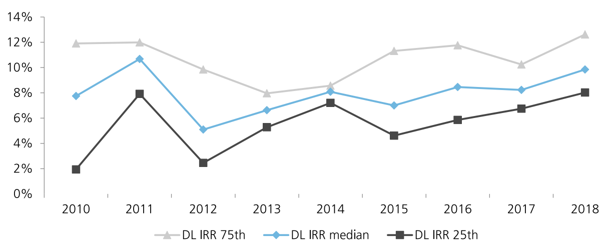
traded vehicles investing in private non-syndicated middle-market debt, and therefore reflect the loan characteristics held by direct lenders in a time-weighted return series comparable with public market investments.

- Between 2005 and 2021, the CDLI produced an annualized total return of 9.5%, compared with 4.6% for the S&P/LSTA Leveraged Loan Index and 6.7% for the BofA US High Yield Index. On a gross basis, excluding fees or leverage, this represents a 200–490bps return premium versus publicly traded non-investment-grade fixed income, primarily driven by higher yields. We note that the CDLI includes both senior and subordinated debt.
- Between 2005 and 2021, annualized CDLI volatility is 3.6%, compared with about 10-11% for both the S&P/LSTA Leveraged Loan and BofA US High Yield indices. We note that the use of less frequent and subjective valuation standards to assess illiquid assets suppresses volatility on the CDLI.
- While performance may not be directly comparable given the difference in valuation standards versus public markets, the CDLI outperformed on a risk-adjusted basis, with the CDLI return-risk ratio at 2.57 versus 0.46 for the S&P/LSTA Leveraged Loan index and 0.69 for the BofA US High Yield index.
- We note the CDLI tracks underlying loan performance within BDCs, but not the BDC vehicles themselves. Investors obtaining exposure to private debt through BDC vehicles can experience higher volatility as some are listed on an exchange, similar to that of a closed-end fund.

Fig. 7: Direct lending IRR dispersion per vintage year 2010–2018

High level of dispersion within each vintage year highlights importance of manager selection



Source: Pitchbook, UBS. Note: Given most funds take a few years for performance to settle, performance of recent vintage years may be less meaningful. Data as of August 2022.

Table 1: Annualized return and risk, 2005–2021

	Ann. Return	Ann. Vol	Return /Risk
CDLI	9.5%	3.6%	2.60
S&P/LSTA Leveraged Loan Index	4.6%	10.0%	0.46
BofA US High Yield	6.7%	10.6%	0.63

Source: Cliffwater, S&P, UBS. Data as of August 2022.

Direct lending and the business cycle

- Direct lending returns are modestly tied to economic cycles, with corporate earnings growth, low default rates, and higher leveraged buyout activity (given that buyouts utilize debt in transactions) supportive of loan demand and performance.
- Direct lending can provide stable cash flows in benign economic environments given that loans are typically senior in the capital structure, which provides cash flow priority and collateral in case the borrower defaults.
- However, later in the credit cycle, transactions can reflect heightened risk to the lender via higher borrower leverage multiples (debt-to-EBITDA, a proxy for debt in relation to cash flows), lower interest coverage ratios (EBITDA-to-interest costs), and looser lender protections.
- Weakening credit conditions can lead to higher default rates and portfolio losses, particularly for subordinated or mezzanine debt.
- Using S&P LCD data on broadly syndicated leveraged loans as a proxy for direct lending, default rates (calculated as last 12 months' dollar defaults divided by total outstanding) have averaged around 2.8% historically between 2005 and 2021. Recovery rates for first lien loans lied around 75 cents on the dollar over the past decades.
- With interest payments tied to LIBOR/SOFR, direct lending strategies can help protect against interest rate risk.
- Opportunistic managers can move between senior and subordinated tranches in the capital structure. Investing in subordinated tranches can increase portfolio risk in later stages of the business cycle, but can add to returns during the expansion phase.

Direct lending in your portfolio

- Direct lending can improve an investor's cash flow and total return profile above that offered by traditional fixed income investments given the strategy's exposure to the middle market, direct origination, flexible capital structure, and leverage.
- Direct lending may exhibit lower volatility than publicly traded leveraged loan and high yield funds. Public vehicles are subject to inflows and outflows, which may have no connection to underlying loan fundamentals, whereas direct investments are usually held to maturity.
- Direct lending origination can establish stronger lender protections, greater influence over terms and structures, and closer monitoring of individual credits versus broad syndicated loan origination.
- Exposure to middle-market companies can improve diversification by adding idiosyncratic exposure to companies often not traded on public markets.
- Adding direct lending to a portfolio can shorten an investors` "J-curve" given that direct lending funds: 1) typically charge fees on invested capital rather than committed capital as private equity does; 2) have a shorter investment horizon of about three years compared with 4–5 years for private equity; and 3) make periodic interest payments that provide earlier return of capital.

Table 2: Correlation versus CDLI, 2005–2021

Barclays Aggregate	-0.09
S&P/LSTA Leveraged Loan Index	0.78
BofA US High Yield	0.75

Source: Cliffwater, S&P, Bloomberg, UBS. Data as of August 2022

Risks

- Direct lending exposes portfolios to idiosyncratic credit risks given the nature of middle-market borrowers, which typically are below investment grade and have fewer business lines, less resources, and more customer concentration compared with larger borrowers.
- Investing lower in the capital structure increases credit risk given subordination in payments or collateral.
- Direct lending funds are illiquid in nature and require multi-year lock-up periods, with the average fund life ranging from 6–8 years. We note that in recent years, managers have adopted open-ended fund structure offering better liquid terms. Monthly or quarterly investor and fund level liquidity restrictions may still apply.
- Private direct lending is still a relatively young asset class (particularly in Europe) and performance has yet to be fully tested through various credit cycles.
- Direct lending funds tend to have concentrated positions due to time intensity in sourcing and originating credits.
- Leverage usage can enhance or detract from portfolio returns. Fees are higher than traditional leveraged loan vehicles.
- Higher interest rates can increase leverage costs or be detrimental to the health of the underlying borrowing companies.
- Increased competition from other direct lenders, BDCs, collateralized loan obligations (CLOs), and hedge funds can reduce loan spreads and lead to a deterioration of lending standards.

Appendix

Selected definitions

- **Correlation**: the degree to which the fluctuations of one variable are similar to those of another.
- **Leverage**: the use of borrowed capital or instruments to increase the potential return (but also potential losses) of an investment, a simple example is a mortgage used in real estate transactions.
- **Leveraged buyout funds**: a private equity strategy using borrowed capital to gain control of a company.
- **Illiquidity premia**: the premium that an investor can demand depending on how difficult it is to convert the underlying security can be converted to cash.
- **Multiples**: a term that measures some aspect of a company's financial well-being, determined by dividing one metric by another metric. The metric in the numerator is typically larger than the one in the denominator, because the top metric is usually supposed to be many times larger than the bottom metric.
- **Multiple expansion**: describes the way a particular valuation metric increases to reflect a higher value assigned to an underlying investment.
- **Value add**: describes the operational, business, or structural improvements private market managers seek through underlying portfolio investments.
- **Cash flows**: cash flow is the net amount of cash and cash-equivalents being transferred into and out of a fund.
- **Public Market Equivalent (PME):** a method that converts public market returns to a benchmark that can be compared to private market returns.
- **IRR**: a return method used to evaluate private market investments and reflects the discount rate at which the present value of an investment's future cash flow equals the cost of the investment.
- **TVPI (Total Value to Paid In**): a return metric that describes the total capital distributed back to the investor + residual value left in the fund divided by invested capital.
- **Exit**: the time period in which an investor can convert holdings into cash to be liquidated over a designated period of time.
- **IPO**: the first sale of stock by a private company to the public. Also referred to as an "initial public offering."
- **Standard deviation**: a measure of the degree to which individual values vary from the distribution mean. The higher the number, the greater the risk.
- **Dry powder**: refers to cash reserves kept on hand by a private markets firm to cover future obligations, purchase assets or make acquisitions.
- **J-curve**: illustrates a period of initial negative cash flows (contributions) towards positive cash flows (distributions back to the investor) over a period of time.
- **Sponsor**: the general partner in a limited partnership who organizes and signs up investors.
- **Secondary buyout**: describes a sale between private market firms
- **Trade sale/strategic sale**: describes a sale of a business to another business operating in a similar industry.
- **Senior debt**: loans or debt securities that have claim prior to junior obligations and equity on a corporation's assets in the event of liquidation.

- **Junior debt**: loan or security that ranks below other loans or securities with regard to claims on assets or earnings. In the case of borrower default, creditors who own subordinated debt won't be paid out until after senior debt holders are paid in full.
- **Vintage year**: is the year in which the first influx of investment capital is delivered to a project or company. This marks when capital is contributed by venture capital, a private equity fund or a partnership drawing down from its investors.
- **M&A**: mergers and acquisitions is a general term that refers to the consolidation of companies or assets through various types of financial transactions. M&A can include a number of different transactions, such as mergers, acquisitions, consolidations, tender offers, purchase of assets and management acquisitions.
- **Blind pool**: money collected from several people which is put into a fund and invested for their profit. It is left unspecified which properties are to be acquired.
- **Unit economics**: a measure of direct revenues and costs on a unit basis for a particular business model.
- **Minority stake**: reflects a non-controlling interest that is less than 50% of a particular entity.
- **Spin off**: describes the separation of an independent company from a larger parent.
- **Control provisions**: designed to provide a level of influence over significant operational and business matters.
- **Redemption rights**: gives investors the right to force a company to repurchase their shares after a period of time.
- **Idiosyncratic risk**: risk associated with a narrow set of factors pertaining to a particular company. Risk that has little association with overall market risk.
- **Tag-along provisions**: provides a minority shareholder the right to join in on a sale of a company that is initiated by a majority shareholder.

Non-Traditional Assets

Non-traditional asset classes are alternative investments that include hedge funds, private equity, real estate, and managed futures (collectively, alternative investments). Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments, there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- Hedge Fund Risk: There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, "junk bonds," derivatives, distressed securities, non-U.S. securities and illiquid investments.
- Managed Futures: There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- Real Estate: There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- Private Equity: There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- Foreign Exchange/Currency Risk: Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in U.S. dollars, changes in the exchange rate between the U.S. dollar and the issuer's "home" currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a U.S. investor.

Appendix

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