

syntrinsic

Private Debt Investor Education

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The Middle Market

Middle market firms straddle the gulf between small, typically family-owned businesses and larger corporations with well over \$1 billion per year in revenues. The larger corporations are typically covered and/or rated by at least one of the major credit rating agencies and have access to public equity and debt markets to raise capital. Exact definitions of the US middle-market differ, but The National Center for the Middle Market (NCMM) defines the US middle-market as firms with annual revenues between \$10 million and \$1 billion. By this definition, the US middle-market would be large enough to equate to approximately a third of US private sector GDP, eclipsed only by the first (US) and second (China) largest global economies (Exhibit 1).

Exhibit 1: Size of US Middle Market Relative to Largest Economies (\$US Trillion)



Source: Monroe Capital, based on 2019 World Bank GDP data

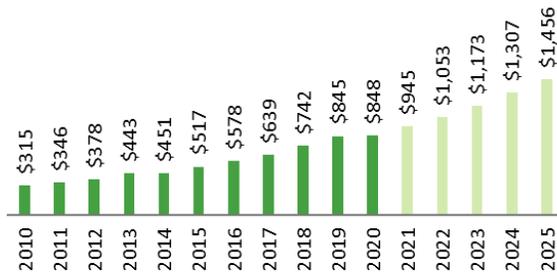
Opportunity Set

Historically, middle market firms have relied on financing through larger banks that have greater capability to fund bigger loans than small regional banks. Although larger companies also use banks for loans, financial regulations resulting from the Great Financial Crisis, including Basel III, The Dodd-Frank Wall Street Reform, and the Consumer Protection Act (2010) have attempted to ensure that banks are well-capitalized to avoid future taxpayer bailouts of banks. As a result, banks are subject to annual stress testing, which has caused them to increase their holdings of assets that are higher quality and reduce riskier assets and activities. The shift has resulted in banks restricting their lending to riskier borrowers. Given that middle-market firms are typically considered more risky than larger more well-capitalized companies, banks lending to middle-market lending companies has contracted. From 2008 to 2019, banks' market share of middle-market lending declined from 70.6% to 30.1%, according to S&P LCD and Lafayette Square.

These regulatory changes have impaired access to financing for middle market firms to a greater degree than small or larger firms. Small firms typically access credit through smaller regional bank loans, credit cards, and bank lines of credit. Larger corporations can access both public and private markets for equity or debt financing. Middle market firms' financing requirements are too large to rely on small company capital sources and not yet large enough to the access public markets in a cost-effective manner. Hence the opportunity set for private debt managers.

Non-bank lenders and institutional investors had emerged as more significant middle-market lenders even before the Financial Crisis due to consolidation in the banking sector.

**Exhibit 2: US Private Debt Managers
Historical and Forecast AUM (\$US Billion)**



Source: Preqin. 2020 figure is annualized based on data to 10/2020. 2021-2025 are Preqin's forecasts.

After the Crisis, non-bank lenders began to gain wider acceptance, filling the void left from retreating bank lending. The opportunity has allowed private non-bank lenders to step in, aggregating investor capital and underwriting middle-market loans in attempt to capture an attractive risk-adjusted return opportunity. This phenomenon has unfolded in the US as well as in Europe, and private debt has grown quickly in both regions.

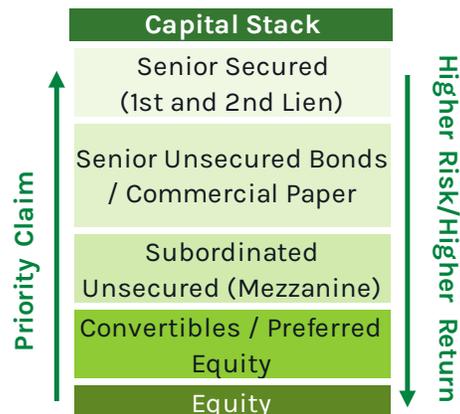
From 2010 through 2020, assets under management of direct lending managers grew at an average 9.4% annualized pace (Exhibit 2). Database provider, Preqin, expects similar growth to continue in the years ahead. Middle market companies not large enough to issue debt in public markets drive demand for private loans while investors searching for yield in a world of low yielding assets drive provide the capital for making those loans.

Corporate Capital Structure

To better understand investing in private debt, it is helpful to review how companies use capital (debt and equity) to finance their operations. The capital structure of company can consist of many different debt and equity instruments (Exhibit 3) which have varying levels of priority/seniority for repayment in the event of default. Most companies can use some or all the instruments outlined to the right to finance their operations. This is referred to as the capital stack of a company.

The type of capital used by a company depends on the company's access to financing and business needs. Middle market companies tend to have simple capital structures that mainly includes senior secured debt and equity. Larger corporations tend to have more complex capital structures employing multiple levels of debt and equity. In the debt markets smaller and medium sized firms typically are required to provide collateral, such as buildings, land, equipment receivables or other financial assets, to secure their debt. Most of

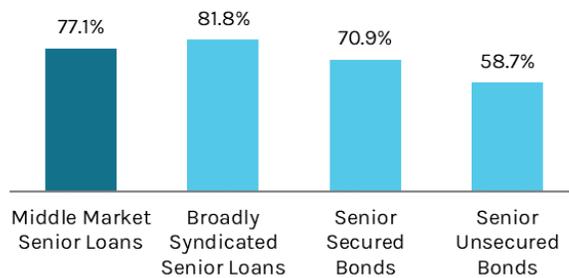
Exhibit 3: Corporate Capital Stack



Source Syntrinsic

the debt of larger publicly traded corporations is not secured; rather, the lender relies on the ability of the borrowing firm’s cash flows to service the debt.

Exhibit 4: Average Recovery Rates by Asset Type, 1987 - 2020



Source: Monroe Capital, S&P LCD.

Investors of senior unsecured debt rely on rating agencies (e.g., S&P, Fitch, Moody’s) and their own due diligence to determine the riskiness of debt payment and likelihood of return of principal, with the yield and bond price reflecting the risk of default. Middle market companies typically are not covered by the rating agencies. Thus, underlying collateral that is backing the secured debt becomes more important to investors and reduces the risk of lending. If the borrower defaults, the lender seizes the collateral backing the loan, sells it, and uses the proceeds to pay back the debt. The rate at which debt holders’ default (i.e., the “default

rate”) tends to be lower when a loan is secured. Recovery rates, or the value of the loan that is recovered when emerging from default, also tends to be higher with secured loans. Within secured senior debt, first lien debt holders are paid before second lien debt holders in the event of bankruptcy. Both first and second lien secured debt holders are made whole before any subordinated debt holders receive payment. As you can see from Exhibit 4 above, senior loans of middle market companies mainly first lien secured have higher recovery rates than all senior secured bonds.

For investors, there are a variety of ways to gain access to debt that is not publicly traded. Private debt managers also known as private credit managers can invest across the entire debt spectrum from secured to mezzanine debt, allocating opportunistically within the capital stack to boost return while minimizing risk. On the other hand, some private debt managers focus on “direct loans” or “direct lending” which are focused only on senior secured debt with lower risk. This contributes to the wide range of returns across private credit funds.

Direct Lending Comparisons

Direct lending for middle-market firms is frequently compared to investing in debt of below investment grade companies such as leveraged loans and high yield corporate debt. These debt instruments are typically issued by larger corporations, and while there are some similarities, direct loans differ in terms of credit risk, liquidity, and interest rate risk (Exhibit 5).

Credit Risk

As mentioned previously, leveraged loans and high yield corporate debt are typically issued by larger, more stable firms, while direct loans are from smaller less established firms. High yield corporate debt and leveraged loans are also rated by rating agencies whereas direct loans are unrated debt; thus, lenders rely upon increased due diligence requirements to properly vet a borrower and underwrite a loan. This target market adds to the credit risk and, thus, the spread premium of direct loans. Increased credit risk can be mitigated—though not eliminated—by extensive due diligence from the direct lender.

Despite the increased credit risk resulting from lending to smaller firms, direct loans tend to be structured more conservatively than broadly syndicated leveraged loans. Direct loan borrowers tend to have lower leverage multiples or lower debt to EBIDTA metrics on their balance sheets than syndicated leverage loan borrowers. In addition, interest coverage ratios, or the earning ability of a firm to cover interest on debt, tends to be stronger with direct loans. Secured debt also comes with covenants requiring the borrower to maintain certain financial ratios and metrics, such as keeping debt-to-asset ratios within certain limits or maintaining a level of working capital. Borrowers also may be required to ensure that key employees remain with the firm. Broken covenants can result in default if not corrected. Both leveraged loans and direct loans are covered by covenant packages, though direct loans tend to have tighter or more strict covenant packages than leveraged loans.

High yield corporate debt is unsecured, and the covenants are much less restrictive than leveraged loans and direct loans (covenant-lite).

Liquidity

Direct loans also differ in terms of liquidity. Both high yield corporate bonds and leveraged loans are traded publicly through exchanges or over the counter and are relatively liquid. Leveraged loans used to be held to maturity, but the growth of secondary markets over the past two decades has increased their liquidity. Meanwhile, a secondary market for direct loans is lacking, requiring direct loans to be held to maturity. A liquidity premium contributes to the additional spread of direct loans over high yield and leveraged loans.

Due to the illiquidity of direct loans, the smaller firm size of direct loan borrowers, and the lack of rating agency coverage, yields on direct loans historically have been higher than leveraged loans and high yield debt. Despite this premium, and, in part due to more conservative structures, recovery rates have been more attractive (Exhibit 4), leading to attractive risk return profiles for direct loans in recent years. However, it should be noted that smaller firms tend to be more stressed during recessions than larger firms, resulting in potentially increased risk during recessionary times.

Interest Rate

Another benefit of direct loans is their floating rate nature. Both leveraged loans and direct loans are underwritten to some spread dependent on risk above LIBOR, giving them a floating

rate structure. This approach contrasts with the fixed interest rate structure of high yield corporate debt. Thus, both leveraged loans and direct loans would be more attractive in a rising rate environment because the payments would increase along with increases in short to intermediate-term rates.

Exhibit 5: Debt Comparison

	Direct Loans (Middle Market)	Leveraged Loans	High Yield Corporate Debt
Borrower Size (Revenues)	\$10 million - \$1 billion	\$1 billion +	\$1 billion +
Security Interest	Senior Secured	Senior Secured	Generally Unsecured
Covenants	Maintenance Covenants	Typically Covenant Lite	Covenant-Lite
Interest Rate	Floating	Floating	Fixed
Yield	9.6%	4.3%	4.2%
Index	Cliffwater Direct Lending Index (CDLI)	S&P LSTA Leveraged Loan Index	ICE BofAML US High Yield Index

Source: Syntrinsic, JPMorgan, Eaton Vance, Golub Capital. Yield as of 3/31/21.

Investment Vehicles

Exhibit 6: Investment Vehicle Comparison

	Private Funds	BDCs	Interval/Evergreen Funds
Investment Restrictions	No restrictions - can invest in firms of various size and across regions	>70% of assets in private US firms with market value <\$250M	Restrictions vary dependent on structure
Distributions	No Restrictions	>90% of profits must be paid to shareholders	No restrictions
Leverage	No restrictions	Restricted to 2:1 debt to equity ratio (150% asset coverage)	SEC restrictions
Investor Qualifications	Qualified	Qualified or Accredited	Qualified, Accredited, or Retail
Liquidity	None	None to Quarterly	Monthly or Quarterly
Investment Period	Finite Life	Finite to Publicly Traded	Open

Source: Syntrinsic

Private Funds

Most institutional investors accessing the middle-markets invest with private debt fund managers. These managers come to market periodically to raise funds from institutional or high net worth investors, also known as limited partners (LPs). The general partners (GPs) of private funds are the owners and usually serve as the manager of the private debt fund, like private equity structures. Investors make commitments of capital that are drawn down by the GPs as investment opportunities are found. However, in contrast to private equity, debt investments start paying income to investors immediately following investment, mitigating the J-curve typical of private equity funds. The J-curve effect describes the negative cash flows that a private fund experiences in the first few years as the funds draw down capital and build an investment portfolio that has yet to mature. Mitigating the J-curve returns capital sooner, potentially provides earnings, and allows the manager to redeploy capital more quickly. Private debt funds have a finite investment life ranging from four to seven years, typically shorter than the life of private equity funds, which tend to range from 10-15 years. To invest in a private structure, the investor must meet the “qualified purchaser” designation, a stringent standard limiting investment to persons with a minimum \$5M in investable assets or to institutions with at least \$25M in investable assets. Private structures are illiquid, as these investments are intended to be held to maturity. These investments are unregulated, giving them a wide range of leeway in the use of leverage, geographic focus, and in the riskiness of underlying investments.

Business Development Corporations (“BDCs”)

Retail and accredited investors can invest in private debt through Business Development Corporations (“BDCs”). Created by congress in 1980, BDCs are a special type of closed-end fund specifically designed to provide small companies access to capital. They are governed under the Investment Act of 1940 and subject to Securities and Exchange Commission (“SEC”) exams. BDCs are also more restricted than traditional private funds. BDCs must invest at least 70% of its assets in private US firms with a market value less than \$250M. They also must distribute at least 90% of profits to shareholders, like the Real Estate Investment Trust (“REIT”) or Master Limited Partnership (“MLP”) structure. In addition, after regulatory changes that became effective in 2018, maximum leverage is limited to a 2:1 debt to equity ratio or a 150% coverage ratio. The benefit of additional investment restrictions and SEC oversight applies to all BDCs, despite three distinct BDC offerings: public BDCs, non-traded BDCs, and private BDCs.

- Public BDCs trade on public exchanges, allowing retail investor access. As underlying debt investments are very illiquid, public BDCs can trade at substantial premiums or discounts to NAV. In addition, fees for public BDCs can be higher than other BDC offerings and private funds. Because they are publicly traded, these investments can experience tremendous volatility, particularly in a stressed market environment such as during March 2020, when COVID-19 caused fear in the markets and many public BDCs lost 50% of their value or more in a few weeks. BDC’s then generally recovered over the next few months.

- Publicly offered, non-traded BDCs became popular beginning in 2011 as they eliminate daily volatility in pricing, though they do not eliminate the investment risk. Non-traded BDCs typically offer limited liquidity but are available only to “accredited investors,” a less stringent standard than “qualified purchaser.” To be “accredited” requires net worth of at least \$1M for individuals and \$5M for institutions or requires other minimum income levels. Non-traded BDCs typically are offered on a continuous basis until some liquidity event, such as merger, liquidation, or Initial Public Offering (“IPO”). Many publicly traded BDCs started as non-traded BDCs.
- Private BDCs are structured much more like private debt funds. Private BDCs typically offer shares to only “qualified purchasers.” Private BDCs come to market at varying intervals, fund raising through private offerings. Investor commitments are subject to a capital call and drawdown structure. The investment has a finite life and does not offer liquidity, requiring an investor to hold the investment until maturity. Despite the structure mirroring private debt funds, the additional regulations, limitations, and reporting requirements of all BDCs distinguishes private debt funds from private BDCs. However, both are structured as LPs, removing liability provisions for the investment manager.

Exhibit 7: Investment Vehicle Comparison

	Private BDC	Non-Traded BDC	Public BDC
Liquidity	Illiquid	Semi-liquid	Publicly Traded
Investor Qualifications	Qualified Purchaser	Accredited Investors	Accredited Investors
Cash Flows	Commitment / Capital Calls / Distributions	Fully invested on purchase	Fully invested on purchase
Typical Investor Qualifications	Finite life	Continuous offering until liquidity event	Publicly Traded Closed End Fund

Source: Syntrinsic

Evergreen or Interval Funds

Over the last few years, private debt managers have started to offer strategies in an evergreen fund structure. Although the structure, liquidity, and management of evergreen structures vary widely, some allow for retail investor access. Evergreen private debt funds are typically open-ended, allowing the manager to continuously market the fund and raise capital at any time; however, the exact structure can vary from fund to fund. Managers offer these structures in a separately managed account, commingled vehicle, or a mutual fund structure managed by 1940 Act regulations. In addition, specific funds may limit investment to qualified purchasers or accredited investors or be open to retail investors.

Evergreen liquidity is typically more limited than daily; however, liquidity terms can also vary across funds. Some funds offer daily subscriptions while others are limited to quarterly or annual subscriptions. Meanwhile, managers generally limit redemptions to monthly or quarterly. Although some evergreen structures incorporate initial lock-up periods, others do not hold limitations on the timing of initial redemptions within their offered liquidity schedules. It is important to note that the increased liquidity offered over private structures comes with a cost, including potential liquidity gates which may limit quarterly redemptions to a percentage of fund assets, as well as some cash drag as managers utilize some combination of cash equivalents, credit facilities, or publicly traded securities such as bonds to manage liquidity needs.

Evergreen structures can also be multi-manager or limited to a single manager. Fees tend to be higher than in private structures; however, fee structures also vary widely across evergreen funds offered in the market.

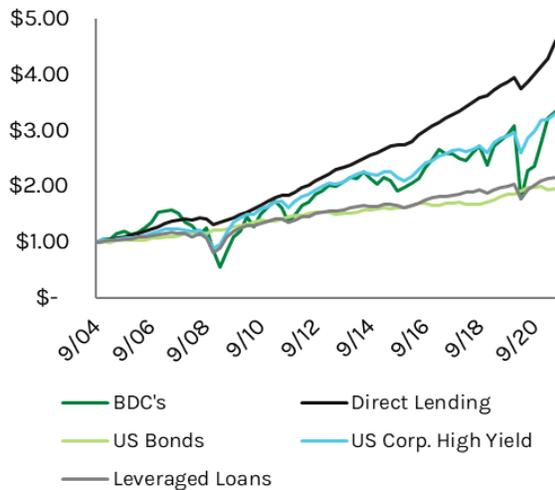
Direct Loan Sourcing

Investment managers source direct loans through two primary means, sponsored or non-sponsored. Sponsored loans are sourced through private equity managers and through their underlying privately owned companies. Private equity sponsorship can bring important support to a debt deal and ensure more certainty around debt covenants and details, to the potential benefit of the borrower. According to Preqin, a private investment database provider, nearly 80% of private debt deals are sponsored. While some investors find the private equity relationships compelling, other investors prefer to avoid lending to companies backed by private equity.

Non-sponsored loans are typically syndicated by banks or brokerage firms and occur primarily with independent, owner-operated, or family-owned business that have not been financed by a private-equity firm. Uncertainty around non-sponsored loans is higher due to competition from lenders but the benefit to the borrower may be lower debt service costs. The advantage of sponsored debt from the perspective of the lender is the borrowing firm is controlled by private equity owners that are more likely to inject capital if the borrower came under distress. Preferred access to a private equity network is also an advantage. A disadvantage of sponsored debt is a sponsored firm typically utilized more leverage at the company level due to private equity involvement. Despite this, the marketplace typically views non-sponsored debt as riskier, offering a 2-3% yield advantage over sponsored loans.

Private debt Risk and Return

Exhibit 8: Growth of an Invested Dollar



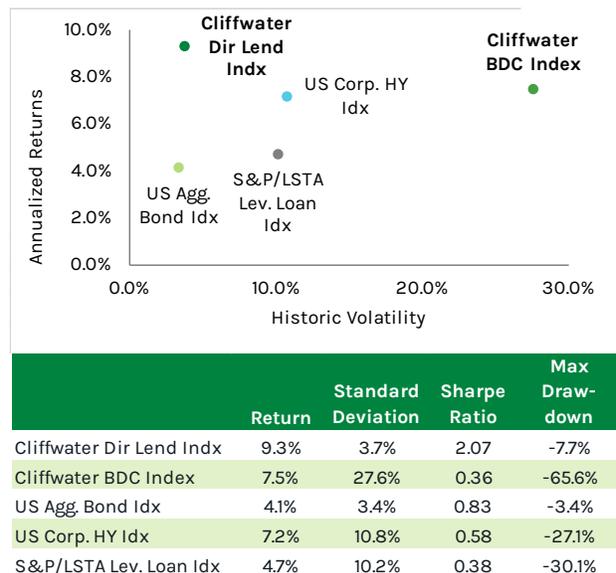
Source: Morningstar, Cliffwater

construct an index of the US direct lending market, including separately managed accounts, private commingled funds, and pooled vehicles of BDCs, going back to September 2004.

Private markets have experienced a consistent premium over public markets as reflected in the stronger returns of both private debt and private equity. Since the Financial Crisis, direct loans have outperformed the US corporate high yield market. In difficult markets, private funds also tend to perform better than public markets due to less frequent valuation of the portfolios and limited ability for investors to sell at the bottom of a strong downturn. Despite public BDCs (per the Cliffwater BDC index) having similar yields as their private debt counterparts, the ability for investors to trade across public markets led to an extreme drawdown, defined as the peak-to-trough decline in value of an investment, of over -65% during the Financial Crisis (Exhibit 9). This

The risk return profile for private debt has been attractive (Exhibits 8, 9). Index data for private funds typically is based on vintage year peer group aggregation, in which funds that raised capital within a particular year are compared to each other. The vintage year can have a meaningful impact on the performance of the fund because of the distinct asset valuations and economic conditions of a particular year. While benchmarking this market segment is inherently challenging, Cliffwater has emerged as the alternative index provider for the direct loan markets utilizing public filings from BDCs. The Cliffwater Direct Lending Index (CDLI) was introduced in 2016. However, Cliffwater had enough aggregated data to

Exhibit 9: Return vs. Historic Volatility (1/2005 - 6/2025)



Source: Morningstar, Cliffwater

dramatic decline compared to a very mild -8% for the Cliffwater Direct Lending Index (CDLI), which includes primarily illiquid investments. This variance makes a compelling case for investing in a private investment, reducing the temptation or at least the ability to sell private debt during periods of market stress.

Although historic volatility is under-represented for private investments due to valuation and timing biases, the investor's experience of volatility of performance over the life of a private fund is captured in the asset class standard deviation. Given the lower standard deviation of direct lending, coupled with stronger returns, the Sharpe Ratio has been strong for private debt investments in recent years. The Sharpe Ratio indicates the returns per unit of volatility and is one way of analyzing risk-adjusted return. The Sharpe Ratio for the Cliffwater BDC index is much less compelling than its purely private market direct lending peers because of daily pricing and trading (Exhibit 9).

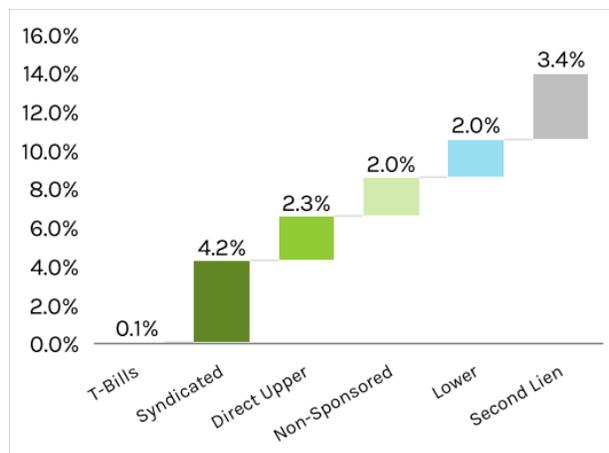
Leverage and management fees affect investor experiences of asset returns, creating wide deviations from these numbers. For example, a second lien private loan yielding 8% with added leverage of 50% can boost the return to 12%. That leverage, however, comes at a cost for private fund managers, reducing this boosted return. In addition, private debt managers have robust fee structures that can vary across vehicles. Managers within private structures charge a 2% per year management fee and an additional 20% incentive fee on any performance above a specific hurdle or minimum return. Private fund fees typically eat about a third of total return performance. In our example, the 12% levered returns are reduced to about 8% once investors pay 2% per year and the incentive fee. While the fee structure is notoriously high in private investment vehicles, they can be worthwhile for an investor due to the outsized net returns that can be realized and the inability to access these investments through lower cost sources. The fee situation further highlights the need for a strong manager that will more likely realize strong results net of expenses.

Additional Performance Factors

- **Performance Dispersion:** Dispersion of performance across private investments tends to be wider than dispersion across public investments, making manager selection and strategy selection key to realize expected returns.
- **Vintage Year:** Performance can be affected by the vintage year of the fund based on economic conditions at the time. Managing risk thus requires the use of vintage year diversification, or the diversification of private debt funds across numerous years. As such, it can take several years to build up a full allocation to a private investment program.
- **Leverage:** Managers can further enhance returns with the use of leverage, as previously shown. However, the use of leverage also increases risk as it multiplies failure as well as success. Leverage has been used extensively in the senior secured direct lending to boost otherwise moderate returns. The amount and source of leverage are considerations when selecting the fund manager.

- **Sourcing:** As discussed earlier, investors can target sponsored versus non-sponsored loans for many reasons, including real and perceived risk exposure, potential return, the strategic relationships, and other factors.
- **Borrower Size:** Just as publicly traded small cap companies tend to offer return premium potential over large cap companies, loans made to firms in the lower middle market—represented by younger firms with less established revenue streams—can potentially return more to investors than loans made to companies in the upper middle market, though again, that increased return potential comes with greater real and perceived risk.
- **Capital Stack Position:** Positioning within the capital stack also drives performance and risk. First lien senior secured debt typically lags subordinated debt performance when economic conditions are strong. As investors move down the capital stack through second lien senior debt, junior subordinated debt, mezzanine, and finally preferred equity, potential return and volatility increase.
- **Other Private Debt Strategies:** Direct lending differs from other private credit strategies that focus on stressed and distressed debt markets. Those markets experience varying risk and returns targets of their own, fall into an asset class category of their own, and would be a meaningful topic for another research piece.

Exhibit 10: US Middle Market Loans Risk Premiums



Source: Cliffwater as of 6/30/21

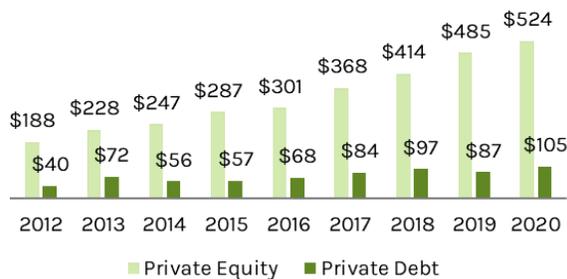
Current market conditions

Prior to the COVID-19 pandemic, credit markets enjoyed a robust market in which spreads tightened, leverage levels increased, and lender protections through covenants became looser (for better and for worse). The quick and severe effects of economic lockdown in response to the pandemic in March 2020 caused many lenders to seek covenant relief and/or draw on credit lines to build cash reserves. Credit spreads on direct lender originated debt widened, reflecting the increased risk of company stress. Many private debt managers saw mark to market losses (an increase in unrealized losses) negatively affecting performance in the preliminary stages of the pandemic. However, these losses were well-contained. The Cliffwater Direct Lending Index experienced only one quarter of drawdown, with a return of -4.8% in 1Q. Meanwhile, publicly traded BDCs as measured by the Cliffwater BDC index saw a drawdown of -42.3% in 1Q. However, the markets quickly reversed even this intense drawdown (refer to Exhibit 8) as government aid helped many small businesses and many sponsored borrowers received injections of capital from private equity partners.

Although the world continues to navigate the difficulties of COVID-19 with increased cases of the Delta variant, private credit markets have returned to a healthy position as economic activity has stabilized. Default rates remain modest and origination activity has improved significantly after slowing in the spring of 2020. Although credit spreads have tightened once again, they remain wider than pre-pandemic. In addition, lender protections and covenants have strengthened while overall leverage remains modest, contributing to an attractive environment for credit providers.

The longer-term outlook for direct lending remains strong. Traditional banks continue to withdraw from the middle-market direct lending, increasing the opportunity set for private debt funds and BDCs. In addition, loan demand from growing small businesses remains high, driving up loan origination opportunity. As we remain in a low yield environment, investor demand for higher yielding private debt has been strong.

Exhibit 11: North American Private Equity and Private Debt Dry Power (\$US Billion)



Source: Preqin 3Q 2020, Churchill Asset Mgmt.

Syntrinsic is monitoring the abundance of investor capital investing in private debt markets, which could create adverse pricing pressures should more competition drive down yields and thus returns. While dry powder (i.e., the committed capital of private funds sitting in cash awaiting investment) has been increasing, dry powder in private debt remains significantly lower than in private equity markets. Churchill Asset Management argues that many private companies typically have a capital structure consisting of 50-80% debt, suggesting a debt need equal to or greater than the equity need. North American private equity dry powder

reached \$524B in 2020 (through Q3), compared to \$105B in private debt dry powder, representing a spread of \$419B (Exhibit 11). For private equity capital to be fully deployed, private debt capital would need to increase or leverage would need to decline.

As the opportunity set for private debt has expanded, many new, inexperienced managers have also entered the arena, in some cases, lowering the quality of loans. This influx reiterates the need for investing alongside strong, experienced managers. Although private debt markets are full of opportunity, investors must commit to strong risk management and due diligence to avoid the potential pitfalls of this promising yet inherently risky asset class.

Definitions

Alpha	The excess risk-adjusted return relative to the risk-adjusted return of the benchmark.
Beta	A measure of the volatility, or systemic risk, of an investment in comparison to a specific market.
Correlation	The relationship or connection between two things such as an economic event and a market's reaction. The relationship may or may not reflect causation.
Diversification	A portfolio risk management technique that varies investment exposures to varied asset classes, economic factors, or other criteria.
Volatility	A measure of the historic or anticipated changes in value of an economic factor, frequently used to reflect the price uncertainty inherent in a portfolio. At times, referred to as Standard Deviation.
Sharpe Ratio	A measure of return per unit of volatility as compared to the risk-free rate.

Disclosures

The information in this document is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance.

Given the complex nature of risk-reward tradeoffs involved in portfolio construction, we advise clients to consult with financial professionals on specific investment-related decisions. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. In addition, past performance is not a guarantee of future results.

Assumptions, opinions, and estimates are provided for illustrative purposes only and are subject to significant limitations. Expected return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios to which actual returns could be significantly higher or lower than forecasted. They should not be solely relied upon as recommendations to buy or sell securities.

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