# Value Is in the Eye of the Beholder: Strategic Marking in Private Credit *

Sameh Marei†

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**Abstract**

I study whether loan valuations reported by private credit funds reflect fund-level incentives. Comparing valuations assigned by different funds to the same loan at the same point in time, I find that funds report higher loan valuations precisely when their contemporaneous realized performance is weaker. Additional analyses of cross-sectional patterns show that this behavior is consistent with strategic marking that smooths reported returns. The effect is strongest in settings where valuation discretion is plausibly greater and where deviations matter most for reported performance and net asset value. The effect intensifies when funds have stronger incentives to relax binding leverage constraints through higher reported net asset values. The results cannot be explained by other alternative channels such as asymmetric information, portfolio selection, and delayed updating of marks. These findings highlight an agency-based component of valuation in private credit and have implications for the reliability of reported net asset values and for the monitoring of financial stability risks in stress episodes.

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†Esade Business School. E-mail: sameh.marei@esade.edu

# 1 Introduction

Private credit funds have grown from a niche segment of credit markets into a major source of corporate borrowing, comparable in size to the leveraged-loan and high-yield bond markets (PitchBook, 2025; IMF, 2024). Given their rapid expansion, regulators and industry observers have become increasingly concerned about the quality of loan valuations in the private credit industry.[1] Unlike publicly traded debt, private credit loans rarely trade after origination and are typically held to maturity. As a result, interim valuations rely heavily on mark-to-model estimates rather than market prices.[2] These valuations directly determine reported fund performance, net asset values, and leverage capacity, creating scope for managerial discretion. Indeed, both academics (Balloch and Gonzalez-Uribe, 2021; Jang and G. Kim, 2025) and industry observers (Benitez, 2024a) document incidents of substantial dispersion in reported valuations of the same loan held by different funds. The reliability of loan valuations matters because it can distort reported fund performance, mask emerging losses, and delay corrective action. These concerns are amplified by the deepening links between the private credit sector and the broader financial system, through bank financing and co-investment and through insurance and pension funds exposure to private credit funds.[3] These links increase the risk that hidden losses in private credit propagate across balance sheets and intensify repricing dynamics in stress episodes.

Against this backdrop, this paper asks what drives private credit funds' loan marks. In particular, I study why some funds report higher or lower loan fair values than others. I show that valuation differences between multiple funds holding the same loan reflect agency frictions. More precisely, loan-level valuation gaps are systematically explained by fund-level

[1] Regulators at the U.S. Securities and Exchange Commission, the European Central Bank, and the International Monetary Fund have raised concerns about the reliability of loan valuations in private credit, the risk of hidden losses, and vulnerabilities related to redemptions (see, e.g., Benitez (2024b) and Weinstein (2024)).

[2] See Section A.1 in Appendix for a description of the mark-to-model fair-value estimation framework.

[3] See Berrospide et al. (2025) on the exposure of banks to private credit and Meisenzahl et al. (2025) and IMF (2024) on the exposure of life insurers and pension funds.

performance, even after accounting for plausible sources of fund and borrower heterogeneity and various alternative explanations.

I examine valuation behavior of private credit funds through the lens of U.S. Business Development Companies (BDCs), a close institutional analog of private credit funds. A Business Development Company (BDC) is a closed-end fund structure created in 1980 by the U.S. Congress to expand financing for small and middle-market companies.[4] BDCs provide a particularly suitable setting for studying dispersion in loan valuations in the private credit industry for several reasons. First, BDCs are a central part of the U.S. private credit ecosystem: as of 2024, BDCs managed about $440 billion in assets, accounting for roughly 20% of private credit funds' assets under management.[5] Second, BDCs are also informative about the broader private credit market because sponsors of BDCs (asset managers) often manage other private credit funds and frequently co-invest in the same borrowers across funds, so BDC valuation practices shed light on practices in the wider sector (Jang, 2024). Third, private BDCs closely resemble traditional private credit funds in their key contractual features, allowing me to test the external validity of my findings by focusing only on this segment.[6] Finally, and crucially for my research setting, BDCs are SEC registrants that disclose an asset-by-asset schedule of investments in both their annual and quarterly reports.

I use data from two complementary sources. First, I construct a new proprietary dataset from BDC financial statements filed with the SEC, containing a quarterly panel of balance-sheet and income-statement variables. Second, I obtain BDC asset-level data from Pitchbook LCD Credit Analysis, which contains BDC investment holdings at the individual asset level. My dataset covers the universe of BDCs from 2009 to 2024.

My empirical strategy combines fund-level performance data with granular loan-level valuations. I decompose fund performance into realized transactional outcomes and unrealized

[4]Throughout the rest of the paper, I use the terms "BDCs" and "funds" interchangeably to refer to Business Development Companies. I use "private credit funds" to refer to traditional private credit funds (that are not BDCs).

[5]Based on PitchBook (2025) and author's calculations.

[6]BDCs can be publicly traded, public non-traded or private. See Section 2.1 for a discussion of BDCs.

valuation changes, which differ sharply in the scope for managerial discretion.[7] I examine how these two components co-move within reporting periods and whether loan valuation changes systematically offset realized performance. A key feature of my empirical setting is that multiple BDCs frequently hold the same loan at the same time, allowing me to compare valuations for identical credit exposures across funds within a given quarter.[8] This identification strategy holds underlying borrower risk constant and attributes cross-sectional differences in reported valuations to fund-level factors rather than to differences in loan fundamentals.

I begin my empirical analysis by showing that fund-by-time fixed effects explain a substantial share of the valuation discrepancies of individual loans held by multiple lenders, over and above fund fixed effects alone. This result points to time-varying fund-specific factors, rather than only borrower-specific risk and persistent cross-fund differences, as an important source of valuation heterogeneity. My baseline loan-level specification regresses individual loan valuations on realized performance using loan-by-time fixed effects, applying the identification strategy of Khwaja and Mian (2008) at the loan level. I show that funds with weaker realized performance assign higher fair values to their loans relative to peer funds holding the same loan in the same quarter. For the median fund, a one standard deviation decrease in realized performance corresponds to total upward valuation adjustments amounting to approximately 5.5% of increase in net assets from operations in the same reporting period. Conversely, when realized performance is strong, funds mark remaining positions more conservatively, effectively building valuation "reserves" that can be drawn down if realized cash flows weaken in the future. This result is robust across a wide range of checks,

[7]The sum of the realized and unrealized components of the fund performance is net income, reported by BDCs as "Net increase/decrease in net assets from operations". Net income is the primary driver of changes in Net Asset Value (NAV). See Section 2.2 for a detailed description of the components of a typical BDC Income Statement.

[8]This setting is made possible by the prevalence of "club deals" in private credit lending, whereby multiple lenders participate in the same loan. Evidence from Block et al. (2024) suggests that approximately 44% of US private credit fund managers (general partners) syndicate debt transactions with other debt funds. Aldasoro and Doerr (2025) estimate that, as of 2024, approximately 40% of all private credit deals are club deals.

including alternative specifications and variable definitions, various subsamples, and the use of non-accrual loans as a proxy for realized performance.

By decomposing realized performance into its components, I find that the effect is driven primarily by its less predictable component. In particular, changes in realized performance arising from credit events and settlements, as well as the level of non-accrual loans in the portfolio exhibit a significantly stronger relationship with loan valuations than do more stable, anticipated components such as recurring investment income and expenses.

Further evidence of strategic valuation behavior emerges when analyzing the cross-section of loans. More specifically, the association between the realized performance of a fund and loan valuations in its portfolio is amplified in settings where valuations are inherently harder to verify and for loans that have a greater impact on the NAV of the fund. When studying the cross-section of funds, I find that the effect is stronger among the more leveraged funds. This pattern is intuitive, as negative shocks to realized performance reduce net asset value and tightens leverage constraints, increasing incentives to report higher valuations.

Evidence from the loan level also translates into aggregate effects at the fund level. I show that individual loan-level valuation deviations aggregated to the fund level are negatively correlated with realized performance, even after controlling for time-varying fund characteristics, fund fixed effects, and time fixed effects. Furthermore, I document a strong negative relationship between realized performance and the aggregate unrealized performance at the fund level, which includes changes in valuations from all types of investment and derivatives positions.

My granular data allows me to rule out several alternative channels and address potential confounding factors. A key alternative channel is stale pricing. Curtis and Raney (2020) shows that BDCs exhibit delays in adjusting asset valuations, particularly when reporting bad news. If co-lenders adjust the fair value of the same loan at different speeds, cross-fund dispersion in reported marks could partly reflect asynchronous updating rather than discretionary revaluation. I show that my results hold in subsamples of loans for which valuations have been actively changed and for loans that have been recently issued.

Another alternative channel is asymmetric information among lenders holding the same loan: a fund may mark a position higher or lower than its peers simply because it has superior borrower information. For example, Jang and G. Kim (2025) show that lead-arrangers of a loan have better access to borrower information, particularly around times of borrower distress. Although differences in information access do not easily explain a systematic relationship between loan valuations and realized performance, they remain a potential confounding factor. Using granular fund–borrower holdings, I control for funds' roles vis-à-vis the portfolio company (such as lead-arranger or equity investor) and show that my results remain unchanged.

Another concern is that the baseline relation might reflect a mechanical portfolio-rebalancing channel rather than valuation discretion. For example, a fund could "clean" its portfolio by systematically selling underperforming loans, realizing losses that depress realized performance while mechanically improving the average valuations of the loans that remain. I rule out this mechanism by exploiting loan-by-time variation across co-lenders, which compares changes in valuations for the same remaining loan and is therefore unaffected by which other loans were sold, and by limiting the sample to only loans for which valuation has been actively changed. In addition, I show that weak realized performance does not lead to subsequent improvements in portfolio quality, as would be implied by systematic portfolio-rebalancing.

Finally, I consider two additional channels: portfolio selection and simultaneous learning. Under a portfolio-selection story, cross-fund differences in manager skill could jointly affect portfolio quality and realized performance, generating a spurious correlation between loan valuations and realized performance even in the absence of discretionary marking. A simultaneous-learning channel arises when funds hold concentrated portfolios: realizations on some loans may reveal information about the value of other loans in the same sector, mechanically linking current marks to contemporaneous realized outcomes. I show that these channels predict a positive relationship between loan valuations and realized performance.

Thus, the presence of any of these channels would bias my estimates toward zero rather than drive the negative relation I document.

Taken together, my findings are consistent with private credit funds using discretion in fair-value marks to smooth reported performance—partly offsetting weak realized outcomes in a given period with stronger unrealized gains and vice versa.

**Related Literature** This paper contributes to two related strands of literature. First, it connects the rapidly growing literature on private credit. Existing studies explore the drivers of private credit growth and its interaction with banks (Chernenko, Erel, et al., 2022; Davydiuk, Marchuk, et al., 2024; Haque, Mayer, et al., 2025; Avalos et al., 2025; Hinzen et al., 2026), its implications for financial stability and monetary policy transmission (Chernenko, Ialenti, et al., 2025; Jang and Rosen, 2025; Haque, Jang, et al., 2025; Matvos et al., 2026), the role of private credit funds and BDCs as relationship lenders and dual debt and equity investors (Block et al., 2024; Jang, 2024; Rintamäki, 2025; Davydiuk, Erel, et al., 2024), the interactions between private credit and private equity (Ivashina, 2025; Jang, D. Kim, et al., 2025; Robinson and Wallskog, 2026), the performance of private credit as an asset class (Böni and Manigart, 2022; Suhonen, 2024; Erel et al., 2024), and the use of payment-in-kind instruments (Rintamäki and Steffen, 2025). I contribute to this literature by studying valuation practices in private credit and showing that agency conflicts directly shape the quality of loan valuations.

In the literature on private credit there are three papers that are particularly related to mine. Curtis and Raney (2020) document that BDCs' reported fair values exhibit delayed updating, consistent with stale pricing. Balloch and Gonzalez-Uribe (2021) show that, during stress episodes, highly leveraged BDCs report relatively higher loan marks, consistent with valuation choices that help relax binding leverage constraints. I show that funds with low realized performance are more likely to overvalue their loan holdings relative to peers. This mechanism operates independently of fund leverage and any effects attributable to stale pricing. Finally, Jang and G. Kim (2025) examine whether third-party valuation providers discipline private credit marks. I provide evidence that despite the presence of third-party valuation providers in the private credit industry, individual loan valuations are impacted by fund-level incentives.

The second strand of literature to which this study contributes is the literature on strategic marking of illiquid assets and the agency frictions that arise when valuations are discretionary. Prior work have studied valuation distortions in banks' trading books (Begley et al., 2017) and loan portfolios (Plosser and Santos, 2018; Behn et al., 2022), in mutual funds' holdings of private firms (Agarwal et al., 2023), and in private equity and venture capital (Jenkinson, Sousa, et al., 2013; Barber and Yasuda, 2017; Chakraborty and Ewens, 2018; Brown et al., 2019; Jenkinson, Landsman, et al., 2020). I contribute to this literature in two ways. First, I provide evidence for valuation biases in private credit, an asset class that has become economically important in its own right and features institutional frictions that differ from those in the banking industry. Second, relative to the PE/VC literature—and more broadly to the existing literature on private markets—my empirical setting offers a distinct data advantage: BDCs' regulatory filings contain asset-level marks at a quarterly frequency, allowing me to study valuation behavior at the asset level rather than inferring it from fund-level aggregates. The granularity of the data in this setting supports tighter identification and enables sharper tests against alternative explanations.

# 2 Institutional Background

## 2.1 Business Development Companies

BDCs are a closed-end fund structure created by the U.S. Congress in 1980 under the Small Business Investment Incentive Act, with the objective of expanding financing to small and middle-market firms.[9] BDCs finance their investments with a mix of equity issuance (public or private), bonds, and bank credit facilities. In terms of leverage, BDCs are subject to an asset coverage requirement of 150%, implying a maximum debt-to-equity ratio of 2:1.[10] Although BDCs invest across the debt and equity of portfolio companies' capital structure, their portfolios are predominantly composed of debt instruments. The majority of BDCs specialize in direct lending, as opposed to other private credit investment strategies such as venture debt and distressed debt.[11]

The number of BDCs has increased over time, particularly in the post–global financial crisis period (Davydiuk, Marchuk, et al., 2024; Chernenko, Erel, et al., 2022). Figure 1 plots the number of active BDCs and their combined total assets over time. The figure shows a further expansion after 2020, consistent with heightened investor demand for yield (IMF, 2024). As of 2024, there are 151 active BDCs with combined assets under management of $440 billion. BDCs differ in terms of investor accessibility. Traded BDCs are listed on U.S. stock exchanges and accessible to both institutional and retail investors. As of 2024, there are 46 BDCs that are publicly listed. Non-traded BDCs may be public (retail-accessible) or private (institutional-only). Non-traded public BDCs typically offer periodic liquidity windows that allow share issuance and redemption at NAV per share, subject to a pre-specified redemption limit per period (typically 5% of net assets). Non-traded private BDCs more closely resemble traditional private credit funds, with capital commitments and drawdowns, a lockup period, and a finite fund term. As of 2024, there are 73 BDCs that operate using this fund structure.[12]

[9] According to the U.S. National Center for the Middle Market (NCMM), "middle-market" firms are businesses with $10 million to $1 billion in annual revenues, or 50 to 500 employees. NCMM estimates that this segment accounts for approximately one-third of U.S. private-sector GDP and employment.

[10] Prior to 2018, BDCs were subject to an asset coverage requirement of 200%. A regulatory change in March 2018 lowered this requirement to 150%.

[11] According to Pitchbook fund type classification for each BDC.

[12] See Section A.2 in Appendix for more information about business development companies.

## 2.2 Income Statement and Statement of Changes in Net Assets of Business Development Companies

The income statement reported in a BDC's Forms 10-Q and 10-K provides a detailed breakdown of the value generated for investors through operations. Figure A1 presents an illustrative example of a typical BDC income statement. The income statement can be broken down into three main components: net investment income, realized gains and losses, and unrealized gains and losses. Net investment income captures income from ordinary operations (interest, dividends, and fees) net of expenses (interest expense, management fees, and other operating costs). Realized gains and losses reflect the total of the gains and losses recognized upon the settlement, sale, or other disposition of investment and derivative positions. Unrealized gains and losses capture total changes in the fair value of investment and derivative positions. The sum of net investment income, realized gains and losses, and unrealized gains and losses constitutes the net income of the fund, typically reported as "Net Increase/Decrease in Net Assets from Operations".[13]

Net income feeds directly into the "Statement of Changes in Net Assets", which decomposes period-to-period changes in the fund's net asset value (NAV).[14] This statement consists of two components: the net increase/decrease in net assets from operations (net income) and capital transactions (dividends paid and share issuances and redemptions). Accordingly, net income plays a central role in shaping reported NAV and, by extension, reported fund performance. It also directly affects a BDC's distance to regulatory leverage limits, which are defined in terms of net assets measured at fair value rather than book value.

[13]While this income statement structure is broadly standard across BDCs, one-off items may appear in a given quarter, and BDCs may differ in where such items are reported in the income statement. See Section 3.1 for more details.

[14]"Statement of Changes in Net Assets" is the same as "Statement of Stockholders' Equity" used by some BDCs.

# 3 Data and Variable Definitions

My sample covers the universe of BDCs from 2009 to 2024. The sample includes 201 BDCs in total.[15] I construct two complementary panel datasets. The first is a BDC–level quarterly panel that contains key financial variables for each BDC in my sample, along with information on fund structure. The second is a loan–level quarterly panel that contains a breakdown of each BDC's loan holdings over 2009–2024. I draw on two complementary data sources, described below.

## 3.1 SEC EDGAR

I use the U.S. Securities and Exchange Commission's EDGAR API to access Forms 10-Q and 10-K filed by BDCs in my sample. I parse the balance sheets, income statements, and statements of cash flows from these filings. I then use a proprietary code to extract the key financial variables required for my analysis. From the income statement I extract total investment income, total expenses, net expenses, net investment income, total realized gains (losses), total unrealized gains (losses), and the net increase (decrease) in net assets from operations.[16] The variables extracted from the balance sheet are total assets, total liabilities, equity (net assets) and cash.

I then use the extracted information to construct a BDC-level quarterly panel containing the core financial variables for each fund. In addition, I use the disclosures in the filings to hand-collect information on BDC organizational structure, including whether the fund is

[15] I drop three BDCs that operate mainly as REITs, similar to Rintamäki and Steffen (2025). My results are robust to including or excluding those BDCs.

[16] Occasionally, BDC income statements report idiosyncratic "one-off" items (e.g., gains or losses from extinguishment of debt when a BDC retires an outstanding liability). Reporting conventions for these items are not fully standardized, so the same component may appear as a separate line item in some filings and be embedded in broader categories (such as Total Realized Gains (Losses)) in others. I therefore extract all such items at the BDC–quarter level and classify them as realized or unrealized based on their economic substance: items tied to completed transactions that crystallize an irreversible gain or loss are treated as realized, whereas items that reflect mark-to-market or accounting revaluations that could reverse are treated as unrealized. These items are rare and have negligible impact on aggregate measures.

publicly traded, non-traded, or private, and whether it is internally or externally managed.

To measure the realized performance of a BDC $j$ at time $t$, I define *Realized Performance* as the sum of net investment income and realized gains (losses), scaled by lagged equity.[17]

$$Realized\ Performance_{j,t} = \frac{Net\ Investment\ Income_{j,t} + Realized\ Gains\ (Losses)_{j,t}}{Equity_{j,t-1}}. \quad (1)$$

Table 1 reports summary statistics for the BDC-level variables used in the analysis. The average BDC holds \$1.6 billion in total assets, while the median BDC is substantially smaller, with assets of approximately \$0.6 billion, indicating a right-skewed size distribution driven by a small number of large funds. BDCs operate with moderate leverage: the mean liabilities-to-assets ratio is 0.40, with an inter-quartile range from 0.33 to 0.52. Measures of operating performance exhibit considerable dispersion. Average realized performance is 2.2% per quarter, though realizations are occasionally negative in the lower tail of the distribution. Return on equity averages 1.6% per quarter, with substantial variation across funds and over time, reflecting heterogeneity in portfolio performance, leverage, and valuation outcomes.

## 3.2 Pitchbook LCD Credit Analysis

Pitchbook LCD Credit Analysis provides BDC portfolio holdings at the BDC–position level, sourced from the investment schedules in BDC regulatory filings. For debt securities, the data covers key information: the name, country, and sector of the borrower, type of security, principal amount, seniority, cost amount, fair value amount, reference interest rate and spread, issuance date (if reported by the BDC) and maturity date. In addition, the dataset also provides similar information on other types of investment securities such as equity positions held by BDCs in their portfolio companies.

A key advantage of Pitchbook LCD's data is the detailed information on non-accrual

[17] Throughout the remaining of this paper, *Realized Gains* refers to realized gains (losses), while *Realized Performance* refers to realized gains (losses) plus net investment income. Finally, *Unrealized Gains* refers to unrealized gains (losses). The three variables are scaled by 1-period lagged equity.

loans in each BDC filing. Non-accrual loans are loans for which the borrower has not paid principal or interest due for over 90 days, or for which the BDC's management believes that the principal is unlikely to be paid in the future. Pitchbook extracts and provides asset-level information on non-accrual loans from each BDC's schedule of investments and the associated footnotes.

I limit my sample to U.S. portfolio companies and debt investment positions (loans and notes) in USD.[18] I exclude revolvers and delayed-draw credit facilities. Furthermore, I drop observations with missing principal amount, fair value amount, or maturity date. Finally, following Davydiuk, Erel, et al. (2024), I exclude observations with reported valuations below 0.6 (i.e., below 60 cents per dollar) and winsorize the right tail of the loan valuation distribution at 1%.[19] In BDC filings, such low reported valuations frequently reflect non-economic (mechanical) marking of specific positions. These positions are usually unfunded or partially funded commitments that are carried at a low mechanically-defined amount rather than a risk-implied valuation.[20] Excluding these extreme values also aligns the sample with the paper's focus on performing and near-performing private credit loans, rather than deeply distressed positions.[21]

I then define a loan identifier based on borrower name and industry, security type (loan or note), seniority, maturity, and coupon characteristics, grouping instruments with identical attributes under a common identifier. Finally, I follow a similar approach to Plosser and Santos (2018) and restrict the sample to loans held simultaneously by multiple BDCs. This allows me to benchmark a given BDC's reported loan valuation against those of other lenders on the same loan, while holding fixed loan fundamentals and borrower-level conditions—such

[18]The vast majority of debt positions are loans. Notes constitute less than 4% of the sample. My results are robust to excluding notes and focusing only on loans.

[19]Loans with reported valuations below 0.6 constitute roughly 3% of the left tail of the valuation distribution in the sample. The main results are robust to retaining them.

[20]Such positions often exhibit low (sometimes negative) fair value. For example, see T Series Middle Market Loan Fund LLC 2022Q2 Form 10-Q, Schedule of Investments footnote 10: https://www.sec.gov/Archives/edgar/data/1885968/000188596822000044/tseriesq3_2022.htm.

[21]Consistent with this valuation boundary, the distressed-debt literature typically assumes loss-given-default of about 35%–40%, which implies recovery rates of 60%–65% and hence a natural lower bound near 0.6 for valuations in non-distressed samples (see, e.g., Sundaresan et al. (2014)).

as time-varying credit risk and credit demand—throughout the analysis by using loan-by-time fixed effects.

The main dependent variable in my loan-level analysis is the loan fair value (*Loan Fair Value*), defined as the fair value amount of loan $i$ to firm $f$ as reported by BDC $j$ in year-quarter $t$, divided by the principal amount of the loan.[22]

$$Loan\ Fair\ Value_{i,f,j,t} = \frac{Fair\ Value\ Amount_{i,f,j,t}}{Principal\ Amount_{i,f,j,t}}. \tag{2}$$

I also report specifications that use an alternative outcome variable, *Fair Value Deviation*, which measures cross-lender dispersion directly. *Fair Value Deviation* is defined as the valuation of loan $i$ to firm $f$ by BDC $j$ in year-quarter $t$ minus the average valuations by all other BDCs holding the same loan $i$ in year-quarter $t$ (excluding BDC $j$).[23] More specifically:

$$Fair\ Value\ Deviation_{i,f,j,t} = Loan\ Fair\ Value_{i,f,j,t} - \frac{1}{N_{i,f,t}-1}\sum_{\substack{k\in\mathcal{J}_{i,f,t}\\ k\neq j}} Loan\ Fair\ Value_{i,f,k,t} \tag{3}$$

where $\mathcal{J}_{i,f,t}$ denotes the set of BDCs holding loan $i$ to firm $f$ at time $t$, and $N_{i,f,t} = |\mathcal{J}_{i,f,t}|$.

Panel A of Table 2 reports summary statistics for the loan-level sample used in the empirical analysis. The sample contains 11,885 unique loans issued to 5,931 firms over 2009Q1–2024Q4. Loan size is right-skewed: the mean principal amount is \$17.62 million, while the median is \$7.50 million, consistent with a growing prevalence of larger loans in the later part of the sample. The average remaining time to maturity,defined as the difference between the maturity date and the reporting date, is 17.94 quarters. Most observations are floating-rate loans, as is standard in private credit, accounting for 88% of the sample.

[22] For example, *Loan Fair Value* of 0.95 can be interpreted as 95 cents per dollar of principal amount.

[23] Gormley and Matsa (2014) show that demeaning outcomes within groups (e.g., BDCs holding the same loan) can produce inconsistent estimates in the presence of unobserved group-level shocks. On the other hand, the fixed-effects estimator is consistent under standard assumptions. Accordingly, my baseline specifications use *Loan Fair Value* with loan-by-time fixed effects, and I report *Fair Value Deviation* as an alternative specification. Results of the specification using the *Fair Value Deviation* alternative output variable are robust to including BDC $j$ when calculating the average valuation of loan $i$ at time $t$.

In terms of seniority, 78% of the observations belong to senior secured first-lien loans. For comparison, Panel B reports summary statistics for the full loan universe, including loans held by a single lender.

# 4 Results

I begin by examining whether time-varying fund-level factors contribute to valuation deviations through a sequence of fixed-effects specifications. I then turn to the loan-level panel of co-held loans to provide micro-level evidence on the relationship between realized performance and fair value deviations. Next, I present complementary evidence at the fund level to evaluate the aggregate implications of valuation deviations. Finally, I examine and rule out several alternative explanations for my results, including stale pricing, asymmetric information, portfolio selection, simultaneous learning, and portfolio rebalancing.

## 4.1 Fair Value Deviations and Fixed Effects

Since private credit loans are illiquid and rarely traded, some degree of cross-fund dispersion in loan valuations is expected. Such dispersion may reflect persistent fund-level characteristics, including differences in risk tolerance, valuation methodologies, or organizational approaches to fair-value estimation. These factors can generate systematic differences in valuation levels across funds. However, such time-invariant tendencies should be absorbed by fund fixed effects.

Meanwhile, superior access to borrower-specific information should primarily affect valuation precision at the loan level rather than induce directional, portfolio-wide deviations relative to peers that fluctuate over time. In particular, if valuation differences were driven by idiosyncratic loan-level information, their effects should largely average out in the aggregate and appear as noise at the portfolio level, rather than generating systematic co-movement across many loans within the same fund-quarter. By contrast, portfolio-level valuation deviations that vary within the same fund over time are harder to reconcile with standard informational or methodological explanations.

The key intuition is therefore the following: if valuation deviations are driven primarily by persistent fund characteristics, fund fixed effects should explain most of the variation. Conversely, if deviations reflect time-varying fund behavior that shifts marks across the portfolio, explanatory power should increase substantially when fund-by–time fixed effects are included. To formalize this intuition, I estimate a sequence of specifications in which valuation deviations are regressed solely on alternative combinations of fixed effects. I begin with a model that includes only BDC fixed effects. I then add separate BDC and time fixed effects, to capture any role played by common time shocks in explaining deviations. Finally, I estimate a specification with BDC-by-time fixed effects to capture the importance of within-fund, time-varying variation in valuation behavior.

The results from this fixed-effects exercise are reported in Table 3. Columns 1–3 report the $R^2$ and adjusted $R^2$ for the specifications with BDC fixed effects, BDC and time fixed effects, and BDC–by-time fixed effects, respectively. In Column 3, the BDC–by-time specification has an $R^2$ of about 11% and an adjusted $R^2$ of 9.2%, twice the $R^2$ and adjusted $R^2$ of the baseline BDC fixed effects model in Column 1. The intermediate specification with separate BDC and time fixed effects in Column 2 shows that common time shocks alone cannot account for this increase. The increase in explanatory power indicates that a meaningful share of valuation deviations reflects within-BDC, time-varying behavior rather than purely time-invariant differences across funds.

It is important to note that BDC-by–time fixed effects do not absorb loan-level variation; instead, they capture fund-specific shifts that vary over time but apply broadly across the fund's portfolio in a given quarter. As a result, the sharp rise in the explanatory power of the fixed effects model indicates that valuation deviations co-move across many loans within the same fund-quarter, rather than reflecting idiosyncratic, loan-specific noise. This pattern is difficult to reconcile with static fund characteristics or loan-level fundamentals being the only determinants of valuation dispersion, and instead indicates that time-varying fund-level behavior materially contributes to valuation decisions across the portfolio.

## 4.2 Loan-Level Results

### 4.2.1 Baseline Specification

I next examine valuation deviations at the individual loan level. Specifically, I regress *Loan Fair Value* on *Realized Performance* using the quarterly loan-level panel spanning 2009Q1–2024Q4. I control for a set of lagged, time-varying BDC controls that include fund size (log total assets), leverage (liabilities/assets), liquidity (cash), and profitability (return on equity). I further include BDC–by-borrower fixed effects to absorb persistent fund–firm relationships (e.g., equity co-investments or common sponsorship ties) and fund specialization, that may influence loan valuations.[24] Finally, I include loan-by-time fixed effects, which absorb the year-quarter specific average valuation of each loan across all BDCs holding it, such that each fund's reported mark is identified from its deviation relative to the cross-lenders average in that year-quarter. In addition, this fixed-effects structure flexibly controls for all time-varying loan- and borrower-level fundamentals. I cluster standard errors two-way at the BDC and year-quarter levels.[25] I estimate the following regression equation:

$$\textit{Loan Fair Value}_{i,f,j,t} = \beta \, \textit{Realized Performance}_{j,t} + \boldsymbol{\gamma}'\mathbf{X}_{j,t-1} + \alpha_{j,f} + \lambda_{i,t} + \varepsilon_{i,f,j,t}, \tag{4}$$

where $\textit{Loan Fair Value}_{i,f,j,t}$ is the fair value of loan $i$ to firm $f$ reported by BDC $j$ at time $t$, $\textit{Realized Performance}_{j,t}$ denotes the realized performance of BDC $j$ in quarter $t$, $\mathbf{X}_{j,t-1}$ is

[24] This reflects the institutional reality of private credit markets, where borrowers are often backed by private equity sponsors that maintain ongoing relationships with private credit funds or their parent asset managers. Such sponsor–fund links may arise through parallel fundraising, co-investment arrangements, or shared ownership structures and may affect borrower-information access and perception of risk (see e.g., Jang, D. Kim, et al. (2025) and Robinson and Wallskog (2026) for more on the links between private equity and private credit funds). Hence, I use BDC-by-borrower fixed effects in my baseline specification, but also report specifications in which I control only for BDC fixed effects.

[25] Results are robust to clustering two-way by borrower and year-quarter or by loan and year-quarter.

a vector of lagged BDC-level control variables, $\alpha_{j,f}$ are BDC–borrower fixed effects, $\lambda_{i,t}$ are loan-by-time fixed effects, and $\varepsilon_{i,f,j,t}$ is an error term.

Table 4 presents the results from Equation 4. All columns include loan-by-time fixed effects. Column 1 include BDC fixed effects. Column 2 adds the full set of time varying BDC controls. Column 3 further tightens the specification by applying BDC-by-borrower fixed effects, to capture any persistent preferential valuations that results from special relationship between the fund and the borrower. Column 4 weighs the observations using loan weights that are based on loan principal scaled by the total portfolio of the BDC. Finally, Column 5 focuses on the more recent history, limiting the sample to loan observations from 2020Q1 to 2024Q4.

Across all specifications, the negative relationship between loan valuations and fund realized performance is persistent and statistically significant. Notably, the coefficient increases by approximately 50% when focusing on the post Covid period.[26] The effect is economically meaningful. Based on the estimates in Column 2, a one–standard deviation change in *Realized Performance* implies a valuation deviation of \$5,737 for the median loan in the sample. Aggregating across the median BDC portfolio of 51 loans yields a total deviation of \$292,590, corresponding to 5.5% of net income for the median fund.[27] In Section 4.4, I systematically rule out stale pricing, asymmetric information, portfolio selection, simultaneous learning, and portfolio rebalancing as alternative explanations for this pattern.

[26] This increase in magnitude may reflect broader changes in the private credit environment during the post-COVID period. Over this period, the industry experienced increased competition, driven by entry of new BDCs and private credit funds and rapid growth in assets under management (see Figure 1), alongside a sustained compression in loan origination spreads documented in industry reports. This may have increased the incentives of BDCs to manage their reported performance. In addition, the Federal Reserve's interest-rate hiking cycle beginning in March 2022 likely increased financial pressure on middle-market borrowers, particularly given the prevalence of floating-rate lending in private credit. This may have increased the likelihood and intensity of credit events impacting *Realized Performance*.

[27] This estimate should be interpreted as a lower bound on the portfolio-level effect, as the loan sample excludes positions with missing maturity, principal, or fair value information. The sample also omits non-USD loans, loans to non-U.S. borrowers, and revolving or delayed-draw credit facilities. In addition, the calculation is based on a conservative approach that uses the median fair value amount of loans in the sample, which is lower than the median principal amount of loans. Finally, the analysis abstracts from the valuation of equity investments held by BDCs, which are not included in the loan sample and may exhibit similar valuation dynamics.

### 4.2.2 Robustness

I conduct two sets of tests to assess the robustness of the baseline results. The first set examines the sensitivity of the results to the inclusion of additional controls, alternative definitions of the dependent and independent variables, and a first-differences specification. The second set evaluates the stability of the estimated coefficient across subsamples and assesses the external validity of the findings.

The results of the first set of tests are reported in Panel A of Table 5. Columns 1 and 2 augment the baseline specification with additional controls. Specifically, I include *Loan Share*, defined as the BDC's ownership share in a given loan relative to other co-lenders. BDCs with larger ownership stakes may have superior access to borrower information or may internalize a greater likelihood of providing support to the borrower given their exposure. I also control for *Loan Weight* as a proxy for the importance of a given loan to the BDC's investment portfolio. *Loan Weight* is defined as the ratio of a loan's principal amount to the BDC's total investment portfolio in a given quarter.[28] Intuitively, larger loans may be valued differently (e.g., more conservatively or more aggressively) due to their larger impact on net assets. Column 1 includes BDC fixed effects, while Column 2 allows fixed effects to vary at the BDC–borrower level. Across both specifications, the results are similar in magnitude and statistical significance to the baseline result.

In Column 3, I take a complementary approach and focus on a fund's performance relative to peers. Specifically, I replace *Realized Performance* with the indicator variable *Underperformer*, which equals one if a BDC's realized performance falls in the bottom 25% of the cross-sectional distribution of realized performance in a given quarter, and zero otherwise. The coefficient is positive and statistically significant, indicating that funds underperforming relative to peers tend to assign higher valuations to their outstanding loans compared to peer

[28] Using principal amounts to construct weights is more robust than using fair values, which are endogenous to the valuation process. In contrast, principal amounts are fixed at loan origination and are therefore exogenous to contemporaneous valuation decisions. Nevertheless, my results are robust to using loan fair values to construct loan weights.

funds holding the same loans.

Column 4 uses the logarithm of *Loan Fair Value* as the dependent variable. The estimated effect remains statistically significant and becomes slightly larger in economic magnitude.

Columns 5 and 6 employ *Fair Value Deviations* as the dependent variable, which directly measures a BDC's valuation relative to peer lenders without relying on loan–time fixed effects to absorb the average valuation. In these specifications, I additionally control for loan seniority and remaining time to maturity. Column 5 includes BDC fixed effects, while Column 6 incorporates BDC–borrower fixed effects. The results in both columns are consistent with the baseline findings.

Finally, Columns 7 and 8 use the changes in loan valuations from period *t-1* to *t*, $\Delta$ *Fair Value*, as the dependent variable. Column 7 regresses $\Delta$ *Fair Value* on *Realized Performance*, controlling for loan-time fixed effects, BDC fixed effects and BDC time-varying characteristics. Column 8 reports a first-differences specification that regresses $\Delta$ *Fair Value* on the corresponding changes in *Realized Performance* and BDC-level controls. In both specifications, loan–time fixed effects are included to absorb the average change in valuations across all BDCs holding the same loan. The results from the two specifications are again consistent with the baseline estimates.

I next assess the validity of the baseline results across a set of economically motivated subsamples presented in Panel B of Table 5. Each restriction is designed to address a distinct concern about potential mechanical or sample-driven explanations for the valuation behavior documented above. The dependent variable in all regressions in Panel B is the same dependent variable as the baseline specification, *Loan Fair Value*.

One concern is that valuation deviations may be mechanically influenced by the number of co-lenders holding a loan. When a loan has very few lenders, the peer benchmark used to construct valuation deviations may be noisy; conversely, loans with a very large number of lenders may reflect syndicated structures with different information environments or valuation practices. Columns 1-3 in Panel B of Table 5 address this concern by restricting the sample to loans held by two lenders (Column 1), at least three lenders (Column 2) and to loans held by no more than eight lenders (Column 3). These thresholds correspond to the 25th, 50th and the 90th percentile of the lender-count distribution in the data. The results remain stable across the three specifications, suggesting that the baseline findings are not driven by mechanical features of the peer benchmark or by extreme loan syndication structures.

A second concern is that the results may be driven by riskier or more discretionary segments of BDC portfolios. Column 4 in Panel B of Table 5 restricts the sample to senior secured first-lien loans, which represent the safest debt investment in terms of seniority. The persistence of the effect within this subsample indicates that the results are not concentrated in junior or high-risk loan categories.

A further concern relates to external validity and institutional heterogeneity across BDCs. Column 5 in Panel B limits the sample to loans held only by private BDCs, whose organizational structure, access to capital, and incentive environment more closely resemble those of private credit funds. Similar to traditional private credit funds, privately held BDCs are typically structured around committed capital and drawdowns, limited investor liquidity (lockups or restricted repurchase windows), and full dependence on reported NAV for fund value discovery. The economic magnitude of the coefficient in this subsample is almost double the baseline coefficient (-0.040) and similar statistical significance.[29] This suggests that the documented valuation behavior is not specific to publicly listed and non-traded BDCs, but extends to the broader private credit industry.

[29]The larger magnitude of the *Realized Performance* coefficient in the subsample of private BDCs may reflect their more limited exposure to market-based discipline. Unlike publicly listed or non-traded public BDCs, private BDCs are typically structured with contractual investor capital commitments and lockup periods, reducing the scope for investor exit and equity-market monitoring. As a result, valuation practices in private BDCs may be less constrained by external market discipline mechanisms.

### 4.2.3 Decomposing *Realized Performance*

I next decompose *Realized Performance* into its two components to assess which elements drive the valuation effects documented above. Recall that *Realized Performance* is defined as the sum of net investment income and realized gains and losses. Net investment income reflects recurring cash flows from BDC investments—interest, dividends, and fees—net of financing, management, and operating expenses. Realized gains and losses, by contrast, arise from discrete events such as loan settlements, sales, restructurings, or defaults.

These two components differ markedly in their time-series properties and economic interpretation. Net investment income is largely governed by contractual payment schedules and is therefore relatively more predictable ex-ante. Realized gains and losses, in contrast, tend to be episodic and are often associated with adverse credit events, making them more salient signals of deterioration in portfolio performance. For this reason, I expect realized gains and losses to exert a stronger influence on valuation behavior than routine fluctuations in net investment income.

I test this hypothesis using the specifications presented in Table 6. Column 1 in Table 6 replaces *Realized Performance* in the baseline loan-level specification with *Realized Gains*. Column 2 instead uses *Net Investment Income* as the explanatory variable. In Columns 3 and 4, I further examine a plausibly more exogenous proxy for variation in net investment income by exploiting information on non-accrual loans.

Results from Table 6 shed light on which components of *Realized Performance* drive the valuation behavior documented in the baseline results. Column 1 shows that realized gains and losses are strongly negatively associated with loan fair values, indicating that periods of weak realized outcomes—driven by discrete events such as sales, restructurings, or defaults—are accompanied by higher reported valuations of remaining positions. Column 2 focuses on net investment income. The estimated coefficient is negative, consistent with the baseline mechanism, but smaller in magnitude and statistically insignificant. This pattern suggests that routine, largely contractual cash-flow fluctuations play a more limited role in shaping valuation behavior than realized shocks, while still pointing in the same direction as the overall effect.

Columns 3 and 4 turn to non-accruals as a proxy for borrower-driven deterioration in operating cash flows. Non-accrual loans are loans for which interest or principal payments are at least 90 days past due, or for which full repayment is not expected by the fund management.[30] Non-accruals provide a useful proxy for changes in realized performance that is plausibly less endogenous to valuation discretion for two reasons. First, when a loan transitions to non-accrual status, the BDC stops recognizing interest income on that position, directly reducing net investment income and therefore lowering *Realized Performance* through its net-investment-income component. Importantly, the same transition does not mechanically generate realized gains or losses; realized losses are typically recognized only upon a subsequent sale, settlement, restructuring at a loss, or default resolution. Non-accruals thus proxy for an adverse realized cash-flow shock: an earnings deterioration driven by borrower distress, while remaining conceptually distinct from realized loss recognition.

Second, Non-accruals are costly to the fund. They reduce incentive fees by depressing net investment income and can lower base fees as loans are commonly marked down once placed on non-accrual. In addition, rising non-accrual rates are a negative signal to investors and creditors, potentially tightening funding conditions and limiting access to external capital. These features give managers strong incentives to avoid non-accrual designations where possible, making movements in non-accruals less likely to be driven by discretionary fund actions and more reflective of borrower-side deterioration.

In Column 3 of Table 6, the regressor is *Non-accruals*, defined as the ratio of the aggregate principal of non-accrual loans in a BDC's portfolio to total investment portfolio. In

[30] Non-accrual treatment for BDC loans is governed by U.S. GAAP and SEC reporting requirements rather than bank regulatory rules. While GAAP does not prescribe a mechanical delinquency threshold, SEC guidance and industry practice generally place loans on non-accrual when interest or principal is 90 days or more past due or when full collection is no longer expected, as commonly disclosed in BDC filings. The definition of non-accrual status and choice of 90-days as a threshold mirrors the regulations of the banking industry (see https://www.fdic.gov/resources/bankers/call-reports/crinst-031-041/1997/1997-09-rc-n.pdf).

Column 4, the regressor is $\Delta$ *Non-accruals*, defined as the quarter-to-quarter change in *Non-accruals*. Column 3 uses *Loan Fair Value* as the dependent variable, while Column 4 uses the quarter-to-quarter change in fair value of the loan ($\Delta$ *Loan Fair Value*) in a first-differences specification.

In contrast to the earlier specifications, the coefficients on non-accruals are positive: higher levels and increases in non-accruals are associated with higher reported loan valuations. This sign reversal is intuitive given that non-accruals proxy for adverse realized operating shocks. When borrower distress reduces interest income, funds appear to offset weaker realized performance by assigning higher fair values to their remaining loans. The estimates are economically meaningful and comparable to the baseline. The level specification is statistically significant at the 5% level (Column 3) and the changes specification at the 10% level (Column 4), with point estimates between 0.024 and 0.016, close to the baseline magnitude of 0.022. Overall, the decomposition of *Realized Performance* suggests that the baseline relationship is present broadly, but becomes more pronounced when realized performance deteriorates due to borrower distress.

#### 4.2.4 Cross-section of Loans

If BDCs use loan valuations to smooth realized performance, then this behavior is expected to be most pronounced when the rewards to this behavior are high and the costs are low. Rewards to such behavior are high when a loan represents a meaningful share of the portfolio. Valuation adjustments then move fund-level outcomes more strongly. Costs to this behavior arise due to internal audits, external monitoring, and the widespread use of third-party valuation providers (Jang and G. Kim, 2025). These costs are more severe for borrowers with widely available information, for whom credit risk is relatively transparent and readily verifiable by investors, auditors, and regulators, making sustained deviations from peer valuations substantially harder to justify.

Table 7 tests these predictions by focusing on loan and borrower characteristics. I examine how valuations of loans within the same BDC respond to changes in realized performance. This allows me to drop all BDC-level time-varying controls and include BDC-by-time fixed effects. These fixed effects absorb all fund-level shocks. Therefore, identification in the specifications reported in Table 7 comes from differential valuation responses across loans with different characteristics within the same fund-quarter. Formally, I estimate the following specification:

$$\textit{Loan Fair Value}_{i,f,j,t} = \beta \left(\textit{Realized Performance}_{j,t} \times Z_{i,f,j,t}\right) + \alpha_{j,f} + \lambda_{i,t} + \delta_{j,t} + \varepsilon_{i,f,j,t}. \quad (5)$$

where $Z_{i,f,j,t}$ is the loan characteristic under consideration, $\alpha_{j,f}$ are BDC–borrower fixed effects, $\lambda_{i,t}$ are loan-by-time fixed effects, $\delta_{j,t}$ are BDC-by-time fixed effects, and $\varepsilon_{i,f,j,t}$ is an error term.

Columns 1 and 2 in Table 7 show how valuation sensitivity varies with loan size. Because BDCs differ substantially in scale, a given dollar loan may be material for a small BDC but immaterial for a large one. I therefore measure loan size using *Loan Weight*, defined as the loan's principal divided by the BDC's total portfolio. Column 1 applies loan weights as a continuous variable. Column 2 focuses on the largest loans, defined as those in the top quartile of portfolio weight within a BDC at time $t$. In both columns, the interaction between realized performance and loan weight is negative and statistically significant, indicating that valuation discretion responds more strongly to realized performance for larger, more consequential loans.

To capture the transparency channel, I run two tests. First, I exploit differences in borrower opacity. Specifically, I match borrowers to Compustat to identify public firms and construct an indicator *I(Public Firm)* equal to one for listed borrowers in the sample. Public firms are less opaque, limiting valuation discretion because investors, auditors, and regulators observe their financial information. Column 3 in Table 7 supports this intuition. The interaction between realized performance and *I(Public Firm)* is positive and statistically significant. Public status attenuates the negative relation between realized performance and loan valuations.

Second, I extend the sample to include loans with only one lender and examine whether strategic marking is stronger for loans held by a single BDC. Single-held loans provide greater scope for discretion because there is no contemporaneous valuation from another lender that can serve as a benchmark. I therefore interact *Realized Performance* with an indicator *I(Single-lender loan)* equal to one if the loan is held by only one BDC in a given quarter. Because single-held loans lack cross-lender variation, I cannot rely on loan-by-time fixed effects as in the baseline specification. Instead, I divide loans into loan-types defined by time-to-maturity, seniority, and SIC 2-digit industry code, and absorb loan-type-by-time fixed effects. Identification therefore comes from comparing loans with similar characteristics and borrower industries within the same quarter, while exploiting variation across loans within the same BDC-quarter

The results are presented in Column 4 of Table 7. The interaction coefficient is negative and statistically significant, indicating that within the same BDC-quarter, the negative relationship between realized performance and loan valuations is stronger for single-held loans than for loans held by multiple lenders. This test is informative about valuation behavior in the portion of the loan portfolio that is not jointly held with other BDCs and therefore not directly identified in the baseline cross-lender comparisons.

#### 4.2.5 Cross-section of BDCs

A central institutional feature of BDCs is the statutory leverage limit. Prior to 2018, BDCs were subject to an asset coverage requirement of 200%, implying a maximum debt-to-equity ratio of 1:1 (or equivalently, assets equal to at least twice outstanding debt). The Small Business Credit Availability Act of 2018 lowered this requirement to 150%, allowing eligible BDCs to operate with debt-to-equity ratios of up to 2:1. The reduced asset coverage requirement did not apply automatically. BDCs could choose to maintain the previous leverage limit, or elect to apply the new leverage limit. BDCs could elect to be treated under the new limit either after obtaining shareholder approval or board approval.[31] Importantly, regulatory leverage is computed using the fair value of assets, directly linking valuation practices to leverage constraints.

Building on this insight, I hypothesize that the valuation response to realized performance is amplified when BDCs operate at higher leverage. Intuitively, realized losses mechanically tighten the leverage constraint by reducing net assets, increasing the incentive to offset these losses through higher unrealized gains.

To test this hypothesis, I augment the baseline loan-level specification by allowing the effect of realized performance to vary with fund leverage. Specifically, I interact *Realized Performance* with 1-period lagged leverage ratio. Results from this test are presented in Table 8. In Column 1, I interact *Leverage* with only *Realized Performance*. Column 2 further interacts *Leverage* with all fund time-varying controls. In both specifications, the coefficient on the interaction between realized performance and leverage is negative and statistically significant, indicating that more highly leveraged BDCs exhibit a stronger tendency to offset weak realized performance with higher reported loan valuations.

Because the 2018 change in the regulatory leverage limit did not apply automatically and BDCs elected the new regime at different points in time, leverage constraints become heterogeneous starting in 2018Q2. This staggered adoption may confound the baseline results, as BDCs jointly choose their leverage limit and valuation behavior. To address this concern, I re-estimate the specifications in Columns 1 and 2 on a subsample ending in 2018Q1. Columns 3 and 4 report these estimates and show that the main findings are unchanged when restricting the sample to the pre-reform period.

[31] For BDCs using the shareholder route, the higher leverage limit became effective immediately upon obtaining shareholder approval. For those relying on board approval, the new limit became effective one year after the board resolution. In addition, Non-traded and private BDCs that elected the 150% requirement were required to conduct tender offers for at least 25% of outstanding shares in each of the four subsequent quarters.

## 4.3 Fund-Level Results

Having established a relationship between *Realized Performance* and loan-level valuations in the micro data, it is important to examine whether these patterns also hold at the fund (aggregate) level. Put differently, strategic marking of individual loans is economically meaningful only if its effects translate into aggregate fund outcomes. To assess the impact of loan-level valuation deviations at the fund level, I conduct two exercises described below.

### 4.3.1 Fair Value Deviations at the Portfolio Level

I aggregate loan-level valuation deviations at the level of the loan portfolio of each BDC, and regress them on realized performance. I construct two complementary portfolio-level measures that differ in how loan-level deviations are aggregated.

My primary measure is *Total Deviations (% Equity)*, which captures the dollar impact of valuation deviations on the fund's balance sheet. For each loan, I multiply the loan's fair value deviation by its principal amount to obtain the dollar deviation relative to peer valuations. I then sum these dollar deviations across all loans in the BDC's portfolio that are simultaneously held by other lenders in the same quarter and scale the total by the fund's lagged equity. This measure therefore captures how much reported net assets are affected by valuation deviations in response to realized performance in a given period, expressed as a fraction of beginning-of-period equity.

$$\textit{Total Deviations (\%Equity)}_{j,t} = \frac{\sum_{i \in \mathcal{L}_{j,t}} \textit{Fair Value Deviation}_{i,j,t} \times \textit{Principal}_{i,j,t}}{\textit{Equity}_{j,t-1}}, \quad (6)$$

where $i$ indexes individual loans and $\mathcal{L}_{j,t}$ denotes the set of loans held by BDC $j$ at time $t$ that are also held by at least one other lender.

As a complementary measure, I also construct *Total Deviations (Portfolio Weighted)*, which corresponds to a portfolio-weighted average of loan-level fair value deviations. Specifically, loan weights are defined as the ratio of a loan's principal amount to the BDC's total investment portfolio in a given quarter, and portfolio-level deviations are computed as the weighted sum of loan-level fair value deviations across all co-held loans.[32]

$$\textit{Total Deviations (Portfolio Weighted)}_{j,t} = \sum_{i \in \mathcal{L}_{j,t}} \textit{Loan Weight}_{i,j,t} \times \textit{Fair Value Deviation}_{i,j,t}, \tag{7}$$

The two total deviations measures capture related but distinct dimensions of valuation deviation, due to differences in scaling. *Total Deviations (Portfolio Weighted)* summarizes the weighted average intensity of valuation deviations in a given portfolio of co-held loans, but does not take into account the level of leverage and the impact on net assets. On the other hand, *Total Deviations (% Equity)* measure captures the economic impact of deviations on net asset value, explicitly incorporating leverage through scaling the dollar impact by equity.[33]

I then regress total deviations on realized performance in a two-way fixed effects regression:

$$Y_{j,t} = \beta \, \textit{Realized Performance}_{j,t} + \boldsymbol{\gamma}' \mathbf{X}_{j,t-1} + \alpha_j + \delta_t + \varepsilon_{j,t}, \tag{8}$$

where $Y_{j,t}$ is the total deviations measure, $\mathbf{X}_{j,t-1}$ is the vector of lagged BDC-level controls, $\alpha_j$ are BDC fixed effects, $\delta_t$ are time fixed effects, and $\varepsilon_{j,t}$ is an error term.

The results from Equation 8 are presented in Table 9. Columns 1 and 3 use the *Total Deviation (% Equity)* measure, while columns 2 and 4 use the *Total Deviations (Weighted)* measure. Columns 1 and 2 use the full sample. Columns 3 and 4 limit the sample to the post-Covid period, to understand the magnitude in the more recent history. The negative statistically significant coefficients in all columns confirm the presence of a negative relationship between valuation deviations at the portfolio level and realized performance. Furthermore, the sharp increase in coefficients and adjusted $R^2$ of columns 3 and 4 compared to columns

[32] For example, a *Total Deviations (Portfolio Weighted)* of 0.05 can be interpreted as a weighted average deviation of 5 cents per dollar of the investment portfolio of a given BDC in a given quarter.

[33] For example, two BDCs with identical loan portfolios and valuation deviation per loan will have the same deviation magnitude at the portfolio level when measured by *Total Deviations (Portfolio Weighted)*, but the effect on their net assets may differ as it depends on how the portfolio is funded (leverage position). The measure *Total Deviations (% Equity)* captures this difference.

1 and 2 show that the effect has intensified in the post-Covid period (2020-2024).

### 4.3.2 Income Statement Aggregates

Unrealized gains capture the aggregate change in the reported value of all positions held by a fund over a reporting period, including debt and equity investments and derivatives positions. If funds use discretion in loan valuations to offset weak realized performance, an intuitive implication is a negative relationship at the fund level between realized performance and unrealized gains. Such pattern would be consistent with funds marking loans more aggressively when realized performance is weak, and more conservatively when realized performance is strong.

Panel A of Figure 2 plots the unconditional (without any controls) relationship between realized performance and unrealized gains for all BDCs in the sample, with both variables scaled by lagged total equity. To improve visual clarity, I group observations into 20 equally sized bins of the realized performance distribution. Panel B presents the relationship in first differences, plotting the change in realized performance from *t-1* to *t* against the corresponding change in unrealized gains over the same interval. Because Panel B uses within-fund changes, it differences out observable and unobservable time-invariant fund characteristics. In both panels, the fitted line indicates a pronounced negative relationship between the realized and unrealized components of fund returns.

Next, I examine the relationship between realized performance and unrealized gains using the following regression:

$$\textit{Unrealized Gains}_{j,t} = \beta \textit{ Realized Performance}_{j,t} + \boldsymbol{\gamma}'\mathbf{X}_{j,t-1} + \alpha_j + \delta_t + \varepsilon_{j,t}, \tag{9}$$

where $\mathbf{X}_{j,t-1}$ is a vector of lagged BDC-level controls, $\alpha_j$ are BDC fixed effects, $\delta_t$ are time fixed effects, and $\varepsilon_{j,t}$ is an error term. Standard errors are two-way clustered by BDC and yea-quarter levels. I estimate this specification on the quarterly BDC-level financial panel covering all active BDCs over 2009Q1–2024Q4.

Results from Equation 9 are presented in Table 10. Column 1 uses only BDC and time fixed effects, without adding any controls. Column 2 introduces the BDC time-varying controls. The coefficient of *Realized Performance* in Column 2 suggests that for every dollar decrease in realized performance, unrealized gains increases by approximately 50 cents. In Columns 3 and 4 I remove the BDC fixed effect and instead use the first-difference of all variables, with Column 3 including no controls and Column 4 including the full battery of time-varying BDC controls. Results from both columns are consistent with the results from the two-way fixed effects specifications, both in direction and economic magnitude.

Column 5 replaces *Realized Performance* with the indicator *I(Realized Losses)*, which captures whether a BDC experiences negative realized performance in a given quarter. The coefficient on *I(Realized Losses)* is positive and statistically significant, indicating that quarters with realized losses are associated with higher unrealized gains relative to quarters with non-negative realized performance. This specification shows that the relationship documented in earlier columns is not driven solely by the magnitude of realized performance, but also reflects a discrete shift in valuation behavior when realized losses occur. Column 6 allows the relationship between realized performance and unrealized gains to differ between loss and non-loss quarters by interacting *Realized Performance* with the indicator *I(Realized Losses)*. The coefficient on *Realized Performance* captures the slope in quarters with non-negative realized performance, and it is negative and statistically significant, implying that the offsetting relationship is not confined to loss quarters. The interaction term is negative and statistically significant, indicating that this offsetting is materially stronger when realized performance is negative. Taken together, the estimates suggest state-dependent valuation behavior: unrealized gains respond negatively to realized performance in general, but the response is amplified in loss quarters.

## 4.4 Alternative Channels

In the remainder of this section, I examine several alternative channels that could potentially confound the interpretation of the baseline results. Specifically, I consider explanations related to stale pricing, differential access to borrower information, portfolio selection, simultaneous learning, and portfolio rebalancing.

### 4.4.1 Stale Pricing

I examine whether stale pricing could drive the patterns in my baseline results. Curtis and Raney (2020) shows that BDCs may update asset valuations with delay, particularly when incorporating negative information. If co-lenders adjust the fair value of the same loan at different speeds, cross-fund dispersion in reported marks could partly reflect asynchronous updating rather than discretionary revaluation.

To assess this channel, I implement two approaches. First, I restrict the sample to loan–BDC observations for which the reported fair value changes between quarters *t-1* and *t*, thereby focusing on quarters in which BDCs actively update their loan marks. Column 1 of Panel A in Table 11 reports the corresponding estimates. The coefficient on *Realized Performance* is comparable to the baseline in both magnitude and statistical significance, indicating that stale pricing is unlikely to be driving the main findings.

Second, I restrict the sample to recently originated loans, for which valuations are less likely to be affected by delayed updating. Specifically, I focus on loans issued within the prior six months. These loans are "fresh" in the sense that they have been added to the portfolio recently, leaving less scope for substantial, loan-specific credit deterioration or improvement to accumulate without being reflected in reported marks. I also report a robustness check using loans issued within the prior year. Columns 2 and 3 of Panel A in Table 11 report the results for these two subsamples. In both columns, the estimated coefficient on *Realized Performance* remains similar in sign and magnitude to the baseline and remains statistically significant, again suggesting that stale pricing is unlikely to account for the main results.[34]

### 4.4.2 Borrower Information

Next, I consider whether heterogeneity in access to borrower information could confound the baseline results. The direction of any bias from this channel is a priori unclear: better information should primarily improve valuation accuracy rather than mechanically generate higher or lower marks. While differential information access can rationalize cross-fund dispersion in valuations of the same loan, it does not naturally imply a systematic relationship between a fund's realized performance and its reported valuation of that loan. Nevertheless, to ensure that the baseline estimates are not driven by information-related noise, I implement two additional controls for borrower information.

First, I augment the baseline loan-level specification in Equation 4 with an indicator variable, *I(Equity Ownership)*, equal to one if the BDC holds an equity stake in the borrowing firm. Davydiuk, Erel, et al. (2024) shows that dual holders (debt and equity positions in the same investee firm) tend to be more effective monitors and may have enhanced information and governance channels, so this control captures systematic differences in information access among co-lenders. Second, I include BDC-by-loan fixed effects to absorb time-invariant features of a fund–loan relationship, including preferential roles such as lead-lender status in club deals. Indeed, Jang and G. Kim (2025) documents that lead lenders may incorporate superior information into their valuations, particularly in periods of credit stress. With BDC-by-loan fixed effects, identification comes from within BDC–loan variation over time: I test whether a BDC's realized performance predicts that BDC's valuation of the same loan over time, holding the BDC–loan match constant. Column 4 of Panel A in Table 11 reports the results. The coefficient on *Realized Performance* remains negative and economically similar to the baseline, and retains comparable statistical significance.

[34] Issuance dates are missing for a subset of loans. As a result, restricting the sample to loans issued in the same quarter as the reporting date or at most one quarter earlier yields relatively small samples (5,029 and 29,098 observations, respectively). Although these estimates are imprecise due to reduced power, the sign and magnitude of the coefficient remain comparable to the baseline.

### 4.4.3 Portfolio Selection

The BDC-by-loan fixed-effects specification also helps address concerns that the baseline results reflect portfolio selection skills rather than valuation behavior. Funds may differ in screening ability, loan risk pricing, or ex-ante access to private information, which can shape both the composition of their portfolios and their realized performance over longer horizons. BDC-by-loan fixed effects absorb the time-invariant BDC–loan match, thereby removing cross-sectional differences in loan selection capabilities and identifying the effect from within BDC–loan changes over time.

In addition, a pure selection-based explanation would tend to generate the opposite sign of the coefficient. If higher-performing funds systematically select better loans, they should both realize stronger performance and hold loans with higher credit quality and, therefore, higher valuations. Such a mechanism would imply a positive association between realized performance and outstanding loan valuations over time, and would bias estimates toward zero rather than produce the negative relationship documented in the data.

### 4.4.4 Simultaneous Learning

Another related concern to the portfolio composition is a "simultaneous learning" mechanism tied to portfolio concentration (Plosser and Santos, 2018). If credit outcomes are correlated across a fund's holdings—for example, because the fund specializes in a particular sector—realized outcomes on one borrower may reveal information about the risk of other borrowers in the portfolio. For instance, a borrower default both reduces current investment income and generates a realized loss upon settlement, thereby lowering realized performance. At the same time, the default may lead the fund to reassess sector-wide risk and mark down valuations on other loans exposed to the same underlying shock. This channel would generate co-movement between realized performance and unrealized valuation changes. Importantly, however, it would imply a positive association between realized performance and outstanding loan valuations—better realized performance coinciding with upward valuation revisions, and worse realized performance coinciding with mark-downs—and therefore would attenuate the estimated negative relationship rather than produce it.

#### 4.4.5 Portfolio Rebalancing

A more substantive concern is that the baseline relationship reflects mechanical portfolio rebalancing rather than discretionary valuation behavior. In particular, a fund could improve the apparent quality of its remaining portfolio by selling underperforming loans, thereby realizing losses that depress realized performance while mechanically increasing the average quality—and hence valuations—of the loans that remain.

Several features of the setting and the evidence make this explanation unlikely. First, private credit loans are highly illiquid, which limits the scope for frequent and systematic portfolio turnover. Second, identification in my baseline specification comes from loan-by-time variation: even if a fund realizes losses by selling loans with low valuations, such rebalancing cannot explain why the remaining loan is valued more highly by that fund than by other funds holding the same loan in the same quarter. This argument is particularly strong in specifications that restrict attention to loans for which the fund actively updates its valuation relative to the prior quarter.

Finally, a portfolio-rebalancing mechanism implies that weak realized performance today should predict improved portfolio quality going forward, as poorly performing loans are exited. This would generate a positive relationship between lagged realized performance and subsequent portfolio quality, measured by future non-accrual loans. The intuition here is that if the fund consistently sell low credit-quality or non-performing loans (lowering realized performance), then the future ratio of non-accrual loans to total portfolio would decline. This would create a mechanical positive relationship between realized performance and the level of non-accrual loans as a percentage of the portfolio. Instead, Columns 1 and 2 of Panel B in Table 11 show that lagged realized performance is negatively related to both the level and the change in total non-accrual loans as a percentage of the investment portfolio, inconsistent with systematic portfolio rebalancing driving the main results.

# 5 Conclusion

This paper studies the drivers of loan valuations in private credit using granular data on U.S. Business Development Companies. Holding the underlying credit exposure fixed by comparing marks across funds that hold the same loan at the same time, I show that reported fair values covary with fund-level incentives. Funds report higher fair values when contemporaneous realized performance is weaker and mark more conservatively when realized performance is strong, consistent with return smoothing through valuation discretion. The pattern is strongest for more opaque loans and for larger portfolio positions, where a given deviation has a larger effect on reported NAV. It also intensifies when incentives are stronger— for highly leveraged funds— as the resulting changes in NAV automatically impacts fund's leverage position. A wide set of tests rules out alternative channels such as asymmetric information, delayed updating, and mechanical portfolio rebalancing.

The valuation behavior documented in this paper raises the risk that private credit asset values are overstated during periods of stress. This may delay the recognition of losses and potentially distort capital allocation. A related concern is that valuation problems in private credit may not remain confined to individual funds, but instead spread across the asset class. When valuation practices are not easily verifiable, investors may face difficulty distinguishing between genuine performance and managerial discretion in reported marks. As a result, doubts about the credibility of valuations at a subset of funds can contaminate perceptions of the entire market. In Akerlof's "market for lemons" sense, when investors cannot reliably separate high-quality assets from overstated ones, adverse selection can undermine confidence in the asset class as a whole (Akerlof, 1970). This dynamic can weaken fundraising and ultimately impair the flow of credit supply to the real economy.

The results of this paper speak directly to market design and regulatory oversight. One implication is that disclosures could more clearly distinguish model-based inputs from hard information and facilitate cross-fund comparisons. Improvements in this direction may include standardized reporting of key valuation assumptions, structured disclosure of material changes in valuation inputs, and greater transparency regarding the role of third-party valuation providers and any overrides of their assessments. Another implication is that the development of a more active secondary market for private credit, supported by greater standardization of loan terms, improved transferability, and broader market participation, could provide transaction-based price anchors that discipline valuations and reduce the scope for discretionary valuations. While such reforms involve tradeoffs (e.g., confidentiality, bespoke contracting, and liquidity management), improving the informational foundation of reported valuations would strengthen investor protection and make stress-period risk monitoring more reliable.

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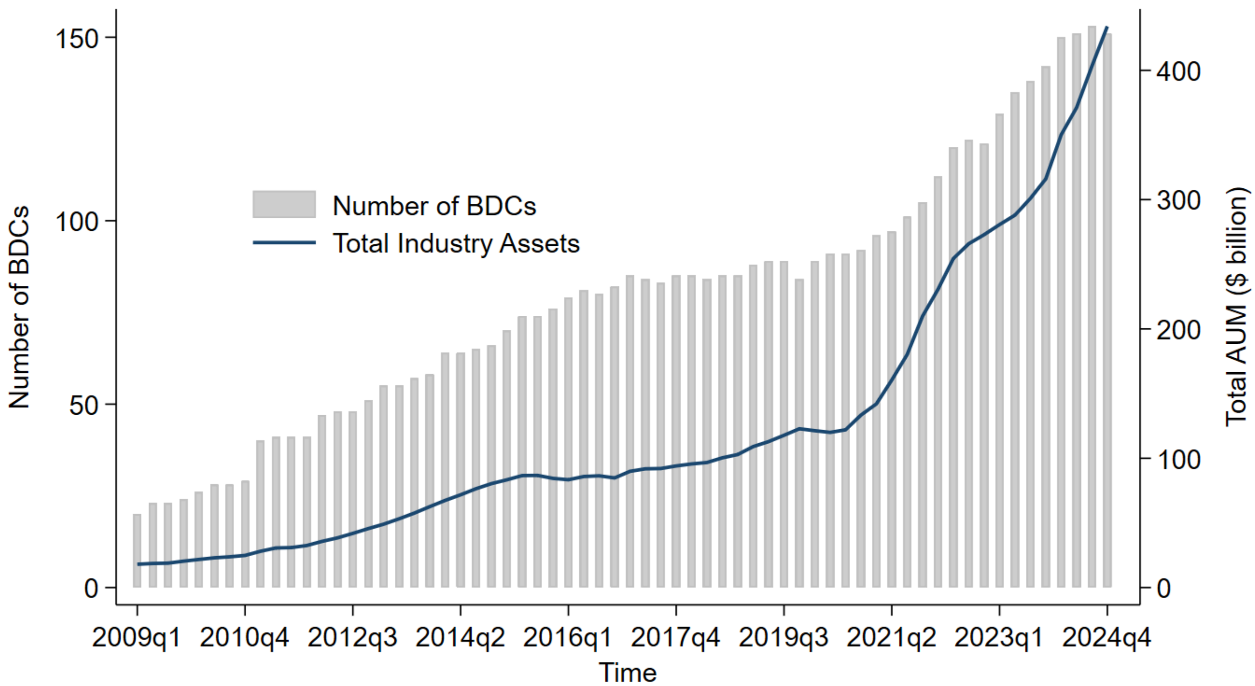
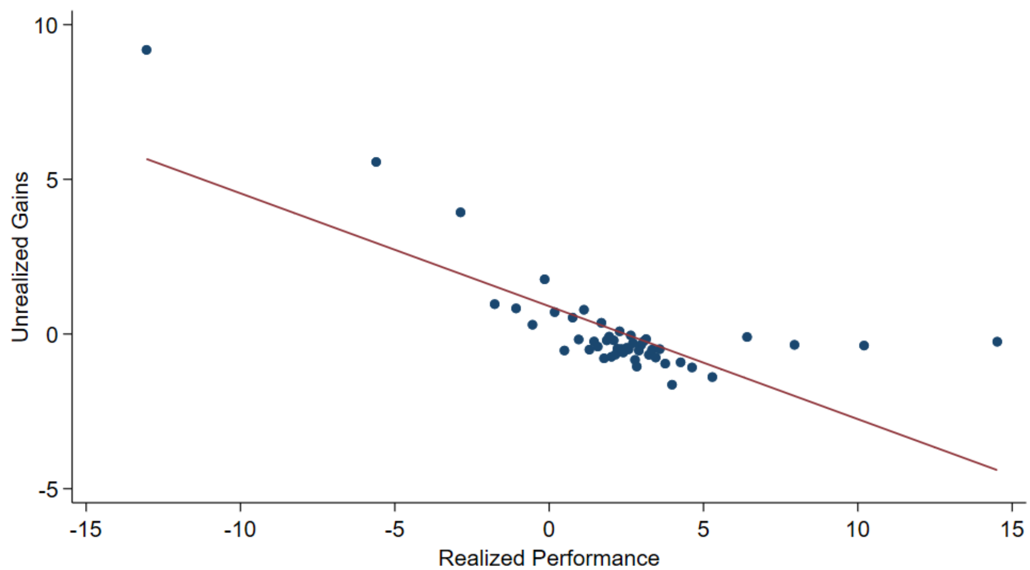
**Figure 1: Number of BDCs and Total AUM (2009-2024)**



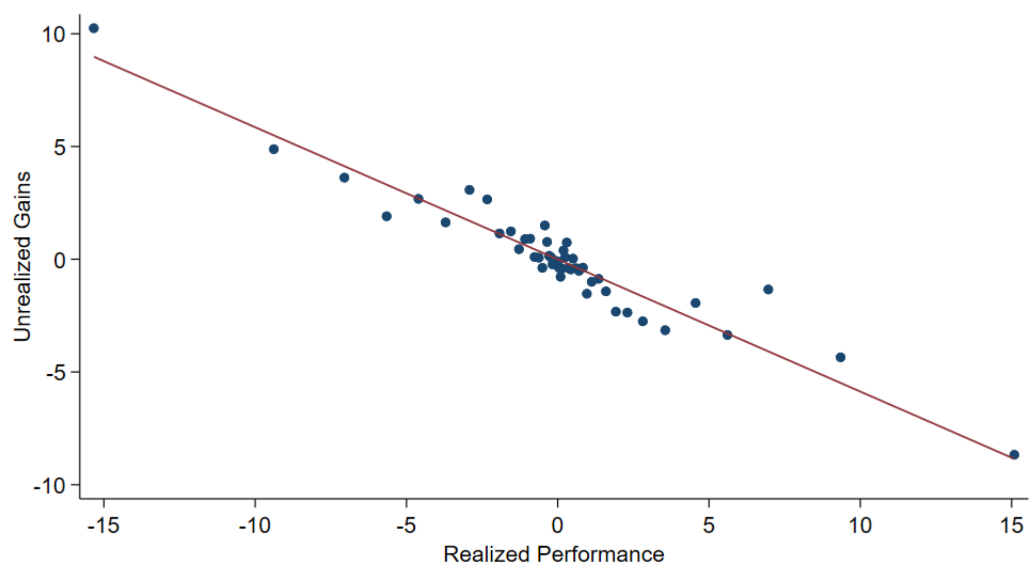

This figure shows the time series of the number of active BDCs and their combined total assets (in USD billion) from 2009Q1 to 2024Q4. The data include 201 BDCs that were active during this period.

**Figure 2:** Relationship Between Realized Performance and Unrealized Gains at the Fund Level

**Panel A: Unrealized Gains and Realized Performance**




**Panel B: Change in Unrealized Gains and Change in Realized Performance**




Panel A shows the binned relationship between *Unrealized Gains* and *Realized Performance* at the BDC–quarter level, with both variables scaled by lagged equity. Panel B repeats the exercise in first differences, plotting changes in *Unrealized Gains* against changes in *Realized Performance.* Each dot reports the mean outcome within one of 20 equal-sized bins. The solid lines show the fitted linear relationship from an univariate regression of *Unrealized Gains* on *Realized Performance* (Panel A) and changes in *Unrealized Gains* on changes in *Realized Performance* (Panel B).

## Table 1: Summary Statistics - BDC Level

| | Mean | St. Dev. | p10 | p25 | Median | p75 | p90 | N |
|---|---|---|---|---|---|---|---|---|
| Total Assets (USD,mio) | 1560.836 | 3681.457 | 66.756 | 244.589 | 564.995 | 1549.030 | 3391.342 | 5,021 |
| Ln(Total Assets) | 13.197 | 1.592 | 11.109 | 12.407 | 13.245 | 14.253 | 15.037 | 5,021 |
| Leverage (Liabilities/Assets) | 0.399 | 0.175 | 0.071 | 0.329 | 0.442 | 0.518 | 0.585 | 5,021 |
| Cash/Assets | 0.080 | 0.122 | 0.005 | 0.014 | 0.032 | 0.082 | 0.215 | 5,020 |
| Net-inv-income/Equity | 0.024 | 0.021 | 0.003 | 0.017 | 0.023 | 0.030 | 0.038 | 4,866 |
| Realized Gains/Equity | -0.001 | 0.027 | -0.018 | -0.001 | 0.000 | 0.002 | 0.013 | 4,866 |
| Realized Performance/Equity | 0.022 | 0.037 | -0.008 | 0.013 | 0.024 | 0.032 | 0.049 | 4,866 |
| Unrealized Gains/Equity | 0.001 | 0.048 | -0.040 | -0.013 | 0.001 | 0.014 | 0.042 | 4,866 |
| ROE (Net Income/Equity) | 0.016 | 0.044 | -0.026 | 0.006 | 0.022 | 0.034 | 0.051 | 4,866 |

This table presents the summary statistics for the BDC-level variables used in the empirical analysis. The sample period is from 2009Q1 to 2024Q4, covering 201 BDCs that were active during this period. The denominator of return ratios (*Net-inv-income*, *Realized Gains*, *Realized Performance*, *Unrealized Gains*, *ROE*) is 1-period lagged equity. *Realized Performance* is defined as the sum of Net Investment Income plus Realized Gains divided by 1-period lagged equity. All ratio variables are winsorized at the 1st and 99th percentiles.

## Table 2: Summary Statistics - Loan Level

**Panel A: Loans with multiple lenders**

| | Mean | St. Dev. | p10 | p25 | Median | p75 | p90 | N |
|---|---|---|---|---|---|---|---|---|
| Principal(USD'1000) | 17627.840 | 40315.160 | 889.000 | 2715.000 | 7500.000 | 18325.000 | 38832.000 | 181,952 |
| Loan Fair Value (USD'1000) | 17200.130 | 39666.060 | 854.000 | 2624.006 | 7311.038 | 17765.570 | 37643.030 | 181,952 |
| Time-to-maturity (quarters) | 17.945 | 6.864 | 9.000 | 13.000 | 18.000 | 23.000 | 26.000 | 181,952 |
| Original Maturity (quarters) | 23.749 | 6.650 | 15.000 | 20.000 | 24.000 | 28.000 | 30.000 | 166,924 |
| I(Fixed Rate Loan) | 0.118 | 0.322 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 181,952 |
| I(Senior Secured First Lien) | 0.783 | 0.412 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 | 181,952 |
| Loan Fair Value (% of Principal) | 0.972 | 0.054 | 0.923 | 0.971 | 0.990 | 1.000 | 1.003 | 181,952 |
| Fair Value Deviation | 0.000 | 0.019 | -0.010 | -0.001 | 0.000 | 0.002 | 0.011 | 181,952 |
| Number of Lenders per Loan | 4.062 | 3.690 | 2.000 | 2.000 | 3.000 | 4.000 | 8.000 | 181,952 |
| Number of loans per BDC-Time | 44.077 | 50.534 | 3.000 | 10.000 | 27.000 | 61.000 | 106.000 | 4,128 |

**Panel B: All loans**

| | Mean | St. Dev. | p10 | p25 | Median | p75 | p90 | N |
|---|---|---|---|---|---|---|---|---|
| Principal(USD'1000) | 16718.960 | 37893.310 | 912.000 | 2652.000 | 7274.500 | 17410.000 | 36866.000 | 331,868 |
| Loan Fair Value (USD'1000) | 16301.590 | 37170.86 | 880.000 | 2569.000 | 7048.000 | 16930.000 | 35785.000 | 331,868 |
| Time-to-maturity (quarters) | 16.751 | 7.393 | 7.000 | 12.000 | 17.000 | 22.000 | 26.000 | 331,867 |
| Original Maturity (quarters) | 22.729 | 7.216 | 14.000 | 20.000 | 24.000 | 28.000 | 29.000 | 266,008 |
| I(Fixed Rate Loan) | 0.199 | 0.399 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 | 331,868 |
| I(Senior Secured First Lien) | 0.743 | 0.437 | 0.000 | 0.000 | 1.000 | 1.000 | 1.000 | 331,868 |
| Loan Fair Value (% of Principal) | 0.973 | 0.059 | 0.919 | 0.972 | 0.991 | 1.000 | 1.005 | 331,868 |
| Number of Lenders per Loan | 2.695 | 3.129 | 1.000 | 1.000 | 2.000 | 3.000 | 5.000 | 331,868 |
| Number of Loans per BDC-Time | 70.172 | 68.633 | 11.000 | 25.000 | 51.000 | 97.000 | 146.000 | 4,729 |

This table presents summary statistics for the loan-level samples. Panel A reports statistics for loans held by multiple lenders, which constitute the primary sample used in the analysis. Panel B reports statistics for the full loan universe, including loans held by a single lender. The sample period spans 2009Q1–2024Q4. *Loan Fair Value* is winsorized at the 99th percentile (right tail only); all other variables are reported without winsorization.

**Table 3: Explaining Valuation Deviations with Fixed Effects**

| | Fair Value Deviation | | |
|---|---|---|---|
| | (1) | (2) | (3) |
| Fixed Effects | BDC | BDC and Year-Quarter | BDC-Year-Quarter |
| $R^2$ | 0.047 | 0.048 | 0.111 |
| Adj. $R^2$ | 0.046 | 0.046 | 0.092 |
| Observations | 181,805 | 181,805 | 181,805 |

This table reports estimates from regressions of loan-level valuation deviations on alternative fixed-effects structures. Column (1) includes BDC fixed effects only. Column (2) includes separate BDC and year–quarter fixed effects. Column (3) includes BDC–year–quarter fixed effects. Standard errors are clustered at the BDC level.

$$\text{Fair Value Deviation}_{i,f,j,t} = \mu + \eta_{j,t} + \varepsilon_{i,f,j,t}.$$

In Column (1), $\eta_{j,t} = \alpha_j$; in Column (2), $\eta_{j,t} = \alpha_j + \delta_t$ ; and in Column (3), $\eta_{j,t} = \alpha_{j\times t}$, where $j$ indexes BDC and $t$ indexes year–quarter.

**Table 4: Fair Value Deviations at the Individual Loan Level**

| | Loan Fair Value | | | | |
|---|---|---|---|---|---|
| | (1) OLS | (2) OLS | (3) OLS | (4) Weighted OLS | (5) OLS 2020-2024 |
| Realized Performance | -0.016* | -0.022** | -0.024*** | -0.022*** | -0.031*** |
| | (-1.701) | (-2.272) | (-3.168) | (-2.971) | (-3.160) |
| Size | | 0.001 | 0.001 | 0.001 | 0.001 |
| | | (1.014) | (1.236) | (1.005) | (1.151) |
| Leverage | | 0.008*** | 0.004 | 0.006** | 0.005 |
| | | (2.695) | (1.630) | (2.096) | (1.426) |
| Liquidity | | -0.009** | -0.004 | 0.000 | -0.005 |
| | | (-2.238) | (-1.028) | (0.016) | (-0.547) |
| ROE | | 0.014 | 0.015** | 0.015** | 0.019* |
| | | (1.495) | (2.006) | (2.243) | (1.957) |
| Loan x Year x Qrt FE | Yes | Yes | Yes | Yes | Yes |
| BDC FE | Yes | Yes | No | No | No |
| BDC x Firm FE | No | No | Yes | Yes | Yes |
| Observations | 178,638 | 174,096 | 169,822 | 169,822 | 115,381 |
| Adj. $R^2$ | 0.842 | 0.844 | 0.878 | 0.902 | 0.863 |

This table reports estimates from Equation 4. Columns (1), (2), and (3) use the full sample (2009Q1–2024Q4) and are estimated without loan-size weighting. Column (4) uses the full sample and applies loan-size weights, defined as the loan's principal amount scaled by the BDC's total portfolio. Column (5) reports the unweighted specification estimated on the post-2019 subsample (2020Q1–2024Q4). Standard errors are clustered two-way at the BDC and quarter-year levels in Columns (1) to (3), and by the BDC level in Column (4). *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

## Table 5: Robustness

### Panel A: Additional Controls, Alternative Definitions and Alternative Specification

| | (1) Fair Value | (2) Fair Value | (3) Fair Value | (4) Ln(Fair Value) | (5) Deviation | (6) Deviation | (7) Δ Fair Value | (8) Δ Fair Value |
|---|---|---|---|---|---|---|---|---|
| Realized Performance | -0.021** | -0.023*** | | -0.028*** | -0.012** | -0.013*** | -0.012** | |
| | (-2.277) | (-3.215) | | (-3.247) | (-2.310) | (-2.945) | (-2.121) | |
| I(Under-performer) | | | 0.001*** | | | | | |
| | | | (3.130) | | | | | |
| Δ Realized Performance | | | | | | | | -0.010** |
| | | | | | | | | (-2.145) |
| Loan Share | 0.000 | 0.000 | 0.000 | -0.001 | -0.001 | -0.000 | 0.000 | -0.001 |
| | (0.620) | (0.091) | (0.090) | (-1.041) | (-1.652) | (-0.282) | (1.120) | (-0.921) |
| Loan Weight | 0.010 | -0.038 | -0.038 | -0.058 | 0.019 | -0.023 | -0.038*** | -0.163*** |
| | (0.390) | (-0.871) | (-0.872) | (-0.972) | (1.241) | (-0.901) | (-3.492) | (-3.231) |
| BDC Baseline Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Loan Controls | No | No | No | No | Yes | Yes | No | No |
| Loan × Year × Qrt FE | Yes | Yes | Yes | Yes | No | No | Yes | Yes |
| BDC FE | Yes | No | No | No | Yes | No | Yes | No |
| BDC × Firm FE | No | Yes | Yes | Yes | No | Yes | No | No |
| Industry × Year × Qrt FE | No | No | No | No | Yes | Yes | No | No |
| Observations | 174,096 | 169,822 | 169,822 | 169,822 | 175,918 | 172,420 | 133,395 | 129,889 |
| Adj. $R^2$ | 0.844 | 0.878 | 0.878 | 0.868 | -0.025 | 0.246 | 0.696 | 0.697 |

### Panel B: Subsample Analysis

| | Loan Fair Value | | | | |
|---|---|---|---|---|---|
| | (1) Only 2 Lenders | (2) Min. 3 Lenders | (3) Max. 8 Lenders | (4) Senior Secured 1L | (5) Private BDCs |
| Realized Performance | -0.015** | -0.025** | -0.021*** | -0.020** | -0.040** |
| | (-2.422) | (-2.471) | (-3.090) | (-2.291) | (-2.261) |
| BDC Baseline Controls | Yes | Yes | Yes | Yes | Yes |
| Loan × Year × Qrt FE | Yes | Yes | Yes | Yes | Yes |
| BDC × Firm FE | Yes | Yes | Yes | Yes | Yes |
| Observations | 64,718 | 100,911 | 151,282 | 129,976 | 38,446 |
| Adj. $R^2$ | 0.926 | 0.853 | 0.891 | 0.868 | 0.849 |

This table reports additional robustness tests of the baseline loan-level findings. Panel A presents a series of robustness tests that uses alternative variable definitions and specifications. Panel B re-estimates the baseline specification across different subsamples. In Panel A, Columns (1) and (2) add further controls to the baseline regression. Column (3) replaces the independent variable *Realized Performance* with the indicator variable *I(Under-performer)*, which equals one if BDC realized performance is in the bottom 25% of the distribution of *Realized Performance* in a given time period. Column (4) uses the log transformation of *Loan Fair Value* as the dependent variable. Columns (5) and (6) use *Fair Value Deviation* as the dependent variable. Column (7) uses the change in *Loan Fair Value* as the dependent variable. Column (8) estimates a first-differences specification in which the change in *Loan Fair Value* is regressed on the change in *Realized Performance* and control variables. Loan Controls include security type (term loan or note), seniority, and remaining time to maturity. In Panel B, Column (1) restricts the sample to loans held by exactly two BDCs. Columns (2) and (3) restrict the sample to loans with at least three co-lenders (the sample median) and at most eight co-lenders (the 90th percentile), respectively. Column (4) restricts the sample to senior secured first-lien loans. Column (5) restricts the sample to privately held BDCs. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 6: Decomposing Realized Performance**

| | (1) Fair Value | (2) Fair Value | (3) Fair Value | (4) $\Delta$ Fair Value |
|---|---|---|---|---|
| Realized Gains | -0.027** | | | |
| | (-2.540) | | | |
| Net Investment Income | | -0.016 | | |
| | | (-1.510) | | |
| Non-accruals | | | 0.024** | |
| | | | (2.273) | |
| $\Delta$ Non-accruals | | | | 0.016* |
| | | | | (1.810) |
| Baseline BDC Controls | Yes | Yes | Yes | Yes |
| Loan x Year x Qrt FE | Yes | Yes | Yes | Yes |
| BDC x Firm FE | Yes | Yes | Yes | No |
| Observations | 169,822 | 169,822 | 168,831 | 128,974 |
| Adj. $R^2$ | 0.878 | 0.878 | 0.876 | 0.693 |

This table reports estimates from variants of the baseline loan-level specification in Equation 4, in which *Realized Performance* is decomposed into its constituent components. Column (1) replaces *Realized Performance* with *Realized Gains*. Column (2) uses *Net Investment Income*. Columns (3) and (4) use non-accrual measures as proxies for changes in realized performance, with Column (3) using the level of non-accruals and Column (4) using changes in non-accruals in a first-differences specification. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

**Table 7: Cross-section of Loans**

| | Loan Fair Value | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Realized Performance × Loan Weight | -0.871* | | | |
| | (-1.860) | | | |
| Realized Performance × I(Large Loan) | | -0.018** | | |
| | | (-2.440) | | |
| Realized Performance × I(Public Firm) | | | 0.057** | |
| | | | (2.490) | |
| Realized Performance × I(Single-Lender Loan) | | | | -0.027** |
| | | | | (-2.170) |
| Loan x Year x Qrt FE | Yes | Yes | Yes | No |
| BDC x Firm FE | Yes | Yes | Yes | Yes |
| BDC x Year x Qrt FE | Yes | Yes | Yes | Yes |
| Loan-Type x Year x Qrt FE | No | No | No | Yes |
| Observations | 169,508 | 169,508 | 169,508 | 271,528 |
| Adj. $R^2$ | 0.890 | 0.890 | 0.890 | 0.622 |

This table reports estimates from regressions that examine how the sensitivity of loan fair values to a BDC's realized performance varies with loan-level characteristics. All specifications are estimated using Equation 5 which includes an interaction between realized performance and the loan characteristic under consideration. Column (1) interacts *Realized Performance* with *Loan Weight*, defined as the loan's principal amount divided by the BDC's total portfolio in that quarter. Column (2) replaces *Loan Weight* with *I(Large Loan)*, an indicator equal to one if the loan is in the highest portfolio-weight quartile within the BDC-quarter, and zero otherwise. Column (3) interacts *Realized Performance* with *I(Public Firm)*, an indicator equal to one if the borrower is publicly listed during the lending relationship. Column (4) interacts *Realized Performance* with *I(Single-Lender Loan)*, and indicator equal to one if the loan is held by only one BDC. Loan-type fixed effects group together loans that have the same time-to-maturity, seniority, and 2-digit SIC industry classification. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

## Table 8: Cross-section of BDCs

| | Loan Fair Value | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| | 2009Q1-2024Q4 | 2009Q1-2024Q4 | 2009Q1-2018Q1 | 2009Q1-2018Q1 |
| Realized Performance × Leverage | -0.105** | -0.109** | -0.172* | -0.177* |
| | (-2.030) | (-2.150) | (-1.890) | (-1.911) |
| Realized Performance | 0.029 | 0.031 | 0.065 | 0.067 |
| | (1.260) | (1.401) | (1.641) | (1.670) |
| Leverage | 0.006** | 0.001 | 0.006 | -0.016 |
| | (2.140) | (0.040) | (1.342) | (-0.612) |
| Leverage x Baseline BDC Controls | No | Yes | No | Yes |
| BDC Baseline Controls | Yes | Yes | Yes | Yes |
| Loan x Year x Qrt FE | Yes | Yes | Yes | Yes |
| BDC x Firm FE | Yes | Yes | Yes | Yes |
| Observations | 169,820 | 169,820 | 33,325 | 33,325 |
| Adj. $R^2$ | 0.878 | 0.878 | 0.934 | 0.934 |

This table reports estimation results from interacting *Realized Performance* with *Leverage* in the baseline loan-level specification. Column (1) interacts only *Realized Performance* with *Leverage*. Column (2) further interacts all BDC baseline controls with with *Leverage*. Columns (1) and (2) use the full sample. Columns (3) and (4) are similar to Columns (1) and (2), respectively, but limits the sample to observations between 2009Q1 and 2018Q1. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

**Table 9: Total Deviations and Realized Performance at the Fund Level**

| | Total Deviations | | | |
|---|---|---|---|---|
| | (1)<br>% Equity<br>Full Sample | (2)<br>Portfolio Weighted<br>Full Sample | (3)<br>% Equity<br>2020-2024 | (4)<br>Portfolio Weighted<br>2020-2024 |
| Realized Performance | -0.020** | -0.006* | -0.040*** | -0.015*** |
| | (-2.603) | (-1.950) | (-3.506) | (-2.940) |
| Baseline BDC Controls | Yes | Yes | Yes | Yes |
| Year x Qrt FE | Yes | Yes | Yes | Yes |
| BDC FE | Yes | Yes | Yes | Yes |
| Observations | 3,853 | 3,853 | 1,945 | 1,945 |
| Adj. $R^2$ | 0.482 | 0.440 | 0.641 | 0.616 |

This table reports estimates from Equation 8. Columns (1) and (3) use the *Total Deviation (% Equity)* measure, while columns (2) and (4) use the *Total Deviations (Portfolio Weighted)* measure. Columns (1) and (2) use the full sample. Columns (3) and (4) limit the sample to the post-Covid period (2020Q1–2024Q4). Standard errors are clustered two-way at the BDC and quarter-year levels in Columns (1) to (3), and by the BDC level in Column (4). *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

## Table 10: Realized Performance and Unrealized Gains

| | Unrealized Gains | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Realized Performance | -0.468*** | -0.503*** | -0.555*** | -0.567*** | | -0.180* |
| | (-6.460) | (-5.913) | (-6.230) | (-6.230) | | (-1.707) |
| I(Realized Losses) | | | | | 0.049*** | |
| | | | | | (10.484) | |
| I(Realized Losses) × Realized Performance | | | | | | -0.782*** |
| | | | | | | (-5.722) |
| Size | | -0.000 | | -0.010 | -0.000 | 0.002 |
| | | (-0.097) | | (-1.230) | (-0.206) | (1.193) |
| Leverage | | 0.010 | | 0.029* | 0.004 | -0.002 |
| | | (1.161) | | (1.770) | (0.441) | (-0.216) |
| Liquidity | | 0.012 | | 0.021 | 0.011 | 0.015 |
| | | (0.934) | | (1.450) | (0.906) | (1.080) |
| ROE | | 0.056 | | 0.431*** | 0.049 | 0.065 |
| | | (1.105) | | (10.951) | (1.017) | (1.371) |
| Year x Qrt FE | Yes | Yes | Yes | Yes | Yes | Yes |
| BDC FE | Yes | Yes | No | No | Yes | Yes |
| Observations | 4,862 | 4,661 | 4,667 | 4,472 | 4,661 | 4,661 |
| Adj. $R^2$ | 0.314 | 0.325 | 0.343 | 0.450 | 0.305 | 0.366 |

This table presents the results of Equation 9. Columns (1), (2), (5), and (6) present levels specifications. Columns (3) and (4) estimate the model in first differences. *I(Realized Losses)* is an indicator equal to one if a BDC's realized performance is negative and zero otherwise. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

## Table 11: Alternative Explanations

### Panel A: Stale Pricing and Information Access

| | Loan Fair Value | | | |
|---|---|---|---|---|
| | (1) Changed Valuation | (2) < 6 months | (3) < 1 Year | (4) Full Sample |
| Realized Performance | -0.018*** | -0.026*** | -0.035*** | -0.016** |
| | (-2.690) | (-2.950) | (-4.811) | (-2.555) |
| I(Equity Ownership) | | | | 0.001 |
| | | | | (0.970) |
| BDC Baseline Controls | Yes | Yes | Yes | Yes |
| Loan x Year x Qrt FE | Yes | Yes | Yes | Yes |
| BDC x Firm FE | Yes | Yes | Yes | No |
| BDC x Loan FE | No | No | No | Yes |
| Observations | 93,853 | 45,024 | 73,032 | 165,327 |
| Adj. $R^2$ | 0.905 | 0.834 | 0.849 | 0.891 |

### Panel B: Lagged Realized Performance and Portfolio Quality

| | (1) Non-accruals | (2) $\Delta$ Non-accruals |
|---|---|---|
| L.Realized Performance | -0.013 | |
| | (-1.460) | |
| L.$\Delta$ Realized Performance | | -0.014 |
| | | (-1.412) |
| BDC Baseline Controls | Yes | Yes |
| BDC FE | Yes | No |
| Year x Qrt FE | Yes | Yes |
| Observations | 4,404 | 4,144 |
| Adj. $R^2$ | 0.201 | 0.020 |

This table reports the results of additional tests addressing several alternative explanations for the baseline relationship between realized performance and loan valuations. Panel A presents loan-level regressions that assess whether the baseline results are driven by stale pricing or differential borrower information across funds. Column (1) restricts the sample to loans for which the BDC actively changes the reported fair value relative to the previous quarter. Columns (2) and (3) limit the sample to loans issued within the past six months and within the past year, respectively. Column (4) controls for differential information access by including the indicator variable I(Equity Ownership) and BDC x Loan FE. I(Equity Ownership) equals one if the BDC holds an equity stake in the borrowing firm, and zero otherwise. Panel B examines whether the results can be explained by a portfolio rebalancing mechanism. These regressions are estimated on the BDC–quarter panel. The dependent variables are Non-accruals in Column (1) and $\Delta$ Non-accruals in Column (2). Non-accruals are defined as the total principal amount of non-accrual loans held by a BDC divided by total investment portfolio of the BDC at time $t$, while $\Delta$ Non-accruals is the quarter-to-quarter change in this ratio. Column (2) uses a first-differences specification. All specifications include the baseline set of BDC-level controls. Standard errors are clustered two-way at the BDC and quarter-year levels. *, **, and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

# Value Is in the Eye of the Beholder: The Role of Unrealized Gains in Private Credit

APPENDIX

## A.1 Loan Valuations in the Private Credit Industry

### A.1.1 Valuation Accounting Standards

The Accounting Standards Codification (ASC) is the authoritative compilation of U.S. Generally Accepted Accounting Principles (U.S. GAAP) issued and maintained by the Financial Accounting Standards Board (FASB). For entities that report under U.S. GAAP, the Codification is the binding source of accounting guidance. This includes Business Development Companies, which file financial statements with the U.S. Securities and Exchange Commission and therefore must apply U.S. GAAP in their reported financials. Private credit funds are not uniformly subject to SEC reporting, but when they prepare investor financial statements under U.S. GAAP (or are audited on that basis), they generally follow the same fair-value measurement framework.

Within the Codification, ASC 820, titled "Fair Value Measurement", provides the framework for fair value estimation, applicable under U.S. GAAP.[35] ASC 820 defines fair value as an exit price: the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. Market participants are assumed to be independent of the reporting entity, knowledgeable, able, and willing to transact in the principal (or most advantageous) market, and acting in their own economic interest.

ASC 820 establishes a three-level fair value hierarchy that ranks valuation inputs by observability. Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date. Level 2 inputs are observable inputs other than Level 1 quoted prices, such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in less active markets, or other inputs that are observable or corroborated by observable market data. Level 3 inputs are

[35] For more on ASC 820, see https://asc.fasb.org/1943274/2147482134/820-10-35-2

unobservable inputs used when observable market evidence is limited, and they are significant to the measurement; these typically arise from valuation techniques such as pricing models or discounted cash-flow methods that rely on material unobservable assumptions.

Since BDCs mostly originate loans and hold them to maturity, their investment portfolios are likely dominated by Level 2 and Level 3 assets. As of 2023, Chernenko, Ialenti, et al. (2025) estimate that 20% of loans held by BDCs are sourced from the broadly syndicated loan market, which would typically qualify for Level 1 in the fair value hierarchy. This implies that the fair value of the remaining investment portfolio is estimated using Level 2 or Level 3 inputs.

### A.1.2 Valuation Process

Curtis and Raney (2020) provide an overview of the valuation process for a typical BDC. BDC loan valuations are determined through a multi-layered internal and external process that combines portfolio-manager input, independent oversight, and board-level approval. The process starts at the investment team responsible for monitoring the asset (typically the same team responsible for origination). The team is responsible for producing initial fair value estimates for each portfolio position on a quarterly basis, consistent with U.S. GAAP fair value accounting standards. These valuations are typically based on a combination of discounted cash-flow analyses, comparable market transactions, observable secondary-market prices when available, and borrower-specific information such as operating performance and covenant compliance. For illiquid private credit instruments—where observable market prices are often unavailable—this process necessarily involves a degree of managerial judgment, particularly with respect to assumptions about credit risk, recovery values, and discount rates.

To mitigate potential conflicts of interest and ensure compliance with accounting standards, BDCs employ multiple lines of defense in the valuation process. Most BDCs maintain an internal valuation committee—separate from the origination team—that reviews the proposed marks. Many BDCs also use a third-party valuation firm that provides asset-level fair value assessments (Jang and G. Kim, 2025). Finally, all valuations are subject to approval by the BDC's board of directors,

It is important to note that the use of third-party valuation firms does not necessarily eliminate potential bias in asset valuations.[36] First, valuation firms are hired and compensated by the BDC (or its sponsor) under ongoing commercial relationships, which can in principle create conflicts of interest similar to those documented for credit rating agencies (Efing and Hau, 2015; Bolton et al., 2012). Second, third-party valuation marks are advisory rather than binding, and BDCs retain ultimate discretion over the marks they report. Third, valuation firms typically review only a subset of portfolio positions in any given quarter, so the entire investment book is not independently reassessed at the same time. Fourth, BDCs are not required to disclose which specific assets have been valued by third-party firms or the recommended valuations for those assets. Finally, and perhaps most importantly, third-party valuations generally rely on information supplied by the BDC itself. Jang and G. Kim (2025) document instances in which the same valuation provider assigns different values to the same loan for different BDCs, attributing these differences to variation in the information communicated by each fund. Hence, the third-party firm is effectively valuing on the basis of the information set of the lender rather than through direct engagement with the underlying portfolio company.

### A.1.3 Valuation Models

Valuation of private credit loans typically begins with an enterprise or collateral value coverage test that classifies the exposure as performing or non-performing.[37] The test assesses whether the borrower's enterprise or collateral value is sufficient to cover outstanding debt

[36] IMF (2024) raise similar concerns about the effectiveness of third-party valuations in the private credit industry.

[37] For a detailed discussion of valuation methods in private credit, see, for example, the technical report published by the European Leveraged Finance Association https://elfainvestors.com/wp-content/uploads/2022/02/ELFA-Diligence-Technical-Guide-for-Valuation-of-Private-Debt-Investments-1.pdf.

obligations. If coverage is adequate, the position is treated as performing and valued using going-concern methodologies. If coverage is partial or clearly insufficient, valuation instead relies on recovery- or liquidation-based approaches.

Enterprise value is a measure of the value of the firm's core operations, usually defined as the market value of equity plus total long-term debt minus excess cash. In practice, two broad approaches are used to estimate enterprise value. A market approach infers enterprise value from observed valuations of comparable companies or precedent transactions. An income approach derives enterprise value from the present value of expected future cash flows, discounted at an appropriate rate that reflects the firm's risk profile.

Against this backdrop, private credit exposures are commonly valued using one or more of four approaches: (i) an income approach based on yield analysis, (ii) a net recovery approach, (iii) a liquidation analysis, and (iv) broker quotes. The choice of method depends on both the outcome of the coverage test and the availability and reliability of market-based inputs. For performing loans without reliable broker quotes or observable trading activity, fair value is typically estimated using a yield-based income approach.[38] The two main inputs in the income approach are cash flows projections and discount rate. Cash flows are based on the contractual terms of the loan. Discount rate estimation is based on the changes in observed credit spreads and yields and the changes in the borrower-specific risk factors.

For non-performing loans, where repayment depends primarily on collateral realization rather than going-concern cash flows, fair value is often based on a combination of net recovery, liquidation, and scenario analyses, reflecting the range of potential outcomes in distress.

[38] Given the sample filters described in Section 3.2, the resulting dataset consists predominantly of performing loans, for which the yield-based income approach is the relevant valuation benchmark.

## A.2 Business Development Companies

To elect a Business Development Company (BDC) status, a fund files Form N-54A with the U.S. Securities and Exchange Commission (SEC). Maintaining BDC status requires compliance with several statutory and regulatory constraints. First, at least 70% of total assets must be invested in eligible assets.[39] Second, BDCs are subject to an asset-coverage ratio minimum requirement of 150%. Third, BDCs must offer "managerial assistance" to portfolio companies, which in practice can involve sustained strategic and operational engagement, including input on business plans, financing choices, and broader corporate policies. Fourth, BDCs must satisfy a diversification constraint: a BDC may not invest more than 25% of total assets in the securities of any single issuer (other than U.S. government securities or cash items). Finally, BDCs must have a class of equity securities registered with the SEC and are therefore subject to ongoing public reporting requirements, including periodic filings such as Forms 10-K and 10-Q.

Although not required for BDC status, BDCs elect to be taxed as Regulated Investment Company (RIC) under Subchapter M of the Internal Revenue Code of 1986.[40] RIC tax treatment allows BDCs to avoid entity-level corporate income tax provided they satisfy ongoing qualification and distribution requirements. To qualify for and maintain RIC status, a BDC must derive at least 90% of gross income from qualifying investment-type sources (e.g., interest, dividends, and gains from securities), satisfy asset diversification tests, and meet an annual distribution requirement. The latter requires distributing at least 90% of taxable income to shareholders as dividends. In addition, RICs are subject to a 4% federal excise tax on undistributed income. Funds may avoid this tax by distributing roughly 98% of ordinary income and 98.2% of capital gains each year. In practice, these constraints shape BDC business models by creating strong incentives to pay out earnings rather than retain

[39] Eligible assets are securities issued by U.S. private companies and small public companies with market capitalization up to $250 million, as well as government securities and cash.

[40] For more on tax treatment of RICs, see https://www.irs.gov/instructions/i1120ric.

them, thereby making external capital raising (equity issuance or debt financing subject to asset-coverage limits) central to growth.

BDCs differ along two key structural dimensions: management form and investor accessibility. First, a BDC can be internally or externally managed. Internally managed BDCs are run by an in-house investment team compensated through operating-company style compensation packages. Externally managed BDCs are typically sponsored by an asset manager that provides management services under an Investment Advisory and Administrative Services Agreement, which specifies the asset manager compensation. This compensation includes base management fees and performance incentive fees. While most BDCs were internally managed in the early years of the industry, the sector has shifted markedly toward external management: as of 2024, more than 90% of active BDCs are externally managed, and almost all new funds formed after 2020 adopt the external-management model.

Second, BDCs differ in accessibility: they can be traded or non-traded. Traded BDCs are listed on U.S. stock exchanges and accessible to both institutional and retail investors. As of 2024, 46 BDCs are publicly listed. Non-traded BDCs may be public (retail-accessible) or private (institutional-only). Non-traded public BDCs typically offer periodic liquidity windows that allow share issuance and redemption at NAV per share, subject to a pre-specified redemption limit per period. Non-traded private BDCs more closely resemble traditional private credit funds, with capital commitments and capital calls, a lockup period, and a finite fund term. As of 2024, 73 BDCs operate using this fund structure.

## A.3 Additional Figures

**Figure A1:** Illustrative examples of BDC Income Statement and Statement of Changes in Net Assets

### Panel A: Income Statement

For the three months ending March 2025

| | |
|---|---|
| **Investment Income** | |
| Interest income | $100 |
| Dividend income | $50 |
| Fee income | $20 |
| **Total investment income** | **$170** |
| **Expenses** | |
| Interest and other financing expenses | $30 |
| Management fees | $20 |
| Administrative expenses | $10 |
| **Total expenses** | **$60** |
| **Net investment income** | **$110** |
| **Realized Gains / Losses** | |
| Realized gain (loss) on investments | ($15) |
| Realized gain (loss) on derivatives | $5 |
| **Total realized gains (losses)** | **($10)** |
| **Unrealized Gains / Losses** | |
| Unrealized gain (loss) on investments | $25 |
| Unrealized gain (loss) on derivatives | ($10) |
| **Total unrealized gains (losses)** | **$15** |
| **Net increase / decrease in net assets from operations** | **$115** |

### Panel B: Statement of Changes in Net Assets

| | |
|---|---|
| **Increase (decrease) in net assets resulting from operations** | |
| Net investment income | $110 |
| Net realized gains (losses) | ($10) |
| Net unrealized gains (losses) | $15 |
| **Net increase (decrease) in net assets from operations** | **$115** |
| **Capital transactions** | |
| Distributions to stockholders | ($100) |
| Issuance of common stock | - |
| **Net increase (decrease) in net assets from capital transactions** | **($100)** |
| **Net assets at the beginning of the period** | **$15000** |
| **Net assets at the end of the period** | **$15015** |

This figure shows illustrative examples of a typical BDC Income Statement and Statement of Changes in Net Assets, in a given quarterly reporting period.