
30	CCT	Corporate Capital Trust, Inc.	Public		4.2	17	17	1	4	0	1	Full
31	MSDL	Morgan Stanley Direct Lending Fund	Public		3.9	19	25	7	2	1	3	Partial[a]
32	ORTFII	Blue Owl Technology Finance Corp. II	Private	No	3.9	21	23	3	4	1	1	Full
33	FSNV	FS Investment Corporation III	Private	No	3.8	17	18	2	5	0	0	Full
34	OBDE	Blue Owl Capital Corporation III	Public		3.8	20	23	4	4	1	4	Full
35	ARCINF	Ares Core Infrastructure Fund	Private	Yes	3.5	24	25	2	6	0	0	Full
36	TSLX	Sixth Street Specialty Lending, Inc.	Public		3.4	17	25	9	1	0	4	Full
37	GSBD	Goldman Sachs BDC, Inc.	Public		3.4	17	25	9	1	0	3	Full
38	MFIC	MidCap Financial Investment Corpora...	Public		3.3	17	25	9	1	2	2	Full
39	SSPCFL	StepStone Private Credit Fund LLC	Private	Yes	3.2	23	25	3	4	2	2	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
40	TRPOSF	T. Rowe Price OHA Select Private Cr...	Private	Yes	3.1	23	25	3	3	0	1	Near-compl.
41	OCSL	Oaktree Specialty Lending Corp	Public		3.0	17	25	9	1	0	3	Full
42	STPTCC	Stone Point Credit Corporation	Private	No	3.0	20	25	6	3	0	3	Full
43	DIACRC	Diameter Credit Company	Private	No	3.0	24	25	2	3	0	0	Full
44	NMFC	New Mountain Finance Corporation	Public		2.9	17	25	9	2	0	14	Full
45	TCGIII	Carlyle Credit Solutions, Inc.	Private	Yes	2.8	17	25	9	2	1	0	Full
46	GCPIII	Golub Capital BDC 3, Inc.	Private	No	2.8	17	23	7	2	3	0	Full
47	CGBD	Carlyle Secured Lending, Inc.	Public		2.8	17	25	9	1	1	2	Full
48	KKRFSI	KKR FS Income Trust	Private	Yes	2.8	23	25	3	3	0	0	Full
49	PFLT	PennantPark Floating Rate Capital Ltd.	Public		2.7	17	25	9	1	3	1	Full
50	BCSF	Bain Capital Specialty Finance, Inc.	Public		2.7	17	25	9	1	1	3	Near-compl.
51	BBDC	Barings BDC, Inc.	Public		2.6	17	25	9	2	0	6	Full
52	SLRC	SLR Investment Corp.	Public		2.6	17	25	9	3	0	7	Full
53	GCBLIV	Golub Capital BDC 4, Inc.	Private	No	2.5	22	25	4	3	1	0	Full
54	BRPCRF	BlackRock Private Credit Fund	Private	Yes	2.5	22	25	4	3	0	5	Near-compl.
55	TRIN	Trinity Capital Inc.	Public		2.5	20	25	6	2	0	8	Full
56	FIPRCF	Fidelity Private Credit Fund	Private	Yes	2.4	22	25	4	3	0	2	Full
57	KBDC	Kayne Anderson BDC, Inc.	Public		2.3	20	25	6	3	0	5	Full
58	TSMMLF	T Series Middle Market Loan Fund LLC	Private	No	2.3	21	25	5	3	0	0	Near-compl.
59	HPSCSF	HPS Corporate Capital Solutions Fund	Private	Yes	2.2	24	25	2	1	0	2	Full
60	NCPCIF	Nuveen Churchill Private Capital In...	Private	Yes	2.2	22	25	4	3	2	0	Full
61	NMPCRF	New Mountain Private Credit Fund	Private	Yes	2.1	24	25	2	2	0	0	Full
62	NMGIII	New Mountain Guardian III BDC, L.L.C.	Private	No	2.1	19	23	5	1	0	3	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
63	FSEN	FS Specialty Lending Fund	Private	No	2.1	17	23	7	1	0	0	Full
64	NCDL	Nuveen Churchill Direct Lending Corp.	Public		2.1	20	25	6	1	3	1	Full
65	NMGBIV	New Mountain Guardian IV BDC, L.L.C.	Private	No	2.1	22	25	4	2	0	0	Full
66	ABPCIC	AB Private Credit Investors Corpora...	Private	Yes	2.0	17	25	9	6	2	0	Full
67	GCINCO	Golub Capital Investment Corporation	Private	No	2.0	17	18	2	2	1	0	Full
68	CSWC	Capital Southwest Corporation	Public		1.9	17	25	9	2	0	4	Full
69	CION	CION Investment Corporation	Public		1.9	17	25	9	6	0	4	Full
70	BACPCR	Bain Capital Private Credit	Private	Yes	1.7	22	25	4	3	0	2	Near-compl.
71	GSMMLL	Goldman Sachs Middle Market Lending...	Private	No	1.7	17	19	3	1	0	0	Near-compl.
72	ANPCRF	Antares Private Credit Fund	Private	Yes	1.7	24	25	2	2	0	0	Full
73	GPMMII	Goldman Sachs Private Middle Market...	Private	No	1.7	19	25	7	1	0	0	Full
74	FPCRCF	Fidelity Private Credit Company LLC	Private	No	1.7	23	25	3	2	0	0	Full
75	TCPC	BlackRock TCP Capital Corp.	Public		1.6	17	25	9	3	0	3	Full
76	OWLRII	Blue Owl Capital Corporation II	Private	No	1.6	17	25	9	2	0	1	Near-compl.
77	JCPBDC	Jefferies Credit Partners BDC Inc.	Private	Yes	1.6	23	25	3	2	1	0	Full
78	SVCPLP	Special Value Continuation Partners...	Private	Yes	1.6	17	17	1	2	0	7	Near-compl.
79	CCAP	Crescent Capital BDC, Inc.	Public		1.6	17	25	9	3	0	5	Full
80	FORPLF	Fortress Private Lending Fund	Private	Yes	1.6	25	25	1	3	0	0	Full
81	OLDADT	Overland Advantage	Private	No	1.6	24	25	2	3	0	0	Full
82	KKRITS	KKR FS Income Trust Select	Private	Yes	1.6	24	25	2	2	0	0	Full
83	BPREIF	Blackstone Private Real Estate Cred...	Private	Yes	1.6	25	25	1	10	0	0	Full
84	NMFSLI	NMF SLF I, Inc.	Private	No	1.6	20	25	6	1	0	0	Full
85	AORLCT	Apollo Origination II (Levered) Cap...	Private	No	1.5	25	25	1	2	0	0	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
86	VCRSLC	Vista Credit Strategic Lending Corp.	Private	Yes	1.5	23	25	3	2	0	4	Full
87	KKREDL	KKR Enhanced US Direct Lending Fund...	Private	Yes	1.5	24	25	2	2	0	0	Full
88	LAPCRF	Lord Abbett Private Credit Fund	Private	Yes	1.5	24	25	2	3	0	1	Partial[a]
89	26NBDC	26North BDC, Inc.	Private	No	1.4	23	25	3	2	0	0	Full
90	NEWT	Newtek Business Services Corp.	Public		1.4	17	23	7	10	5	0	Near-compl.
91	FDUS	Fidus Investment Corporation	Public		1.4	17	25	9	1	0	4	Near-compl.
92	AGLPCI	AGL Private Credit Income Fund	Private	Yes	1.4	24	25	2	3	0	0	Full
93	BARCIC	Barings Capital Investment Corporation	Private	No	1.4	20	25	6	1	0	1	Full
94	MSIF	MSC Income Fund, Inc.	Public		1.4	17	25	9	2	0	1	Near-compl.
95	PNNT	PennantPark Investment Corp	Public		1.3	17	25	9	2	3	2	Near-compl.
96	TDVIII	TCW Direct Lending VIII LLC	Private	No	1.3	22	25	4	2	0	0	Full
97	SRPSLF	Silver Point Specialty Lending Fund	Private	No	1.2	23	25	3	1	1	2	Near-compl.
98	PSBD	Palmer Square Capital BDC Inc.	Public		1.2	20	25	6	2	1	0	Full
99	KLCCOM	Kennedy Lewis Capital Company	Private	Yes	1.2	23	25	3	1	0	0	Full
100	TCWVII	TCW Direct Lending VII LLC	Private	No	1.2	18	25	8	1	0	0	Full
101	SLINVC	SL Investment Corp.	Private	No	1.2	20	23	4	1	0	0	Near-compl.
102	SAR	Saratoga Investment Corp.	Public		1.2	17	25	9	2	2	11	Full
103	SCM	Stellus Capital Investment Corporation	Public		1.0	17	25	9	1	0	3	Near-compl.
104	GAIN	Gladstone Investment Corporation	Public		1.0	17	25	9	1	0	4	Full
105	CCSIXP	CCS IX Portfolio Holdings, LLC	Private	No	1.0	25	25	1	1	0	0	Full
106	LSEBDC	Lafayette Square USA, Inc.	Private	Yes	1.0	21	25	5	1	0	8	Near-compl.
107	OGOLPL	Oaktree Gardens OLP, LLC	Private	Yes	1.0	23	25	3	2	0	0	Full
108	APCRFL	Audax Private Credit Fund, LLC	Private	Yes	1.0	25	25	1	1	0	0	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
109	CPCRIC	Crescent Private Credit Income Corp.	Private	Yes	1.0	23	25	3	1	0	0	Full
110	MMAIPL	MidCap Apollo Institutional Private...	Private	Yes	1.0	24	25	2	1	0	0	Full
111	RWAY	Runway Growth Finance Corp.	Public		1.0	17	25	9	1	0	4	Full
112	AMGCSL	John Hancock Comvest Private Income...	Private	Yes	1.0	23	25	3	2	0	0	Full
113	PSMMLF	Phillip Street Middle Market Lendin...	Private	No	0.9	22	25	4	1	0	0	Full
114	WILLTCC	Willow Tree Capital Corp	Private	Yes	0.9	24	25	2	2	0	0	Full
115	GLAD	Gladstone Capital Corporation	Public		0.9	17	25	9	1	0	4	Full
116	VARCCP	Varagon Capital Corp	Private	Yes	0.9	22	25	4	1	1	2	Full
117	GCDLCP	Golub Capital Direct Lending Corpor...	Private	No	0.9	21	25	5	2	0	0	Full
118	TPVG	TriplePoint Venture Growth BDC Corp.	Public		0.8	17	25	9	1	0	3	Full
119	BRCCRPI	Brightwood Capital Corp I	Private	No	0.8	22	25	4	2	0	0	Full
120	NCBDCV	Nuveen Churchill BDC V	Private	No	0.8	25	25	1	1	0	0	Full
121	HRZN	Horizon Technology Finance Corporation	Public		0.8	17	25	9	3	0	5	Full
122	TSCPLF	TCW Steel City Senior Lending BDC	Private	Yes	0.7	25	25	1	1	0	0	Full
123	TCWD	TCW Direct Lending LLC	Private	No	0.7	17	25	9	1	0	0	Full
124	SRRAIC	Sierra Income Corporation	Private	No	0.7	17	20	4	1	0	0	Full
125	AIIULCT	Apollo Origination II (UL) Capital ...	Private	No	0.7	25	25	1	0	0	0	No debt[b]
126	CCPBDC	Commonwealth Credit Partners BDC I,...	Private	No	0.7	21	25	5	1	0	0	Near-compl.
127	FEPCRF	First Eagle Private Credit Fund	Private	Yes	0.7	23	25	3	2	0	0	Full
128	MFIN	Medallion Financial Corp.	Public		0.6	17	17	1	3	0	3	Near-compl.
129	SPCRIF	Stone Point Credit Income Fund	Private	Yes	0.6	24	25	2	1	0	0	Full
130	BKCC	BlackRock Capital Investment Corpor...	Public		0.6	17	23	7	1	0	2	Near-compl.
131	NHPIFA	North Haven Private Income Fund A LLC	Private	Yes	0.6	23	25	3	2	0	0	Near-compl.

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
132	WHF	WhiteHorse Finance, Inc.	Public		0.6	17	25	9	1	1	5	Full
133	SLIFII	SL Investment Fund II LLC	Private	No	0.6	24	25	2	1	0	0	Full
134	5CLPRC	5C Lending Partners Corp.	Private	No	0.6	24	25	2	2	0	0	Full
135	SUNS	SLR Senior Investment Corp	Public		0.6	17	22	6	1	0	1	Full
136	SNCRIL	Senior Credit Investments, LLC	Private	Yes	0.6	23	25	3	2	0	0	Full
137	OCSI	Oaktree Strategic Income Corp	Public		0.5	17	20	4	2	0	0	Full
138	PNGLFL	Partners Group Lending Fund, LLC	Private	Yes	0.5	25	25	1	1	0	0	Full
139	BCIC	BCP Investment Corporation	Public		0.5	17	25	7	2	0	4	Full
140	NMGIVI	New Mountain Guardian IV Income Fun...	Private	No	0.5	23	25	3	1	0	0	Full
141	CLSLLC	Crestline Lending Solutions, LLC	Private	Yes	0.5	25	25	1	1	0	0	Full
142	LGAMPC	LGAM Private Credit LLC	Private	Yes	0.5	23	25	3	1	0	0	Near-compl.
143	OSPLFL	OHA Senior Private Lending Fund (U)...	Private	No	0.5	22	25	4	0	0	0	No debt[b]
144	GSPMMC	Silver Capital Holdings LLC	Private	No	0.5	17	25	9	1	0	0	Full
145	GSMMII	Goldman Sachs Middle Market Lending...	Private	No	0.5	21	23	3	1	0	0	Full
146	GARS	Garrison Capital Inc.	Public		0.5	17	19	3	1	1	5	Full
147	WBBDCL	West Bay BDC LLC	Private	Yes	0.5	24	25	2	1	0	0	Full
148	PTMN	Portman Ridge Finance Corporation	Public		0.5	23	24	2	1	0	1	Full
149	WTIFXI	WTI Fund X, Inc.	Private	No	0.4	21	25	5	1	0	0	Full
150	ACBDCI	Audax Credit BDC Inc.	Private	Yes	0.4	17	25	9	0	0	0	No debt[b]
151	FCRD	First Eagle Alternative Capital BDC...	Public		0.4	17	22	6	1	0	1	Full
152	OFDLBF	Onex Direct Lending BDC Fund	Private	Yes	0.4	21	25	5	2	0	0	Near-compl.
153	GCDLUC	Golub Capital Direct Lending Unleve...	Private	No	0.4	22	25	4	1	0	0	Full
154	SPCBDC	Stellus Private Credit BDC	Private	Yes	0.4	22	25	4	2	0	0	Full

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
155	TPGVCL	TriplePoint Private Venture Credit ...	Private	No	0.4	20	25	6	1	0	1	Full
156	SMLMMC	Star Mountain Lower Middle-Market C...	Private	Yes	0.4	21	25	5	1	0	1	Near-compl.
157	PGIMPC	PGIM Private Credit Fund	Private	Yes	0.4	23	25	3	1	0	1	Near-compl.
158	FSICIV	FS Investment Corporation IV	Private	No	0.4	17	18	2	1	0	0	Full
159	GCPIFI	Golub Capital Private Income Fund I	Private	Yes	0.4	25	25	1	0	0	0	No debt[b]
160	MRCC	Monroe Capital Corporation	Public		0.4	17	25	9	1	0	1	Full
161	REDEIC	Redwood Enhanced Income Corp.	Private	No	0.4	22	23	2	1	0	0	Full
162	CSLIII	Carlyle Secured Lending III	Private	No	0.4	22	23	2	2	0	0	Full
163	KAYDLI	Kayne DL 2021, Inc.	Private	No	0.4	21	25	5	1	0	0	Full
164	ABPRLF	AB Private Lending Fund	Private	Yes	0.4	24	25	2	4	0	0	Full
165	ADLCRC	Andalusian Credit Company, LLC	Private	No	0.3	23	25	3	1	0	0	Full
166	OFS	OFS Capital Corporation	Public		0.3	17	25	9	2	0	4	Full
167	LIEN	Chicago Atlantic BDC, Inc.	Public		0.3	21	25	5	1	0	0	Full
168	GECC	Great Elm Capital Corp.	Public		0.3	17	25	9	1	0	4	Full
169	LAPCFS	Lord Abbett Private Credit Fund S	Private	Yes	0.3	25	25	1	2	0	1	Partial[a]
170	MLPCRF	Manulife Private Credit Fund	Private	Yes	0.3	23	25	3	1	0	0	Full
171	PFX	PhenixFIN Corp	Public		0.3	17	25	9	1	0	2	Full
172	OXSQ	Oxford Square Capital Corp.	Public		0.3	17	25	9	0	0	2	Full
173	SSSS	SuRo Capital Corp.	Public		0.3	17	25	9	0	0	2	Full
174	REMCCO	Remora Capital Corp	Private	Yes	0.3	25	25	1	1	0	0	Full
175	BRDLCO	BlackRock Direct Lending Corp	Private	No	0.3	20	25	6	0	0	1	Near-compl.
176	SCPPCI	SCP Private Credit Income BDC LLC	Private	No	0.3	19	25	7	2	0	0	Full
177	ABDC	Alcentra Capital Corporation	Public		0.3	17	18	2	1	0	1	Partial[a]

Continued on next page

Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
178	GCPIFS	Golub Capital Private Income Fund S	Private	Yes	0.3	25	25	1	0	0	0	No debt[b]
179	ACSF	American Capital Senior Floating, Ltd.	Public		0.2	17	17	1	1	0	0	Full
180	MUNBDC	Muzinich BDC, Inc.	Private	No	0.2	19	25	7	1	0	0	Near-compl.
181	TCWSDL	TCW Star Direct Lending LLC	Private	No	0.2	22	25	4	0	0	0	No debt[b]
182	PCSBDC	PIMCO Capital Solutions BDC Corp.	Private	Yes	0.2	22	25	4	1	0	0	Full
183	BCPLCO	BC Partners Lending Corporation	Private	No	0.2	18	25	8	1	0	0	Full
184	AGTBDC	AG Twin Brook BDC, Inc.	Private	No	0.2	19	23	5	0	0	0	No debt[b]
185	MCECLF	Monroe Capital Enhanced Corporate L...	Private	Yes	0.2	25	25	1	1	0	0	Full
186	LRFC	Logan Ridge Finance Corporation	Public		0.2	17	23	7	1	0	2	Full
187	LAGOECR	LAGO Evergreen Credit	Private	Yes	0.2	25	25	1	1	0	0	Full
188	ICMB	Investcorp Credit Management BDC, Inc.	Public		0.2	17	25	9	1	0	1	Full
189	CPTCII	Corporate Capital Trust II	Private	No	0.2	17	18	2	1	0	0	Full
190	BIPVRE	BIP Ventures Evergreen BDC	Private	Yes	0.2	23	25	3	0	0	0	No debt[b]
191	ASCFII	Antares Strategic Credit Fund II LLC	Private	Yes	0.2	25	25	1	1	0	0	Full
192	NCSLFI	NC SLF Inc.	Private	No	0.2	21	22	2	1	0	0	Full
193	SPDLBD	Sound Point Direct Lending BDC	Private	Yes	0.2	25	25	1	2	0	0	Full
194	PNPRIF	PennantPark Private Income Fund	Private	Yes	0.1	25	25	1	0	0	0	No debt[b]
195	HCAP	Harvest Capital Credit Corporation	Public		0.1	17	20	4	1	0	1	Full
196	STCRCC	Steele Creek Capital Corporation	Private	Yes	0.1	20	25	6	1	0	0	Full
197	EPTSLC	Eagle Point Trinity Senior Secured ...	Private	Yes	0.1	25	25	1	1	0	1	Near-compl.
198	TRRAIF	Terra Income Fund 6, LLC (successor...	Private	No	0.1	17	23	7	1	0	1	Full
199	FLROCC	Flat Rock Capital Corp.	Private	Yes	0.1	17	19	3	1	0	0	Full
200	MKRCAP	MacKenzie Realty Capital, Inc	Private	Yes	0.1	17	19	3	0	0	0	No debt[b]

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
201	PSIFIN	Prospect Floating Rate & Alternati...	Private	Yes	0.1	17	25	9	1	0	0	Full
202	MCLIFI	Muzinich Corporate Lending Income F...	Private	Yes	0.1	24	25	2	0	0	0	No debt[b]
203	SLRHBL	SLR HC BDC LLC	Private	No	0.1	21	25	5	2	0	0	Full
204	OHAI	OHA Investment Corp	Public		0.1	17	18	2	1	0	0	Full
205	VLLIXI	Venture Lending & Leasing IX, Inc.	Private	No	0.1	17	25	9	0	0	0	No debt[b]
206	PVCCIN	Parkview Capital Credit, Inc	Private	No	0.1	17	18	2	0	0	0	No debt[b]
207	WLREIF	Wellings Real Estate Income Fund	Private	No	0.1	22	23	2	0	0	0	No debt[b]
208	WTIXII	WTI Fund XI, Inc.	Private	No	0.1	24	25	2	1	0	0	Full
209	RAND	Rand Capital Corporation	Public		0.1	17	25	9	1	0	0	Full
210	SLRPCB	SLR Private Credit BDC II LLC	Private	No	0.1	23	25	3	2	0	0	Full
211	PKCOII	VII Peaks Co-Optivist Income BDC II...	Private	No	0.0	17	17	1	0	0	0	No debt[b]
212	VVLINC	Venture Lending & Leasing VIII, Inc	Private	No	0.0	17	23	7	0	0	0	No debt[b]
213	NXPTCP	NexPoint Capital, Inc.	Private	Yes	0.0	17	25	9	0	0	0	No debt[b]
214	SGSBCO	Siguler Guff Small Business Credit ...	Private	No	0.0	17	18	2	1	0	0	Full
215	HPCPIN	Hancock Park Corporate Income, Inc.	Private	Yes	0.0	17	25	9	1	0	1	Full
216	GGCINF	Guggenheim Credit Income Fund	Private	Yes	0.0	17	23	7	0	0	0	No debt[b]
217	EQS	Equus Total Return, Inc.	Public		0.0	17	25	9	0	0	1	Full
218	PIAC	Princeton Capital Corporation	Private	–	0.0	17	25	9	0	0	0	No debt[b]
219	MCVT	Mill City Ventures III, Ltd.	Public		0.0	17	19	3	0	0	0	No debt[b]
220	SVVC	Firsthand Technology Value Fund, Inc.	Public		0.0	17	24	8	0	0	0	No debt[b]
221	LSMABL	Lafayette Square Mid-Atlantic BDC, ...	Private	Yes	0.0	21	22	2	0	0	1	Near-compl.
222	PTCI	Point Capital, Inc	Private	–	0.0	17	17	1	0	0	0	No debt[b]
223	X1CPTI	X1 Capital Inc.	Private	Yes	0.0	24	25	2	0	0	0	No debt[b]

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Table OA1 continued

	Ticker	BDC Name	Type	Perp.	TA ($B)	First	Last	Yrs	# Sec.	# CLO	# Uns.	Completeness
224	BDVC	Franklin BSP Lending Corporation	Private	No	–	17	23	7	3	0	3	Full
225	OSIIII	Oaktree Strategic Income II, Inc.	Private	No	–	18	23	6	2	0	0	Full

Table OA2: Sample of Business Development Companies and Data Completeness

Top-5 Public BDCs and Top-5 Private BDCs are defined by FY2025 total assets among BDCs with positive outstanding debt. Unsecured / TD is the share of total funding sourced from unsecured notes. Bank Dependence is the share of total funding sourced from revolving credit facilities plus SPV warehouse facilities. The exact two-sided permutation p-value reports the share of all $\binom{10}{5} = 252$ partitions of the 10 BDCs into two groups of 5 that produce a difference in means at least as extreme in absolute value as the observed difference.

	Top-5 Public	Top-5 Private	Difference	Exact p-value
Unsecured / TD	56.6%	38.2%	+18.4 pp	0.0397
Bank Dep.	31.7%	46.3%	−14.6 pp	0.1349

Table OA3: Funding-Composition Regressions — Panel A — Bank-Intermediated Funding (Tobit)

	(1)	(2)	(3)	(4)	(5)	(6)
	Revolver / TD			SPV / TD		
ln(Total Assets)	0.011	0.012	-0.080***	-0.009	0.001	-0.015
	(0.29)	(0.31)	(-2.83)	(-0.22)	(0.03)	(-0.44)
Public	-0.150	-0.151	0.075	-0.317***	-0.358***	-0.410
	(-1.37)	(-1.32)	(0.00)	(-3.26)	(-3.20)	(-0.00)
Leverage	-0.071	-0.075	0.042	-0.027	0.031	-0.070
	(-0.65)	(-0.65)	(1.03)	(-0.23)	(0.25)	(-1.12)
Asset Coverage	0.058**	0.057**	0.012*	-0.031	-0.021	-0.002
	(2.51)	(2.41)	(1.72)	(-1.20)	(-0.79)	(-0.11)
% First Lien	-0.001	-0.002	-0.092	0.736***	0.823***	0.042
	(-0.00)	(-0.01)	(-0.93)	(4.39)	(4.82)	(0.31)
% Non-Accrual	1.996***	1.996***	-0.367	-3.078***	-2.877***	-0.044
	(2.99)	(2.93)	(-1.26)	(-4.39)	(-3.94)	(-0.12)
ROE (NII)	0.322	0.277	0.347	-0.755	-0.611	-0.356
	(0.55)	(0.47)	(1.56)	(-1.11)	(-0.88)	(-1.16)
Year FE	No	Yes	Yes	No	Yes	Yes
BDC FE	No	No	Yes	No	No	Yes
Observations	690	690	690	690	690	690
Number of BDCs	165	165	165	165	165	165
Pseudo R^2	0.034	0.035	0.639	0.148	0.157	0.615

Notes: The dependent variables in columns (1)–(3) and (4)–(6) are the share of total outstanding debt funded via the indicated facility type. Estimation method: two-sided Tobit (censored at 0 and 1) with one-year-lagged BDC characteristics on the right-hand side. Standard errors clustered at the BDC level (CIK) reported in parentheses below the coefficients. All BDC-year observations from 2018 to 2025 with non-zero outstanding debt and positive total assets are included. The continuous controls are winsorized at the 1st and 99th percentiles of the pooled panel. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA4: Funding-Composition Regressions — Panel B — Capital-Markets Funding (Tobit)

	(1)	(2)	(3)	(4)	(5)	(6)
	CLO / TD			Unsecured / TD		
ln(Total Assets)	0.180***	0.190***	0.011	0.063**	0.048**	0.085***
	(3.27)	(2.98)	(0.62)	(2.53)	(1.97)	(2.80)
Public	0.068	0.053	-0.060	0.454***	0.502***	0.407
	(0.54)	(0.37)	(-0.00)	(7.07)	(6.95)	(0.00)
Leverage	-0.090	-0.048	0.033	-0.022	-0.101	-0.008
	(-0.44)	(-0.22)	(1.53)	(-0.28)	(-1.24)	(-0.19)
Asset Coverage	-0.476***	-0.495***	0.001	-0.043*	-0.058***	-0.012
	(-3.08)	(-3.26)	(0.21)	(-1.91)	(-2.72)	(-1.06)
% First Lien	0.524*	0.551*	-0.017	-0.698***	-0.778***	0.068
	(1.67)	(1.71)	(-0.23)	(-6.63)	(-7.28)	(0.58)
% Non-Accrual	-3.218**	-3.129*	-0.099	0.849*	0.683	0.516
	(-2.13)	(-1.79)	(-0.49)	(1.84)	(1.50)	(1.56)
ROE (NII)	-1.180	-1.479	0.246	0.588	0.497	-0.208
	(-1.23)	(-1.53)	(1.15)	(1.04)	(0.86)	(-0.69)
Year FE	No	Yes	Yes	No	Yes	Yes
BDC FE	No	No	Yes	No	No	Yes
Observations	690	690	690	690	690	690
Number of BDCs	165	165	165	165	165	165
Pseudo R^2	0.203	0.223	0.000	0.369	0.400	0.822

Notes: The dependent variables in columns (1)–(3) and (4)–(6) are the share of total outstanding debt funded via the indicated facility type. Estimation method: two-sided Tobit (censored at 0 and 1) with one-year-lagged BDC characteristics on the right-hand side. Standard errors clustered at the BDC level (CIK) reported in parentheses below the coefficients. All BDC-year observations from 2018 to 2025 with non-zero outstanding debt and positive total assets are included. The continuous controls are winsorized at the 1st and 99th percentiles of the pooled panel. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA5: Determinants of Funding Composition with Adviser Fixed Effects (OLS) — Panel A: Bank-Intermediated Funding

	(1)	(2)	(3)	(4)	(5)	(6)
	Revolver / TD			SPV / TD		
ln(Total Assets)	-0.063***	-0.077**	-0.079**	-0.040*	-0.006	-0.022
	(-3.39)	(-2.34)	(-2.28)	(-1.65)	(-0.14)	(-0.48)
Public	0.043	-0.079	0.068	-0.305***	-0.144**	-0.336***
	(1.01)	(-1.26)	(0.75)	(-5.67)	(-2.08)	(-2.99)
Leverage	0.031	0.041	-0.033	-0.051	-0.071	-0.000
	(0.68)	(1.17)	(-0.27)	(-0.79)	(-1.27)	(-0.00)
Asset Coverage	0.017	0.012	-0.011	-0.012	-0.002	0.007
	(0.96)	(0.96)	(-0.23)	(-0.63)	(-0.12)	(0.12)
% First Lien	-0.306***	-0.091	-0.327	0.386***	0.049	0.484
	(-2.76)	(-0.87)	(-1.09)	(3.21)	(0.36)	(1.44)
% Non-Accrual	0.226	-0.402	1.039	-0.687*	-0.097	-1.218
	(0.46)	(-0.70)	(0.93)	(-1.79)	(-0.21)	(-1.20)
ROE (NII)	-0.173	0.325	-0.388	0.512	-0.417	0.812
	(-0.56)	(0.86)	(-0.45)	(1.50)	(-1.07)	(0.82)
Year FE	Yes	Yes	No	Yes	Yes	No
BDC FE	No	Yes	No	No	Yes	No
Adviser FE	Yes	Yes	No	Yes	Yes	No
Adviser × Year FE	No	No	Yes	No	No	Yes
Observations	688	688	688	688	688	688
Number of BDCs	163	163	163	163	163	163
Number of advisers	87	87	87	87	87	87
Adj. R^2	0.566	0.783	0.317	0.564	0.760	0.334

Notes: OLS with standard errors clustered at the BDC level (CIK), reported in parentheses below the coefficients. The dependent variable in each column is the share of total outstanding debt funded via the indicated facility type; the residual secured-bank/term-loan category is the omitted reference. This table reproduces the main-text funding-composition regression (Table 2) while adding **adviser fixed effects** to test whether the listing effect reflects the managing adviser rather than the listing decision. The adviser is the management *platform* (`Platform ID`), which groups affiliated adviser entities and assigns each internally managed BDC its own platform; there are 87 platforms in the panel. **Public** is the time-varying authoritative listing dummy (`Public_TV`), lagged one year and identified within-BDC off the 12 mid-sample Private→Public IPO transitions. Columns (1) and (4) add Year and adviser fixed effects; columns (2) and (5) further add BDC fixed effects (adviser FE are then largely nested within BDC FE and absorb the few within-BDC adviser changes); columns (3) and (6) use adviser×year fixed effects, so the listing dummy is identified purely off public-vs-private BDCs managed by the *same* adviser in the *same* fiscal year. Continuous controls are one-year lagged and winsorized at the 1st/99th percentiles of the pooled panel. Sample: FY2018–FY2025 (FY2017 used to construct lagged controls), BDC-years with positive total assets and total debt. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA5 *(continued)* — Panel B: Securitization and Capital-Markets Funding

	(1)	(2)	(3)	(4)	(5)	(6)
	CLO / TD			Unsecured / TD		
ln(Total Assets)	0.023**	0.011	0.039**	0.079***	0.075***	0.061***
	(2.25)	(0.45)	(2.02)	(6.42)	(3.24)	(2.61)
Public	0.012	0.033	-0.008	0.249***	0.167***	0.280***
	(0.52)	(0.76)	(-0.19)	(8.41)	(3.05)	(5.25)
Leverage	0.042*	0.034	0.057	-0.011	-0.008	-0.002
	(1.87)	(1.25)	(1.02)	(-0.28)	(-0.16)	(-0.02)
Asset Coverage	0.006	0.001	0.015	-0.009	-0.011	-0.006
	(1.32)	(0.22)	(1.33)	(-0.87)	(-0.74)	(-0.30)
% First Lien	0.040	-0.011	0.118	-0.098	0.054	-0.229
	(0.84)	(-0.12)	(0.93)	(-1.31)	(0.46)	(-1.33)
% Non-Accrual	-0.097	-0.067	0.019	0.515	0.564	0.096
	(-0.73)	(-0.40)	(0.07)	(1.33)	(1.00)	(0.19)
ROE (NII)	-0.033	0.242	-0.131	-0.261	-0.129	-0.259
	(-0.18)	(0.99)	(-0.28)	(-1.14)	(-0.38)	(-0.51)
Year FE	Yes	Yes	No	Yes	Yes	No
BDC FE	No	Yes	No	No	Yes	No
Adviser FE	Yes	Yes	No	Yes	Yes	No
Adviser × Year FE	No	No	Yes	No	No	Yes
Observations	688	688	688	688	688	688
Number of BDCs	163	163	163	163	163	163
Number of advisers	87	87	87	87	87	87
Adj. R^2	0.470	0.563	0.453	0.727	0.786	0.723

Notes: See Panel A for the specification, adviser definition, sample, controls, and clustering. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA6: Concentration Measures and Facility Counts: Summary Statistics

Variable	*N*	Mean	SD	P25	Median	P75
Panel A: Concentration measures						
Type HHI	688	0.547	0.329	0.323	0.426	1.000
Facility HHI	688	0.290	0.370	0.036	0.092	0.378
Panel B: Facility counts						
Total # facilities	688	4.78	4.93	2	3	6
# Revolvers	688	0.58	0.53	0	1	1
# Term loans	688	0.05	0.29	0	0	0
# SPV facilities	688	1.21	1.59	0	1	2
# CLO tranches	688	0.40	1.11	0	0	0
# Unsecured notes	688	2.55	3.29	0	1	4

Notes: Pooled BDC-year regression sample, 2018 to 2025 period. Type HHI is the Herfindahl index over four funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. Facility HHI is the Herfindahl index over outstanding amounts of all individual facilities, normalized to $[0, 1]$. Facility counts are restricted to individual facilities with positive outstanding.

Table OA7: Cutoff and size-metric robustness — the Public coefficient on Unsecured / TD and Bank Dependence across alternative definitions of *large*

Large-BDC definition	DV	Public coef.	N	# BDCs
TA Q4 (top 25%)	Unsecured / TD	0.199*** (4.79)	178	51
TA Q4 (top 25%)	Bank Dep.	-0.206*** (-4.31)	178	51
TA top-10	Unsecured / TD	0.097 (1.36)	80	22
TA top-10	Bank Dep.	-0.149 (-1.64)	80	22
Debt Q4 (top 25%)	Unsecured / TD	0.194*** (4.89)	178	48
Debt Q4 (top 25%)	Bank Dep.	-0.195*** (-3.52)	178	48
Debt top-10	Unsecured / TD	0.207*** (3.53)	80	24
Debt top-10	Bank Dep.	-0.233*** (-3.24)	80	24

Notes: Each row is a separate OLS regression of the listed dependent variable on lagged Public, lagged size and accounting controls, with year fixed effects and BDC-clustered standard errors. The four *large* subsamples differ in (i) cutoff (top quartile vs. top 10 BDC-years per year) and (ii) size metric (within-year total-asset rank vs. within-year total-debt rank). t-statistics in parentheses. *, **, ***: 10%, 5%, 1%.

Table OA8: Per-dollar bank-relationship and facility diversification — does the raw count overstate diversification once size is netted out?

	Banks per $B debt			Facilities per $B debt		
	Full	Q4	Top10%	Full	Q4	Top10%
	(1)	(2)	(3)	(4)	(5)	(6)
ln(Total Assets)	-4.740***	-0.441***	-0.211**	-9.817***	-1.049***	-0.499**
	(-4.17)	(-6.85)	(-2.27)	(-2.88)	(-3.66)	(-2.31)
Public	-0.981	-0.435***	-0.334*	5.790*	-0.143	-0.119
	(-0.73)	(-3.30)	(-1.78)	(1.67)	(-0.27)	(-0.42)
Leverage	0.738	-0.208	0.333	-0.861	0.282	0.201
	(0.31)	(-0.59)	(0.93)	(-0.18)	(0.24)	(0.22)
Asset Coverage	0.301	-0.215**	0.033	2.400	-0.580**	-0.228
	(0.56)	(-2.20)	(0.49)	(1.08)	(-2.03)	(-1.37)
% First Lien	-4.338	-0.725*	0.331	-33.720	-2.091	-0.763
	(-0.59)	(-1.89)	(0.76)	(-1.39)	(-1.19)	(-0.66)
% Non-Accrual	-28.486	-8.069***	-1.350	-19.694	-11.647	-1.165
	(-1.24)	(-2.97)	(-0.34)	(-0.91)	(-1.36)	(-0.16)
ROE (NII)	-11.315	-2.233	-0.584	2.085	5.466	-0.948
	(-0.61)	(-0.88)	(-0.18)	(0.06)	(0.35)	(-0.16)
N	688	178	73	688	178	73
# BDCs	163	51	21	163	51	21
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (BDC)	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Dependent variables are the count of unique identified bank counterparties (Banks) and the count of individual facilities (Facilities) per $1B of total debt outstanding. Banks are counted across revolver agents and SPV counterparties, excluding non-bank specialty lenders and undisclosed entries. Regressors lagged 1 year; controls winsorized 1/99; year FE; BDC-clustered standard errors. Q4 and Top 10% subsets defined on within-year total-asset rank. *, **, ***: 10%, 5%, 1%.

Table OA9: Bank-counterparty overlap — Year 2025 top-5 Public and top-5 Private BDCs share the same lender base

Statistic	Value
Unique banks — top-5 Public	15
Unique banks — top-5 Private	17
Banks lending to both groups	13
Union of unique banks	19
Jaccard similarity	0.684
Shared banks (# Public BDCs / # Private BDCs each lends to, of 5)	
BNP Paribas	2 / 4
Bank of America	2 / 3
JPMorgan Chase	3 / 2
Morgan Stanley	1 / 3
Societe Generale	2 / 2
SMBC	2 / 1
Truist	2 / 1
Wells Fargo	1 / 2
Deutsche Bank	1 / 1
Citibank	1 / 1
Goldman Sachs	1 / 1
MUFG	1 / 1
Natixis	1 / 1

Notes: Bank counterparties identified from revolver agent banks and SPV counterparty banks (cleaned/standardized names) in the FY2025 cleaning panel. Non-bank specialty lenders and undisclosed entries are excluded. Jaccard similarity is $|A \cap B|/|A \cup B|$ over the two bank sets. Shared-bank counts indicate the number of distinct BDCs in each group (out of 5) for which the bank appears as a counterparty.

Table OA10: Funding Structure by BDC Size

	Q1 (Small)	Q2	Q3	Q4 (Large)	All
N (BDC-years)	236	232	228	235	931
N (unique BDCs)	100	101	84	60	204
Total assets range ($M)	2–521	353–1,404	588–2,716	1,625–85,992	2–85,992
Total funding ($B, pooled)	21.5	73.9	156.7	778.7	1,030.8
Funding composition (%)					
Secured bank	37.0	21.7	22.0	20.1	25.2
	[0.2]	[0.0]	[10.8]	[15.8]	[8.9]
SPV facilities	37.2	43.2	45.7	29.7	38.9
	[0.0]	[29.6]	[45.3]	[25.2]	[29.2]
CLO notes	0.9	6.7	8.0	9.1	6.2
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Unsecured notes	24.9	28.4	24.3	41.1	29.7
	[0.0]	[10.3]	[14.3]	[44.7]	[21.0]
Maturity profile (%)					
Rollover $\leq$12m	16.1	10.1	8.1	5.8	10.1
	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
Leverage					
Debt-to-equity	0.84	0.97	0.97	0.93	0.93
	[0.80]	[0.92]	[0.96]	[0.94]	[0.91]

Notes: This table reports the funding structure of BDCs by total-asset size quartile, pooled across fiscal years 2017 to 2025. Quartiles are constructed *within each fiscal year* so that size definitions are year-relative; the resulting BDC-year observations are then pooled across years for the displayed statistics. "Total assets range" and "Total funding" span the entire pooled sample. Secured bank funding includes revolving credit facilities and term loans. SPV facilities are on-balance-sheet warehouse vehicles consolidated by the BDC. CLO notes are tranches issued by middle-market collateralized loan obligations sponsored or held by the BDC. Unsecured notes include all publicly and privately placed unsecured debt. Rollover $\leq$12m is the share of total outstanding maturing within 12 months of each fiscal year-end. Means are reported on the first row of each variable; medians are reported in brackets on the second row.

Table OA11: Funding Composition and Rollover Risk: Public vs. Private BDCs

	(1) Rollover ≤12m	(2) WAM	(3) Maturity HHI
Base effects (Private BDCs)			
SPV / TD	-0.147**	0.669*	-0.099
	(-2.25)	(1.79)	(-1.36)
CLO / TD	-0.223**	7.494***	-0.112
	(-2.50)	(7.58)	(-0.82)
Unsecured / TD	-0.297***	0.692	-0.522***
	(-3.28)	(1.12)	(-3.68)
Interactions with Public			
SPV / TD × Public	0.211***	-1.126*	0.005
	(2.77)	(-1.66)	(0.04)
CLO / TD × Public	0.236**	-0.940	0.405***
	(2.54)	(-0.81)	(2.61)
Unsecured / TD × Public	0.369***	-0.455	0.284*
	(3.91)	(-0.58)	(1.67)
Public	-0.239***	0.582	-0.267***
	(-3.44)	(1.26)	(-3.05)
Effect for Public BDCs (base + interaction)			
SPV / TD [Public]	0.064**	-0.458	-0.093
	(2.02)	(-0.76)	(-0.93)
CLO / TD [Public]	0.013	6.554***	0.293***
	(0.42)	(9.02)	(3.21)
Unsecured / TD [Public]	0.073**	0.237	-0.238**
	(1.99)	(0.49)	(-2.51)
Other controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Weights	TA	TA	TA
Estimator	WLS	WLS	WLS
Observations	863	863	863
Number of BDCs	193	193	193
Adj. R^2	0.163	0.443	0.505

Notes: Weighted least squares (WLS) with weights proportional to BDC total assets, so that larger BDCs receive proportionally more weight in the estimation. Base coefficients on funding composition shares give the effect for Private BDCs (Public = 0). Interaction terms capture the additional effect for Public BDCs. The "Effect for Public BDCs" rows report the sum of base and interaction coefficients with significance from a Wald test. The residual *secured-bank* category (revolvers + term loans) is the omitted reference; coefficients on SPV / TD, CLO / TD, and Unsecured / TD are interpreted relative to secured-bank funding. Term loans average less than 1% of outstanding across the panel, so the reference is essentially *revolvers*. Other controls (ln(Total Assets), Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) are included but suppressed. All variables are contemporaneous. Standard errors clustered at the BDC level reported in parentheses. Continuous controls winsorized at the 1st and 99th percentiles. Sample: pooled BDC-year panel, 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA12: Funding Concentration and Rollover Risk — Value-Weighted (WLS) Regression

	(1)	(2)	(3)	(4)	(5)	(6)
	Rollover ≤12m		WAM		Maturity HHI	
Type HHI	0.091***		-1.476***		0.119**	
	(3.24)		(-3.93)		(2.26)	
Facility HHI		0.053		-1.352***		0.345***
		(1.20)		(-3.26)		(7.53)
ln(# Facilities)	-0.006	-0.014	0.314	0.374*	-0.138***	-0.111***
	(-0.37)	(-0.84)	(1.58)	(1.86)	(-6.04)	(-4.96)
Unsecured / TD	-0.030	-0.011	-0.883*	-1.290**	-0.186**	-0.111*
	(-1.04)	(-0.38)	(-1.68)	(-2.38)	(-2.57)	(-1.66)
ln(Total Assets)	0.014	0.012	-0.201	-0.165	0.006	0.001
	(1.35)	(1.16)	(-1.51)	(-1.31)	(0.45)	(0.09)
Public	-0.015	-0.020	0.170	0.197	-0.126***	-0.106***
	(-0.90)	(-1.20)	(0.54)	(0.62)	(-3.12)	(-2.69)
Leverage	0.042	0.043	0.538	0.597	0.078	0.043
	(1.19)	(1.25)	(1.26)	(1.49)	(1.60)	(0.82)
Asset Coverage	0.017	0.017	0.165	0.205	0.039***	0.014
	(0.97)	(0.98)	(1.20)	(1.40)	(2.58)	(0.96)
% First Lien	-0.010	-0.032	-0.354	-0.043	0.034	0.031
	(-0.27)	(-0.90)	(-0.49)	(-0.06)	(0.49)	(0.48)
% Non-Accrual	1.629***	1.616***	-11.507***	-10.981***	0.017	-0.180
	(3.24)	(3.28)	(-4.13)	(-3.90)	(0.05)	(-0.51)
ROE (NII)	0.107	0.173	-6.621	-7.342*	-0.357	-0.468
	(0.51)	(0.82)	(-1.64)	(-1.84)	(-1.10)	(-1.53)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Weights	TA	TA	TA	TA	TA	TA
Estimator	WLS	WLS	WLS	WLS	WLS	WLS
Observations	863	863	863	863	863	863
Number of BDCs	193	193	193	193	193	193
Adj. R^2	0.138	0.127	0.156	0.143	0.542	0.578

Notes: Weighted least squares (WLS) with weights proportional to BDC total assets, so that larger BDCs receive proportionally more weight in the estimation. The dependent variables are three measures of rollover risk (see the funding-composition table). Type HHI measures funding concentration across 4 funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. Facility HHI measures concentration across individual facilities. Columns (1)/(3)/(5) use Type HHI; columns (2)/(4)/(6) use Facility HHI. Unsecured / TD is included as a control because unsecured bullet maturities are the primary mechanical driver of near-term rollover risk. All variables contemporaneous. Standard errors clustered at BDC level. Continuous controls winsorized at 1/99. Sample: pooled panel 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA13: Funding Concentration and Rollover Risk: Public vs. Private BDCs

	(1)	(2)	(3)	(4)	(5)	(6)
	Rollover ≤12m		WAM		Maturity HHI	
Base effects (Private BDCs)						
Type HHI	0.072		-1.876***		0.190**	
	(1.24)		(-4.29)		(2.23)	
Facility HHI		0.042		-0.980**		0.354***
		(0.72)		(-2.13)		(6.81)
ln(# Facilities)	-0.008	-0.011	0.367*	0.507**	-0.119***	-0.100***
	(-0.36)	(-0.53)	(1.77)	(2.47)	(-4.70)	(-3.96)
Unsecured / TD	-0.100*	-0.121**	-2.151***	-1.592**	-0.177	-0.160
	(-1.72)	(-2.38)	(-2.69)	(-1.98)	(-1.08)	(-1.10)
Interactions with Public						
Type HHI × Public	-0.007		0.372		-0.123	
	(-0.11)		(0.48)		(-1.07)	
Facility HHI × Public		-0.033		-1.453		0.024
		(-0.43)		(-1.56)		(0.25)
ln(# Facilities) × Public	0.019	0.015	-0.261	-0.371	-0.051	-0.048
	(1.10)	(0.82)	(-0.99)	(-1.38)	(-1.26)	(-1.21)
Unsecured / TD × Public	0.107	0.153**	1.712	0.365	0.023	0.072
	(1.63)	(2.53)	(1.58)	(0.35)	(0.13)	(0.43)
Public	-0.086	-0.092*	0.046	0.978	0.004	-0.034
	(-1.42)	(-1.92)	(0.07)	(1.32)	(0.04)	(-0.37)
Effect for Public BDCs (base + interaction)						
Type/Facility HHI [Public]	0.065**	0.009	-1.504**	-2.433***	0.067	0.378***
	(2.15)	(0.20)	(-2.32)	(-2.96)	(0.89)	(4.68)
ln(# Facilities) [Public]	0.012	0.004	0.106	0.136	-0.170***	-0.148***
	(0.74)	(0.24)	(0.35)	(0.45)	(-4.17)	(-3.59)
Unsecured / TD [Public]	0.007	0.032	-0.439	-1.228*	-0.154*	-0.088
	(0.24)	(1.01)	(-0.60)	(-1.82)	(-1.77)	(-1.23)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Weights	TA	TA	TA	TA	TA	TA
Estimator	WLS	WLS	WLS	WLS	WLS	WLS
Observations	863	863	863	863	863	863
Number of BDCs	193	193	193	193	193	193
Adj. R^2	0.145	0.140	0.162	0.147	0.544	0.581

Notes: Weighted least squares (WLS) with weights proportional to BDC total assets. Base coefficients on funding-concentration variables give the effect for Private BDCs (Public = 0). Interaction terms capture the additional effect for Public BDCs. Columns (1)/(3)/(5) use Type HHI; columns (2)/(4)/(6) use Facility HHI. The "Effect for Public BDCs" rows report the sum of base and interaction coefficients with significance from a Wald test. *Type HHI* measures funding concentration across 4 funding types (Secured Bank, SPV, CLO, Unsecured), normalized to $[0, 1]$. *Facility HHI* measures concentration across individual facilities. *Unsecured / TD* is included as a control. Other controls (ln(Total Assets), Leverage, Asset Coverage, % First Lien, % Non-Accrual, ROE) are included but suppressed. All variables contemporaneous. Standard errors clustered at the BDC level. Continuous controls winsorized at 1/99. Sample: pooled panel 2017 to 2025 period. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA14: Stock Returns, Rollover Risk, and Liquidity-Buffer Moderators

	(1) Undrawn Rev / Cmt Rev	(2) Undrawn SPV / Cmt SPV	(3) Util (Rev+SPV)	(4) Cash / TA	(5) Total Headroom / TA
Stress	-0.0209***	-0.0222***	-0.0210***	-0.0232***	-0.0230***
	(-4.65)	(-4.90)	(-4.94)	(-5.44)	(-5.40)
RolloverRisk	+0.0003	+0.0004	+0.0005*	+0.0016**	+0.0009
	(+1.35)	(+1.48)	(+1.72)	(+2.49)	(+1.48)
Stress × RolloverRisk	-0.0003**	-0.0001	-0.0002**	-0.0003	-0.0003
	(-2.50)	(-1.07)	(-2.00)	(-1.52)	(-1.48)
Stress × Roll × Undrawn Rev / Cmt Rev	-0.0000				
	(-0.02)				
Stress × Roll × Undrawn SPV / Cmt SPV		+0.0001			
		(+1.00)			
Stress × Roll × Util (Rev+SPV)			-0.0001		
			(-0.46)		
Stress × Roll × Cash / TA				+0.0002	
				(+1.50)	
Stress × Roll × Total Headroom / TA					+0.0001
					(+0.68)
Mkt (r_SP500) control	Yes	Yes	Yes	Yes	Yes
BDC controls	Yes	Yes	Yes	Yes	Yes
BDC FE	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes
Observations	29,774	29,976	49,631	27,489	27,489
R^2 (within)	0.1943	0.1877	0.1400	0.1597	0.1594

Notes: The dependent variable is the daily Public-BDC stock return (in %). The five columns differ only in the choice of the liquidity-buffer moderator $\text{Mod}_{i,y-1}$: column (1) undrawn revolver capacity divided by total *committed* revolver capacity; column (2) the analogous undrawn share on the SPV; column (3) the combined revolver-plus-SPV utilization ratio; column (4) cash and cash-equivalents at the prior fiscal year-end divided by Total Assets; column (5) total liquid headroom defined as (Cash + Undrawn Revolver + Undrawn SPV) divided by Total Assets. Each moderator is winsorized at the 1st and 99th percentiles and standardized to zero mean and unit standard deviation *within fiscal year*. The estimating equation is $r_{i,t} = \alpha_i + \delta_{ym(t)} + \beta_1 \text{Stress}_t + \beta_2 \text{Roll}_{i,y-1} + \beta_3 \text{Mod}_{i,y-1} + \beta_4 \text{Stress}_t \times \text{Roll}_{i,y-1} + \beta_5 \text{Stress}_t \times \text{Mod}_{i,y-1} + \beta_6 \text{Roll}_{i,y-1} \times \text{Mod}_{i,y-1} + \beta_7 \text{Stress}_t \times \text{Roll}_{i,y-1} \times \text{Mod}_{i,y-1} + \gamma \text{Mkt}_t + \mathbf{X}'_{i,y-1}\boldsymbol{\delta} + \varepsilon_{i,t}$. *Stress* is the daily change in the Bloomberg U.S. High Yield Option-Adjusted Spread (in basis points). *RolloverRisk* is the share of the BDC's total outstanding unsecured notes that mature within 12 months of the prior fiscal year-end, winsorized at the 1st and 99th percentiles within FY and standardized to zero mean / unit SD. Both Roll and Mod enter with a one-year lag. The vector $\mathbf{X}_{i,y-1}$ collects the BDC-level controls log(Total Assets), Leverage (D/E), Asset Coverage (%), % First Lien, % Non-Accrual (Cost), and ROE (Net Investment Income). The *Mkt* row indicates that the daily S&P 500 return (Bloomberg) enters as a separate market control. The lower-order moderator terms (Mod, Stress × Mod, and Roll × Mod) are included in the regression but not shown. BDC fixed effects and year-month fixed effects are absorbed. Standard errors are clustered two-way by ticker and by date. Sample: Public BDCs only, 2022-04-01 onward. Significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA15: Within-BDC convergence

	MarketDep		Unsec / TD		CLO / TD	
	Cross-sec.	BDC FE	Cross-sec.	BDC FE	Cross-sec.	BDC FE
	(1)	(2)	(3)	(4)	(5)	(6)
ln(Total Assets), lagged	0.053	0.093*	0.019	0.052**	0.034***	0.047
	(1.31)	(1.88)	(0.47)	(2.15)	(3.81)	(1.15)
Leverage	0.082	-0.021	-0.029	-0.014	0.104*	-0.011
	(1.25)	(-0.45)	(-0.84)	(-0.55)	(1.66)	(-0.31)
Asset Coverage	-0.002	0.001	-0.002	0.001*	0.001	-0.000
	(-0.88)	(1.50)	(-1.33)	(1.75)	(0.77)	(-0.05)
% First Lien	-0.487**	0.103	-0.487***	0.043	0.001	0.043
	(-2.33)	(0.39)	(-2.88)	(0.35)	(0.01)	(0.21)
% Non-Accrual	-1.333***	0.258	-0.768**	0.300	-0.540**	-0.042
	(-3.31)	(0.76)	(-2.53)	(1.55)	(-2.42)	(-0.17)
ROE (NII)	0.320	0.009	0.480	0.010	-0.156	0.037
	(0.53)	(0.02)	(0.96)	(0.06)	(-0.48)	(0.09)
N	224	224	224	224	224	224
# BDCs	85	85	85	85	85	85
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
BDC FE	No	Yes	No	Yes	No	Yes
BDC-clustered SE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: OLS regressions on the PRIVATE BDC-FY subsample, 2018 to 2025 period. Outcomes are funding-mix shares of total funding: MarketDep is (CLO + Unsec) / Total funding; Unsec / TD and CLO / TD are single-instrument shares. The key coefficient is on ln(Total Assets), lagged one year. *Cross-sec.* columns include year FE only; *BDC FE* columns add BDC fixed effects so the ln(TA) slope measures within-BDC variation. Controls are lagged leverage, asset coverage, % first lien, % non-accrual, and ROE; all continuous variables winsorized 1/99. Standard errors clustered at the BDC (CIK) level; t-statistics in parentheses. *,** ,*** denote 10%, 5%, 1% significance.