

# Targeting Private Credit

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Private credit provides superior yields, steady returns, and resilience in times of economic stress.

Private credit enhances the risk-return pay-off of fixed income and traditional 60/40 portfolios.

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# Introduction

In our white paper *Targeting Private Assets* we saw compelling evidence that well diversified portfolios that include private assets offer superior risk-return pay-offs. In this paper, we take a deep dive into private credit and explore three key questions – credit as an asset class, the drivers of performance, and its diversification benefits.

Charles D. Ellis, in *“The Winner’s Game”*, explains how the investment profession, like all learned professions, has many unusually difficult aspects that require great skill and that keep getting more complex. One part is the increasingly challenging task of combining imaginative and insightful research with astute portfolio management to achieve superior investment results. The other part happens to be the least difficult but the most valuable one: investment counseling.

With this series of white papers, Altamar Capital Partners undertakes to roll up its sleeves and actually help clients cope with the challenges and opportunities that today’s investment environment presents. Altamar aims at offering tools and frameworks that may be of value to its clients in structuring better investment programs rather than producing normative academic research.

Altamar and CAM Alternatives have commissioned this paper through their joint venture AltCAM in order to offer an analytical framework that enables investors to incorporate private credit as a key building block in their investment portfolios. We explore a key question that the industry has not correctly answered until just three years ago: Is private credit an asset class? We also explore whether investors get a fair compensation for expected credit losses and the illiquidity and complexity inherent in private credit.

The paper has breadth and depth. It is not intended to be a quick reference guide. Rather, the intended purpose of the paper is to examine carefully the empirical evidence related to investing in private credit and to provide a rationale to include private credit as either an alternative asset class or as a diversifier of fixed income portfolios. We also take a close look at implementation issues.

John Siska, CFA, has led and written the paper on the back of an extensive literature review, industry publications, and Altamar’s analytical capabilities and insights. For the sake of transparency, the paper is based on generally available information on the private credit industry. Altamar’s views have been taken into account.



**John Siska**  
Senior Advisor

John has been involved in the institutional asset management business for over 30 years, having served as Head of International and Quants, Head of Santander Noble Lowndes, and CIO - Global Equities at Santander Asset Management. He now runs Eccleston Partners, a niche advisory business. John is Founding Member of the Global Council of the CFA Institute and Founding President of CFA Spain.

# Key Takeaways

Private Credit is a defensive asset class. Credit delivers a significant and persistent return. Investors earn attractive yields and steady returns without interest rate risk

The credit risk premium is different from the term and equity risk premiums. It is, thus, a diversifying source of portfolio returns particularly valuable in our lowest-for-longest interest rate environment.

**Credit is the lost city of the investment universe.** On the one hand, historical data for aggregate corporate credit typically shows returns lower than for sovereign credit. On the other hand, **David F. Jensen**, in his highly regarded book *Pioneering Portfolio Management*, **recommends that “sensible bond portfolios contain only high quality long-term assets”**. There you go. Credit into oblivion.

Both AQR and Cliffwater Associates have taken recently a close look at **credit as an asset class**. They find that:

- **Credit delivers a significant and persistent return** driven by its exposure to default risk. The credit risk premium has been hiding in plain sight due to the impact of the term premium on the shorter maturity profile of corporate bonds. As corporate bonds have shorter maturities, they end up earning lower term premiums.
- Once we adjust returns for the shorter duration of corporate credit, a credit risk premium or excess return is revealed. **This credit risk premium is sufficiently different from both the term and equity risk premium to be a diversifying source of portfolio returns.**

Coping with and enduring recurring **end-of-the cycle crises explains the uncertainty, complexity, and illiquidity premiums investors earn**. Actually, investors get paid well for taking on board these risks. As rough as the going gets when the tsunamis of financial and economic crises sink us in despair, **those with a disciplined and well thought-out investment process and strategy stand to harvest most significant gains**.

We find a **vast, diverse, and deep universe** of investment opportunities across geographies, instruments, collateral, borrowers, and seniority in the capital structure. In addition to variety, we also find size. The credit universe has a **market value in excess of \$150 trillion** and represents **over 20% of the global investable assets**.

The **Global Financial Crisis** opened the door to a new world order in the intermediation of corporate credit that **led to a broader and deeper ecosystem for the financing of lower mid-market companies directly by investors**. As these direct loans did not trade in public markets, they became part of the private investment universe.

The private credit space offers capital preservation strategies and opportunistic strategies. **Preservation strategies** like direct lending typically finance leveraged buyouts sponsored by private equity firms. Returns derive from current yields and

structuring fees. **Opportunistic strategies** include Special Situations and Distressed Debt. These seek returns comparable to those offered by private equity by investing in highly complex corporate events or market dislocations.

Credit risk in private credit instruments typically explains 20% of the credit spreads in excess of the spreads of listed financial instruments of comparable credit quality. **Spreads are thus well above the levels required to offset credit losses.** The remaining 80% **rewards investors for enduring levels of illiquidity, complexity, and uncertainty** not found in the large quoted markets.

Savvy investors can harvest attractive illiquidity and complexity risk premia unique to private illiquid assets. **Harvesting these premia, however, is challenging.** In this space, debtors default, losses given default can reach 85% on the junior unsecured tranches, and contractual terms are complex and non-standardized.

When a **financial crisis** comes, investors suffers **major write downs** and **liquidity providers disappear** just when liquidity is needed the most. In addition, economic recessions have a major impact on the smaller highly leveraged companies we find in this space.

Still, **optimizers crave to allocate to private assets:**

- You may choose to consider private credit as a legitimate asset class at the strategic asset allocation level. Using consensus return expectations and forecasted mark-to-market volatilities, a traditional portfolio would allocate to private credit as much as the risk budget allows.
- Alternatively, you may choose to consider private credit as a sub-asset class within fixed income. Here, again, we find that optimizers crave to allocate to private credit strategies.
- Even when using forecasted mark-to-market volatilities, **private credit shows most attractive Sharpe ratios.** The seniority in the capital structure and the protection offered by liens on assets of some private credit strategies render credit as the private investment strategy with the lowest drawdowns in times of crisis.

Optimizers cannot cope well with assets that have fat tails, like credit. **Credit is a carry strategy** that allows the **harvesting of regular risk premia in exchange for assuming end-of-the-cycle volatility, as we saw in March and April 2020.** Investors thus need to use backtests and scenario analysis to derive the allocation most appropriate for them.

As investors dive into private credit, they need to carefully **consider their investment objectives and constraints** as well as their real **liquidity needs**, the commitment strategies to reach desired exposures, the **J-curve impact** on the overall portfolio, suitable **private credit sub-asset classes**, appropriate **benchmarks, internal controls** and governance, and **fees**.

Investors need to take a close look at **commitments strategies**. As is the case in other private assets, **exposures build up gradually** and may reach about 70% of committed capital in year 3. Exposures decline from there to about 20% in year 8. For the first 10 years, exposures average about 45%. We carefully **examine various commitment strategies** that may be of value **to reach a sustainable exposure** or even a self-liquidating portfolio.

**Preqin**, in its 2020 Global Private Debt report, highlights that **private credit assets under management continue to grow as more capital is put to work** and investors seek to diversify their portfolios. Investors realize that **private credit offers significant value** in our lowest-for-longest **interest rate environment**.

# Targeting Private Assets Summary

In our white paper *Targeting Private Assets*, we explored investments in private assets and found compelling evidence that well-diversified portfolios that include private assets offer superior risk-return pay-offs. These alternative portfolios can offer higher risk-adjusted returns or lower return-adjusted peak-to-trough drawdowns than traditional asset class portfolios.

Traditional asset classes are bound by the low expected returns of bonds and the high volatility and peak-to-trough drawdowns of equities. Expected returns are materially lower than they have been for the past 25 years. In addition, it seems unlikely that the volatility of equities will abate considering the economic, demographic, political, and geopolitical headwinds we face.

In the paper, we explore investments in private assets not traded in public markets:

We explore private assets not traded in public markets.

## Asset Class Attributes

Source: Eccleston Partners. June 2019.

What's What	MM	FI	EQ	CM	HF	PC	RE	IN	PE
Traditional	•	•	•						
Alternative				•	•	•	•	•	•
Strategies				•	•				
Private Assets						•	•	•	•
Traded in Public Markets	•	•	•	•	•				
Passive Replication	•	•	•						
Investor Engagement							•	•	•
Liquidity			Daily		Monthly		5-10 years		

MM Money Markets, FI Fixed Income, EQ Equities, CM Commodities, HF Hedge Funds, PC Private Credit, RE Real Estate, IN Infrastructure, PE Private Equity.

Private assets allow skilled investors to unlock real value.

Private asset offers the potential to generate and unlock real value and earn higher long-term risk-adjusted returns consistent with their complexity and illiquidity. Smart, engaged, and patient investors have the potential to harvest additional compensation.

Furthermore, private assets have return and volatility profiles that offer valuable mean-variance diversification opportunities:



Private assets offer diversification benefits in term of low volatilities and correlations.

### Asset Class Attributes

Source: Eccleston Partners. Morningstar Direct. June 2019.

Risk Profile	MM	FI	EQ	CM	HF	PC <sup>(*)</sup>	RE	IN	PE
Volatility Bucket	1%	5%	15%	15%	5%	5%	10%	5%	10%
Maximum Drawdown	-	10%	55%	70%	20%	10%	50%	15%	25%
Correlation to 60/40 Portfolio	-0.4	0.5	1.0	0.5	0.9	0.6	0.4	0.3	0.3

(\*) Direct Lending.

Long-term expected returns for alternative strategies and private assets are attractive as compared to expected returns for traditional assets:

### Consensus Expected Annual Nominal Rates of Return in Euros

Source: Eccleston Partners. June 2019.

	Expected Return		Expected Return
Inflation	1.6	Hedge Funds	4.1
Money Markets	0.9	Private Credit	5.7
Fixed Income	2.3	Real Estate	5.3
Equities - World	5.4	Infrastructure	5.7
		Private Equity	8.0

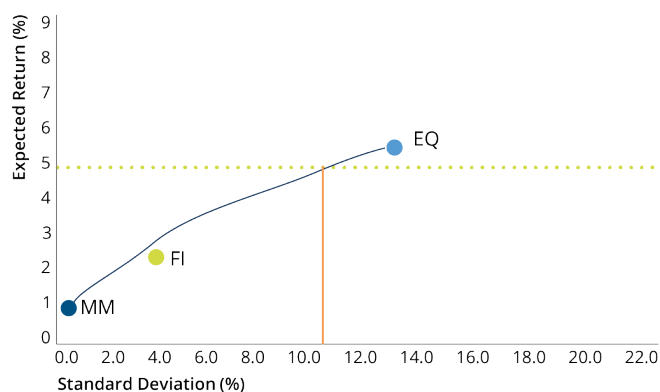
Private assets earn superior risk-adjusted returns consistent with their complexity and illiquidity.

As private assets offer valuable diversification benefits in terms of low volatility in relation to their return potential and, more significantly, low correlations, optimizers tilt very heavily towards them. Actually, we need to cap the allocations to private assets for the optimizer to allocate to public equities at all.

We offer compelling evidence that a well-diversified portfolio that includes private assets offers a forward-looking risk-return tradeoff superior to that offered by one that just comprises traditional asset classes:

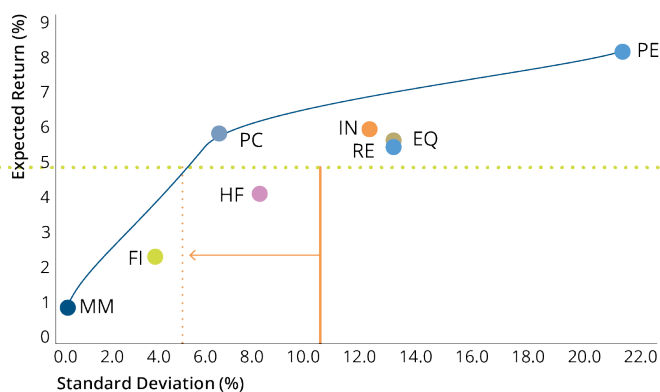
### Efficient Frontier - Three Asset Classes

Source: Eccleston Partners.



### Efficient Frontier - Eight Asset Classes

Source: Eccleston Partners.



**For a given risk budget, portfolios with private assets deliver higher returns.**

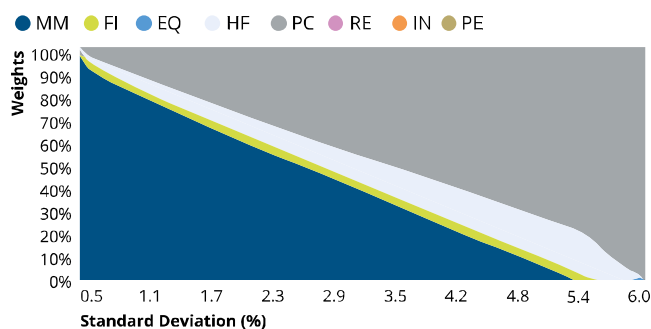
## Allocations to Private Asset Classes

Having derived efficient frontiers with and without private asset classes, we next explored how much would the optimizer allocate to each one of them on a stand-alone basis. So, if you had a traditional money market, fixed income, and equities portfolio, that allows for an allocation to hedge funds of up to 20%, how much would you allocate to each of our four private asset classes?

We derive efficient frontiers for each private asset at a time and the frontier area that represents how the allocation to each private asset evolves as risk increases. Horizontal scales in the frontier area reach the rightmost point of each efficient frontier:

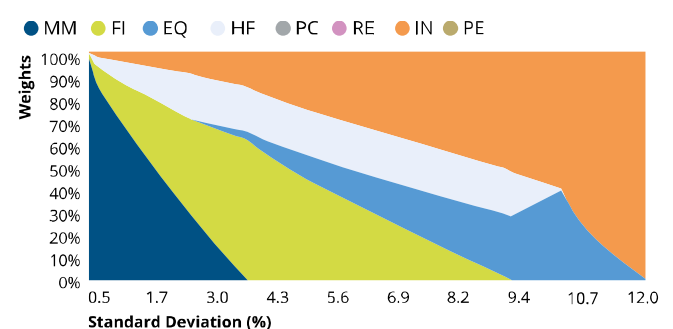
### Frontier Area - Private Credit

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



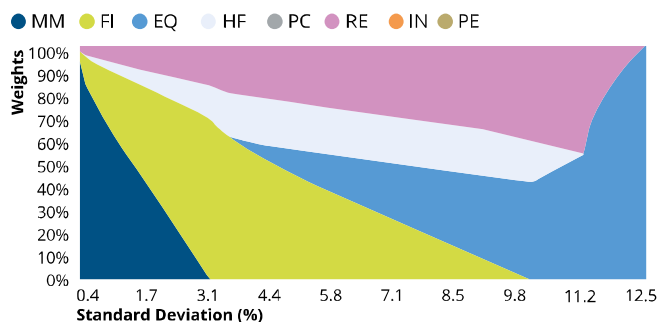
### Frontier Area - Infrastructure

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



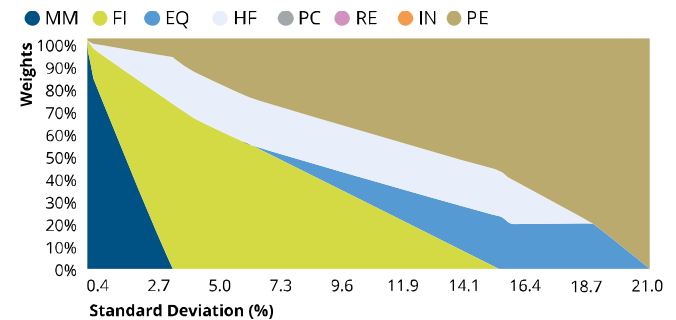
### Frontier Area - Real Estate

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



### Frontier Area - Private Equity

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



**The optimizer loves the four private asset classes.**

We easily appreciate how much the optimizer loves each of these four private assets classes. Their high Sharpe ratios and low correlations push the optimizer to allocate as much as the risk budget allows. Halfway through the efficient frontier, the optimizer allocates 30 to 40% to any one of these private asset classes.

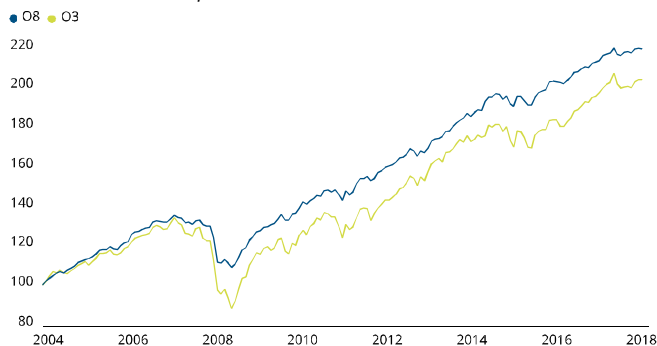
Please note too that the volatility of a portfolio fully allocated to private credit is 6% on a mark-to-market basis. Realized volatility will possibly hover around 4%. Full allocations to other private asset classes will double or even triple the volatility of the private credit allocation.

In addition to forward-looking analyses, we looked at historical data to test the behaviour of portfolios with and without private assets.

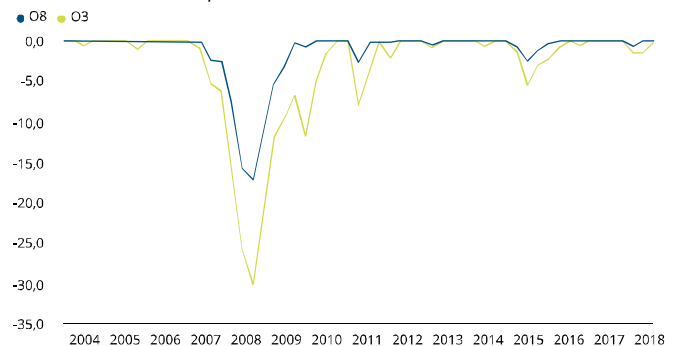
For a traditional three asset class portfolio (O3) with a current expected volatility of 5%, we find that the one that included private assets (O8) had earned a higher return even with lower drawdowns:

**Investment Growth – Expected Volatility of 5%**

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.

**Drawdowns – Expected Volatility of 5%**

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



On a forward basis, an investor would need to target an annual volatility of 7% if the investment universe were limited to traditional assets (O3) to achieve the same expected return that today a portfolio with private assets (O8) targeting an annual volatility of 5% is set to deliver.

As a result, the backtested drawdown would have increased from 17% to 30% for a traditional portfolio:

**For a given return objective, portfolios with private assets experience lower peak-to-trough drawdowns.**

**Drawdowns – Expected Return of 3.9%**

Source: Eccleston Partners. June 2019.  
October 1, 2004 to September 30, 2018.



We test our results to take into account illiquidity and mark-to-model valuations. We run analysis using both historical data and lagged-beta mark-to-market forecasts. Either way, we find that portfolios with private assets offer a superior risk-return payoff.

**The allocation to each private asset class goes beyond an optimization. Need to consider the nature of the investment problem.**

**Robust Allocations**

The allocations the optimizer generates between traditional assets and private ones seem to be quite robust; that is, the allocation is rather impervious to cyclical changes in the underlying assumptions. Unfortunately, this is not the case with the allocation to each private asset class within the overall allocation to private assets.

We find that small changes in expected returns, volatilities, and correlations have a material impact on the allocation to each of them. Investors, thus, need to take into account the characteristics of the assets and liabilities that exist outside of their investment portfolio.

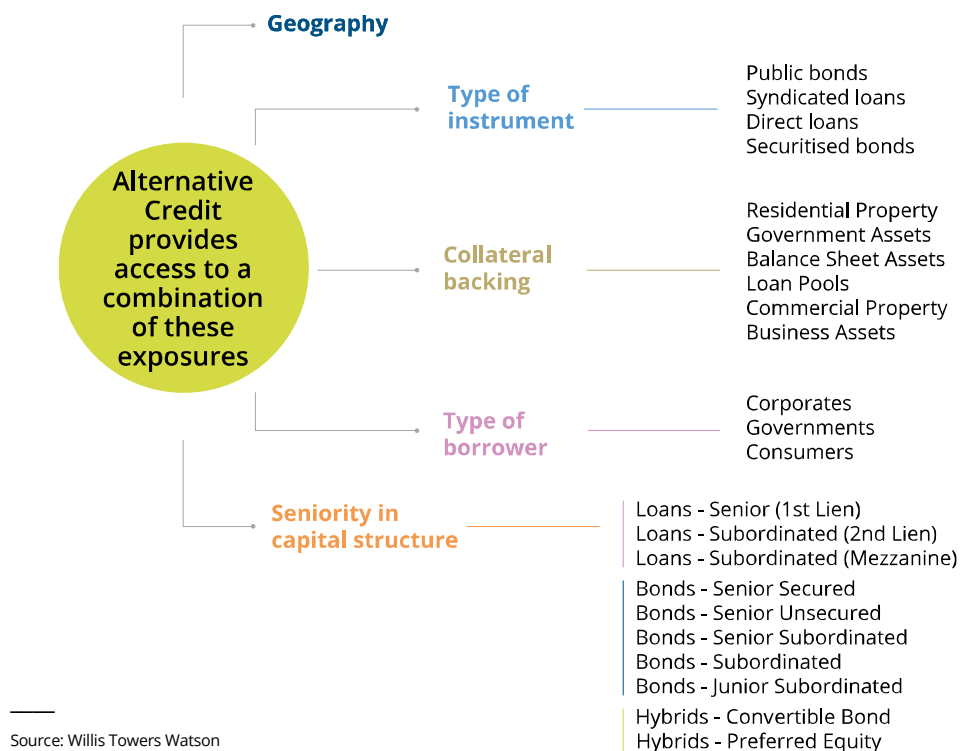
# Credit as an Asset Class

Credit delivers a significant and persistent return driven by its exposure to default risk. The credit risk premium is sufficiently different from both the term and equity risk premiums to be a diversifying source of portfolio returns.

## The Credit Universe

In credit, we find a vast, diverse, and deep universe of investment opportunities across geographies, instruments, collateral, borrowers, and seniority in the capital structure:

We find a vast, diverse, and deep universe of investment opportunities.



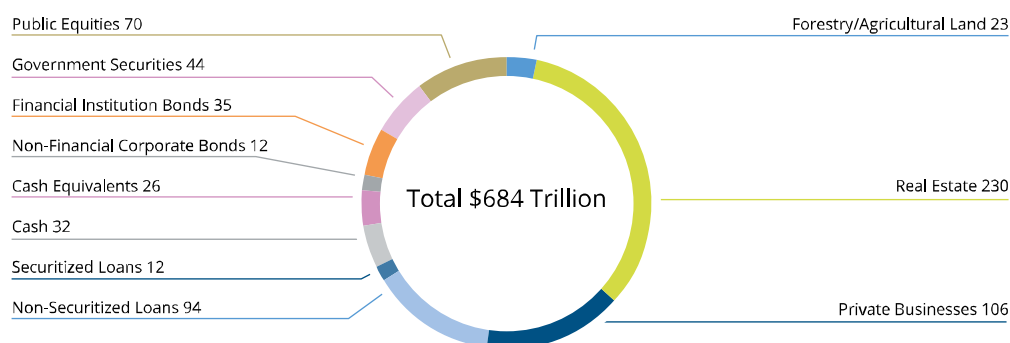
## The Global Capital Stock

G. Gadzinski arrives at an aggregated value for the global stock of financial and nonfinancial assets of \$684 trillion, including both listed and private assets. Real estate is the predominant asset class with 35% of total assets. Private businesses are the second largest asset class and represent 15%. Financial assets represent 48%. The stock of overall debt adds up to \$197 trillion -30% of the pie- divided between debt securities and loans. Excluding government securities, the credit pond has a depth in excess of \$150 trillion:

The credit investment universe adds up to \$150 trillion.

**Gross Global Capital Stock. Trillions US \$**

Source: G. Gadzinsky. 2016.



As a reference point, please note that the world GDP is about \$80 trillion. The OECD reckons that global pension and retirement assets add up to \$28 trillion. The largest five pension managers oversee total assets of \$4.3 trillion.

**Historical Rates of Return**

Direct lending has offered a most compelling risk-return profile.

We present next a table with historical annual rates of return for key asset classes and sub asset classes within fixed income. We have taken the longer period for which there is data for all these series.

We have excluded 2019. The midyear U-turn of the Federal Reserve led to exceptional returns as a result of declining long term rates and a compression in credit spreads. As we discuss later in the paper, the correction of the markets in the first quarter of 2020 is a partial payback for the excesses of 2019. We, thus, believe that using the 2005-2018 period provides a more representative view of long-term market performance than the one provided by including 2019.

**Global Asset Class Returns**

Monthly compounded rates of return hedged into Euros.  
Quarterly data for Cliffwater Direct Lending index.  
Source: Morningstar Direct. Eccleston Partners.

	14 Years – To December 31, 2018						Last 5 Years	
	Annual Return	Annual Volatility	Sharpe Ratio	Maximum Drawdown	Months to Trough	Months to Recovery	Annual Return	Annual Volatility
Money Markets	1.3%	0.5%	0.0	-0.7%	34	N/A	0.0%	0.1%
Barclays Global Aggregate Sovereign	2.9%	6.6%	0.2	-16.8%	7	11	1.2%	4.7%
Barclays Global Aggregate Corporate	2.3%	6.5%	0.1	-19.0%	6	10	0.2%	3.9%
Credit Suisse High Yield	5.3%	8.9%	0.4	-33.3%	18	10	2.2%	5.2%
Credit Suisse W. European Leveraged Loan	4.1%	7.1%	0.4	-31.8%	18	12	3.1%	1.9%
Cliffwater Direct Lending (*)	8.8%	3.5%	N/M	-7.9%	6	9	7.3%	2.0%
MSCI World	3.9%	15.0%	0.2	-55.5%	16	57	2.9%	10.8%
60% Equities/ 40% Fixed Income	3.6%	10.8%	0.2	-40.6%	16	46	2.1%	7.4%
Inflation	1.6%	-	-	-	-	-	0.8%	-

(\*) Historical data is based on mark-to-model valuations and understates the economic volatility of direct loans.

Looking at this data, let me pose a question. How is it possible that global corporate bonds have delivered rates of return lower than global sovereign bonds despite having similar levels of volatility? Have we faced an unprecedented period of negative credit risk premia? Is this regime expected to persist? Shall we avoid investment-grade corporate credit altogether? What can we expect?

### An Investable Asset Class?

As familiar as we seem to be with credit risk, both Cliffwater -a leading investment advisory firm- and AQR -a leading quantitative investment management firm- felt compelled to ask themselves just three years ago whether credit is an investable asset class. Believe it or not, this was not a settled matter. To illustrate, David F. Swensen, chief investment officer at Yale University's endowment fund, recommends in his widely read book *Pioneering Portfolio Management* that "sensible bond portfolios contain only high quality long term assets ... emphasizing characteristics uniquely suited to perform well in times of crises".

Investors are beginning to identify credit as a separate asset class with unique return and risk characteristics.

Cliffwater, in its paper *Credit as a Separate Asset Class*, reckons that "investors are just beginning to identify credit as a separate asset class ... with favorable and sustainable return and risk characteristics that are differentiated from other asset classes". AQR, in its paper *The Credit Risk Premium*, documents for the first time "the existence of a credit risk premium and its additivity to other known risk premia, e.g., the equity risk premium and the term premium". This credit risk premium is a compensation for bearing exposure to default risk.

The credit risk premium has been hidden due to the impact of the term premium on the shorter maturity profile of corporate bonds versus long-term government bonds. Corporate bond returns have thus systematically understated the credit risk premium. The credit risk premium ended up offsetting the lower term premium that corporate debt earns due to its shorter Macaulay duration (\*).

### Credit as an Asset Class

Cliffwater illustrates how credit meets the traditional definition of an asset class because its primary risk -borrower default- cannot be diversified away. This is a common risk factor to the asset class that produces a significant and persistent return above cash.

The credit risk premium has been hidden as a result of the shorter duration of corporate credit.

Historical total returns for credit assets do not seem, at first sight, particularly compelling. They offer total returns that do not significantly exceed those offered by Treasury bonds and, in addition to default risk, are exposed to liquidity risk. No credit asset has the market depth of the Treasury bond. Why then bother to undertake credit and liquidity risk?

Well, as AQR suggests, you need to adjust returns by the shorter duration of credit assets, particularly bank loans which have floating rates and do not earn term premiums.

In the table below, Cliffwater derives returns for liquid credit assets in excess of the 30-day T-Bill and the duration-adjusted required term premium. In doing so, we start appreciating that credit assets:

- Harvest risk premia returns in compensation for their default and liquidity risks,
- Offer attractive Sharpe ratios and, quite importantly,
- Excess credit returns are negatively correlated with excess term structure returns.

(\*) The Macaulay duration measures the impact that changes in interest rates have on the price of an asset. The price of, let's say, a bond with a duration of 7 would decline by 7% if long-term rates were to increase by 1%.

The duration of a bond is the weighted average term to maturity of its cash flows. The weight of each cash flow is derived by dividing the present value of that cash flow by the price of the bond. The lower the coupon, the closer the duration is to the maturity of the bond. For a zero-coupon bond, duration and maturity are identical.

**Return and Risk for Interest Rates, Equity, and Credit Asset Classes**

Source: Cliffwater 2017.

December 31, 1999 to September 30, 2017.

Description	Interest Rates	Equity	Credit		
			Investment Grade (IG) Corporates	Bank Loans (BL)	High Yield (HY) Bonds
	Time value of money	Compensation for uncertain earnings and multiples	Compensation for default risk	Compensation for default risk	Compensation for default risk
Measurement	10 yr. Treasury	Russel 3000 Index	Bloomberg Barclays Investment Grade Corporate Bond Index	S&P/LSTA Leveraged Loan Index	Bloomberg Barclays High Yield Bond Index
<b>Total Return</b>	5.2%	5.6%	6.1%	4.9%	7.4%
Minus duration adjustment	0.0%	0.0%	-3.2% (*)	0.0%	-2.6% (*)
Minus 30-day T-bills	-1.7%	-1.7%	-1.7%	-1.7%	-1.7%
<b>Excess Return</b>	<b>3.5%</b>	<b>3.8%</b>	<b>1.2%</b>	<b>3.2%</b>	<b>3.0%</b>
Excess Risk	7.3%	15.1%	5.1%	6.3%	11.1%
<b>Sharpe Ratio</b>	<b>0.5</b>	<b>0.3</b>	<b>0.2</b>	<b>0.5</b>	<b>0.3</b>
<b>Correlations:</b>					
Term Structure	1.0	-0.3	-0.4	-0.3	-0.5
Equity		1.0	0.6	0.5	0.7
Credit (IG)			1.0	0.7	0.8
Credit (BL)				1.0	0.8
Credit (HY)					1.0

All return and risk data is annualized. Risk is calculated as annualized standard deviation of excess return.

\* Historical return attributable to Bloomberg Barclays investment Grade and High Yield Bond Index durations. It is calculated by monthly adjustments of the Treasury bond excess returns to equal the same duration as the Investment Grade and High Yield Bond Index durations, respectively

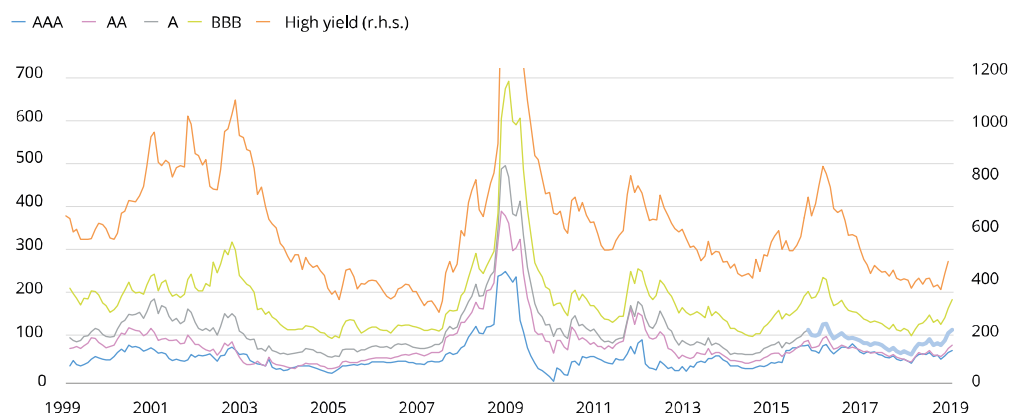
Credit risk premia offers a negative correlations with term premia.

As we can understand intuitively, default excess returns are correlated with the equity markets. Our economies have economic cycles and companies have to endure recessions. In these challenging times, the ones next in line to the shareholders are the creditors. So, the higher the business risk, the higher the compensation creditors demand, as we can appreciate looking at historical spreads according to the credit quality of the issuer and the point in the cycle:

**Corporate bond spreads dropped to almost mid 2000 levels in the post crisis period**

Source: The Bloomberg Professional TM service, Credit Suisse.

Interest differential in b.p. between various US bond rating categories and US Treasuries.



Actual spreads are not expected returns.

This graph plots the historical spreads that investors have demanded in order to take on default and illiquidity risk. Actual spreads, however, are not expected returns. In another widely read book, *Expected Returns*, A. Ilmanen notes that credit spreads do not translate directly into realized credit excess returns. AQR notes that “differences between spreads and returns are attributable to a combination of (i) spread changes,

(ii) price pressure from investors buying and selling owing to rating requirements for their portfolios, and (iii) losses from actual defaults. So, to quantify credit risk premiums, we need to look directly at credit excess returns rather than at spreads". This is precisely what AQR also undertakes to do in its paper *The Credit Risk Premium*.

### The Credit Risk Premium

At first sight, there does not seem to be a credit risk premium. Look at these summary statistics. As we can observe in Panel B, for the past 30 years neither investment grade bonds nor high yield bonds seem to have delivered any additional returns to compensate investors for higher expected credit losses and reduced liquidity.

#### Summary Statistics of U.S. Government and Corporate Total Returns. 1936 – 2014.

Source: A. Asvanunt. 2017.

	$R^{GOVT}$	$R^{CORP}$	$R^{CORP IG}$	$R^{CORP HY}$
<b>Panel A: 1936 01-1988 07</b>				
Mean	4.4%	4.7%		
Standard Deviation	8.0%	7.2%		
<b>Panel B: 1988 08-2014 12</b>				
Mean	9.2%	8.8%	7.4%	8.5%
Standard Deviation	9.9%	8.7%	5.3%	8.8%
<b>Panel C: 1936 01-2014 12</b>				
Mean	6.0%	6.0%		
Standard Deviation	8.7%	7.7%		

Notes: This table reports annualized statistics (mean and standard deviation) of total returns.  $R^{GOVT}$  and  $R^{CORP}$  are the total returns of Ibbotson's U.S. Long-Term Government Bonds and U.S. Long-Term Corporate Bonds, respectively.  $R^{CORP IG}$  and  $R^{CORP HY}$  are the total returns of the Barclays U.S. Corporate Investment Grade Index and the Barclays U.S. Corporate High Yield Index, respectively.

As you know by now, the catch is that the Macaulay duration of the credit series is significantly lower than that of the government series.

**The Sharpe ratio of duration-adjusted corporate credit excess returns hover around 0.3.**

AQR undertakes next to estimate the duration of both government and corporate bonds and then use the estimated durations to compute credit excess returns. Numbers now show that there is indeed a credit return premium in corporate bonds in excess of the term premium:

#### Excess Returns for U.S. Corporate Bonds. 1936 – 2014.

Source: Asvanunt. 2017.

	$R^{CORP}$	$R^{CORP IG}$	$R^{CORP HY}$
<b>Panel A: 1936 01-1988 07</b>			
Mean	1.8%		
Standard Deviation	3.5%		
Sharpe Ratio	0.5		
<b>Panel B: 1988 08-2014 12</b>			
Mean	1.6%	0.5%	2.5%
Standard Deviation	4.9%	3.9%	9.6%
Sharpe Ratio	0.3	0.1	0.3
<b>Panel C: 1936 01-2014 12</b>			
Mean	1.7%		
Standard Deviation	4.0%		
Sharpe Ratio	0.4		

We now find, for the past 30 years, an average annual corporate credit excess return of 160 basis points with a Sharpe ratio of 0.3. Investment grade bonds deliver excess



High yield corporate bonds deliver duration-adjusted excess returns of 250 bps.

returns of 50 bps whereas high yield corporate bonds deliver 250bps. All in, AQR finds a substantial credit risk premium that extends to the (i) U.S. high-yield corporate bond market, (ii) European investment-grade and high-yield corporate bond markets, and (iii) CDS market.

As we will evidence later on, private credit has offered returns in excess of corporate bonds as compensation for their illiquidity and complexity.

Next AQR explores the links between the equity and debt claims on a given firm using a standard option pricing framework. Both claims are related securities sharing in the free cash flow generation of the enterprise. Nevertheless, the way these two securities respond to changes in the firm's underlying asset value is not necessarily identical. AQR notes that market segmentation can cause equity and debt prices to diverge as they are anchored to the risk aversion, liquidity demand, and sentiment of different investors. As a result, AQR finds indeed a correlation but it just stands at 0.29.

In summary, AQR finds that:

- There is a risk premium to be earned from gaining exposure to credit risk and
- The credit risk premium is sufficiently different from both the term and equity risk premium to be a valid diversifying source of portfolio returns.

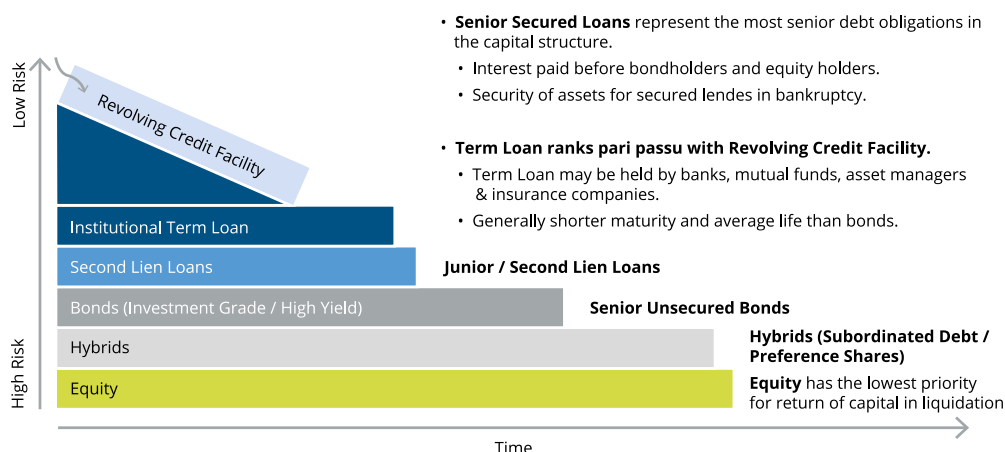
### Seniority Ranking

In the credit markets, the seniority ranking of securities is critical to assess the loss the investor may face given a default and the impact that the loss will have on the current yield being earned by the investor.

Let's us just provide a refresher on the seniority rankings, courtesy of Bentham Asset Management:

#### Risk/Return in a Typical Capital Structure

Source: Bentham Asset Management.



In credit, not all securities are created equal. Seniority matters.

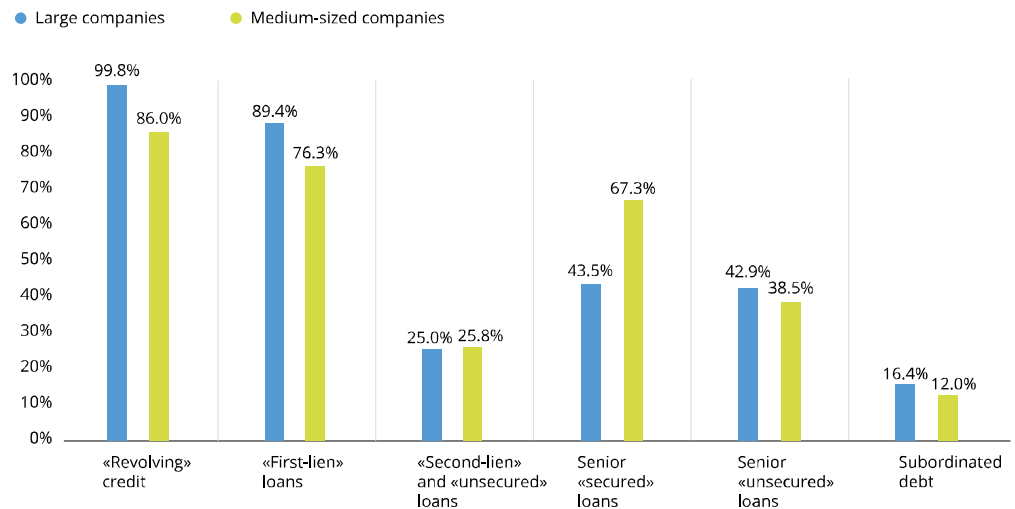
Seniority is driven by the legal status of the claims and by the pledged collateral. Junior debt is also exposed to higher multiples of leverage than senior secured debt. Seniority and leverage levels drive, in turn, recovery levels:

Seniority drives losses given default.

### Recovery Levels According to Seniority

1983-2018.

Source: S&P Credit Pro.



We can now appreciate the breadth and complexity of this asset class and the significant opportunities for adding value. Even within the same country, industry, and company, investors can face materially different risks depending upon where they stand in the capital structure. Complexity, however, is not for beginners. You need experienced and competent sailors to navigate in these waters.

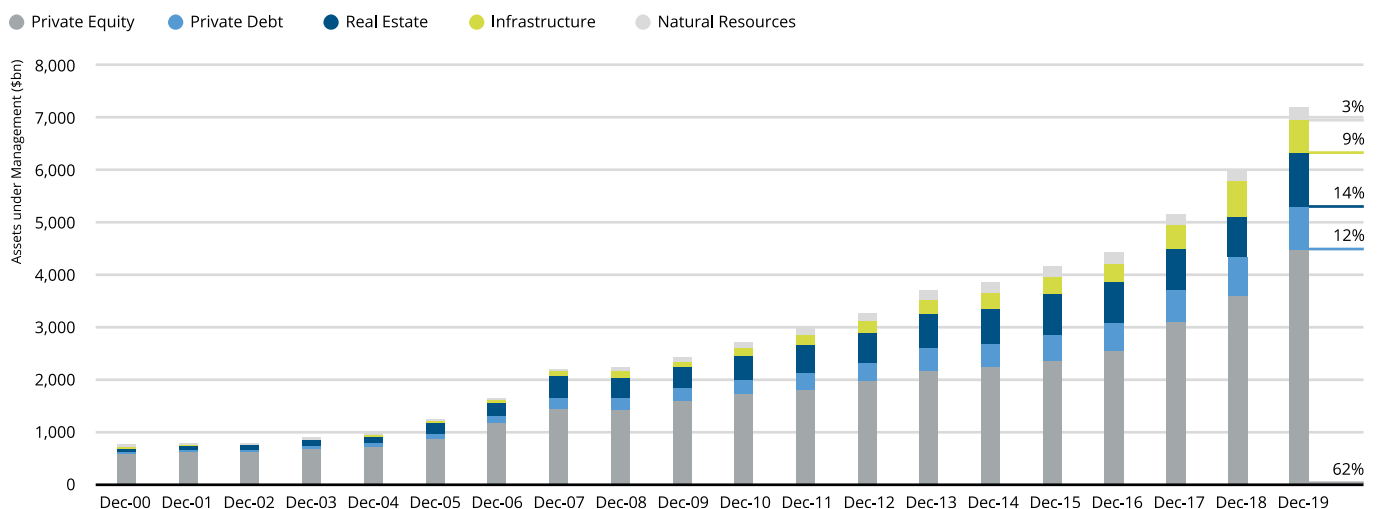
Private credit has grown strongly as investors seek portfolio diversification.

### Institutional Investment Trends

Preqin, in its 2020 Global Private Debt report, highlights that private debt assets under management continue to grow as more capital is put to work and investors seek to diversify their portfolios. Arguably the youngest asset class in the private capital universe, private debt has grown consistently since the Global Financial Crisis. Direct lending has grown alongside private equity as it provides much of its financing and now accounts for 12% of global private capital AUM, twice as much as in 2000:

### Private Capital Assets under Management by Assets Class, 2000 - 2019

Source: Preqin Pro.



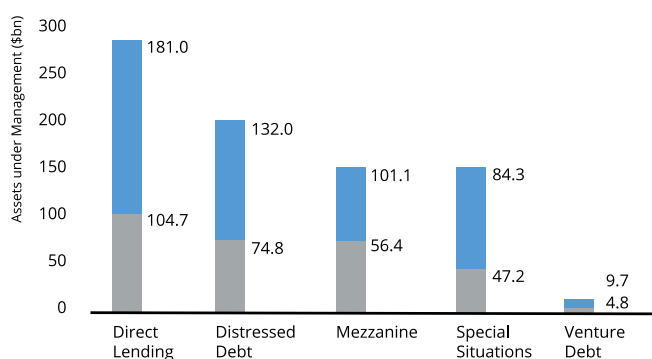
Within private debt, direct lending represents the larger asset class although investors do diversify across the private credit space as they appreciate the value added in mezzanine, distressed, and special situations:

### Private Debt: Assets under Management by Fund Type

Data as of June 2019.

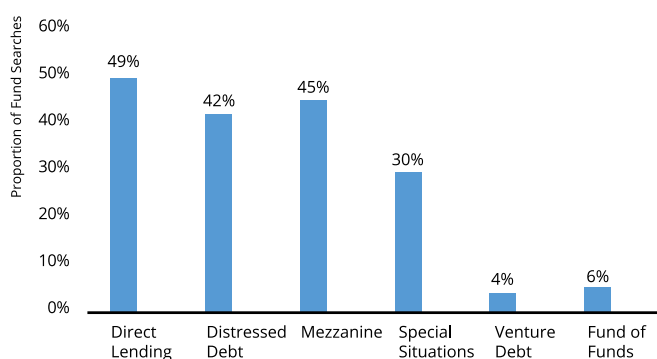
Source: Preqin Pro.

● Dry Powder (\$bn) ● Unrealized Value (\$bn)



### Fund Types Targeted by Private Debt Investors over the Next 12 Months

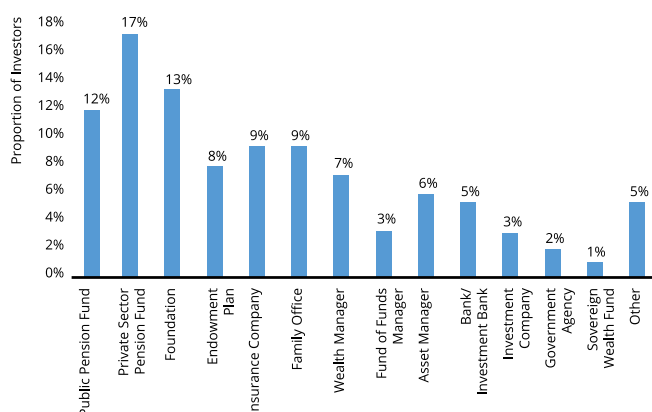
Source: Preqin Pro. Q1, 2020.



Long-term investors such as pension funds and endowments hold over 50% of the private credit assets. Insurance companies, Family Offices, and wealth managers are significant investors too. Their absolute target allocations hover around a significant 5% of total assets:

### Investors in Private Debt by Type

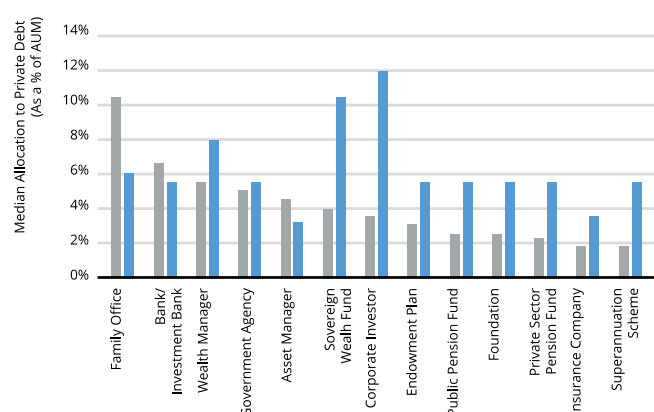
Source: Preqin Pro. 2020.



### Investors Median Current and Target Allocations to Private Debt by Investor Type

Source: Preqin Pro. Q1 2020.

● Current Allocation ● Target Allocation



## Takeaways:

- The credit universe is vast, diverse, and deep. The global credit stock stands at €150 trillion.
- The credit risk premium has been hidden as a result of the shorter duration of corporate credit.
- Credit assets offer attractive premia in compensation for their default and liquidity risks. Sharpe ratios are enticing. Excess credit returns are negatively correlated with excess term structure returns.
- Private credit has grown strongly as investors seek portfolio diversification

# What's Private Credit?

The GFC opened the door to a new world order in the intermediation of corporate credit. A broader and deeper ecosystem for the direct financing of lower mid-market companies developed. Direct lending now reaches the full corporate spectrum.

**The GFC ushered a systemic shift of private credit risk from banks to long-term institutional investors.**

## Historical Background

The financing of companies and individuals has traditionally been the exclusive domain of wholesale and retail commercial banks. The Global Financial Crisis of 2007-2008, however, ushered a new world order in the intermediation of corporate credit.

Regulatory bodies tightened rules and standards, as with the Dodd-Frank Act of 2010, to prevent the recurrence of another systemic liquidity and credit crisis. In particular, Basel III was developed to strengthen bank capital requirements, increase bank liquidity, and decrease leverage. Banks' willingness to finance leveraged buyouts, dividend recapitalizations, and major capital expenditure programs was significantly curtailed. Who would then finance these transactions?

Private capital advisors Campbell Lutyens reckons that these regulations opened the doors of this exclusive domain of banks to a deeper and broader network of institutional investors. As banks retreated from providing long-term leveraged financing, companies not large enough to issue broadly syndicated loans or high yield securities gravitated to the private debt fund market for capital. This process created a systemic shift of private corporate credit risk from banks, backed largely by short term liabilities, to private funds, backed by investors with long-term liabilities that could commit funds for long-term financing of corporate projects.

## The Relevance of Private Debt to the Vast Mid and Lower Mid-Market Universe in the U.S. and Europe

Source: Campbell Lutyens. 2019.

			Debt: Financing Options			
Number of companies		EBITDA	Low leverage bank loans	Syndicated leveraged loans	High yield bonds	Private debt
500 - 1,000	Large caps	\$/€100m+	✓	✓	✓	✓
5,000 - 10,000	Mid-market	\$/€50m - 100m	✓	✓	✓	✓
25,000 - 50,000	Lower mid-market	\$/€5m - 50m	✓	✗	✗	✓
100,000 - 300,000	SMEs	\$/€0 - 5m	✓	✗	✗	✓

**A broad and deep ecosystem developed for the financing of mid-market corporates.**

A broader and deeper ecosystem for the financing of lower mid-market companies developed. Companies with annual EBITDA of €5 to €50MM were able to tap the capital markets directly through private loans that were underwritten by institutional investors. These direct loans are now a source of financing across all company sizes.

This broader ecosystem created new opportunities for both corporate borrowers and institutional investors. As Campbell Lutyens highlights, prior to the development of the private debt markets, institutional investors other than banks were forced to rely primarily on liquid credit instruments to gain exposure to corporate risk. Although sizeable and deep, the investment grade and high yield credit markets limited investors to financing large-cap businesses at tighter spreads than what the private markets could offer.

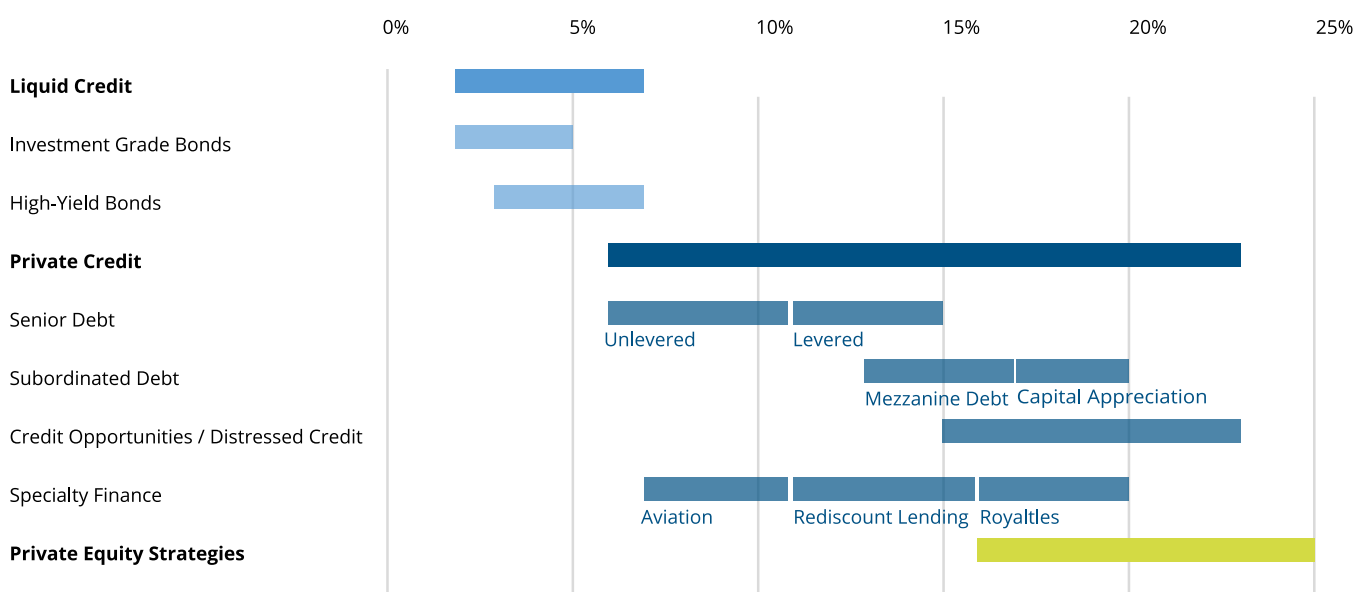
### Credit Spectrum

Cambridge Associates provides the following spectrum of investment options in both the liquid and the private corporate credit markets:

#### Return Spectrum: Private Credit vs. Liquid Credit and Private Equity Strategies

Source: Cambridge Associates LLC.

Investment-Level Underwriting Targets (Gross IRR %) in equilibrium.



Note: Returns for investment-grade and high-yield bonds represent arithmetic return assumptions in equilibrium.

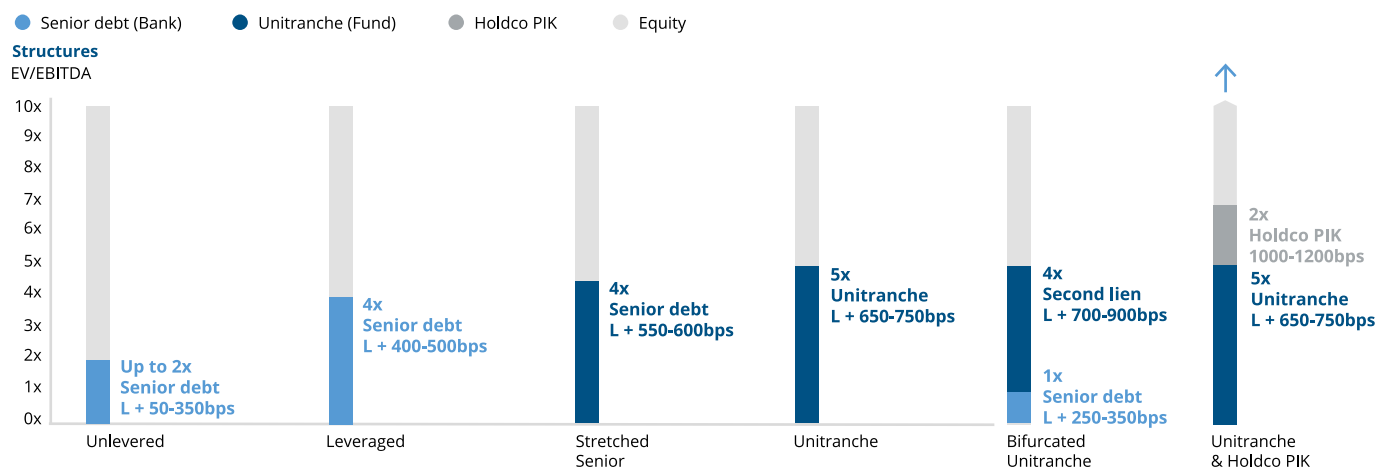
### The Leveraged Finance Market

The leveraged finance market broadly refers to the debt market for companies with credit ratings below investment-grade. This is the market typically used to finance mergers, acquisitions and recapitalizations, or refinance existing debt.

Corporations have now a wide range of options to source financing for these leveraged transactions and a broad range of options for structuring them:

## Financing Structures

Source: Deloitte Alternative Capital Solutions.



### Weighted Average Cost of Debt (WACD) - based on mid-point average range

L + 50-350 bps

L + 450 bps

L + 575 bps

L + 700 bps

L + 700 bps

L + 815 bps

### Pros and Cons per structure

- |  |   |   |   |  |  |
|--|---|---|---|--|--|
| <ul style="list-style-type: none"> <li>• Lowest pricing</li> <li>• Relationship bank</li> <li>• Low leverage</li> <li>• Shorter tenor (3-5 years)</li> </ul> | <ul style="list-style-type: none"> <li>• Increased leverage</li> <li>• Club of relationship banks</li> <li>• More restrictive terms</li> <li>• Partly amortising</li> </ul> | <ul style="list-style-type: none"> <li>• Increased leverage</li> <li>• Bullet debt</li> <li>• Lower equity contribution</li> <li>• More restrictive terms than Unitranche</li> <li>• Higher pricing than bank debt</li> <li>• Need for revolving credit facility</li> </ul> | <ul style="list-style-type: none"> <li>• Stretched leverage</li> <li>• Flexible covenants</li> <li>• One-stop shop solution</li> <li>• Speed of execution</li> <li>• Relationship lender</li> <li>• Higher pricing</li> </ul> | <ul style="list-style-type: none"> <li>• Stretched leverage</li> <li>• Flexible covenants</li> <li>• Greater role for bank</li> <li>• Reach more liquid part of the unitranche market</li> <li>• Higher pricing</li> <li>• Intercreditor split collateral</li> </ul> | <ul style="list-style-type: none"> <li>• Stretched leverage</li> <li>• Flexible covenants</li> <li>• Greater role for bank</li> <li>• Lower equity contribution</li> <li>• No Intercreditor</li> <li>• Higher pricing</li> </ul> |
|--|---|---|---|--|--|

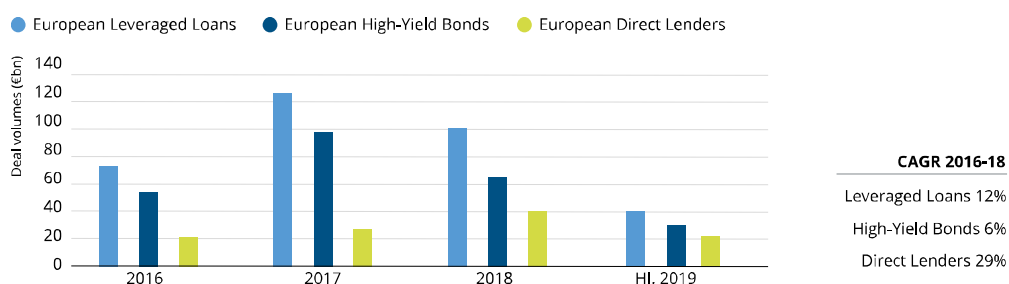
**Institutional investors have been the driving force behind direct lending.**

As we have seen, corporates have three sources of financing: broadly syndicated loans, high yield securities, and private direct loans. Deloitte reckons that the growth in the direct lending asset class has been driven primarily by the direct lender raising consistently larger funds from institutional investors. With more capital to deploy, direct lenders have been able to write larger tickets and expand into areas previously dominated by banks.

Direct lending has consistently been the fastest growing asset class for the past three years in Europe. Deal volumes have been growing at a CAGR of 29%:

### European Leveraged Finance Market

Source: LCD and Deloitte



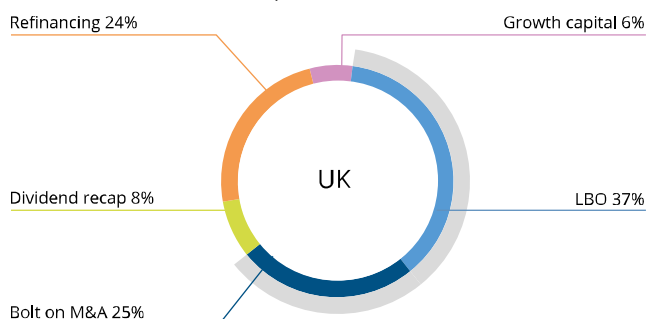
### Over two thirds of deals are used to fund a buyout.

Cliffwater's 2019 U.S. *Survey of Borrower's Views on Banks and Non-Banks (Direct Lenders)* finds that most borrowers use both bank and non-bank lenders. Non-banks lenders now represent 60 to 70% of all private equity sponsored financing. Banks are still used for larger deals where borrowers are not averse to syndication of their loans. Single or a small club of non-bank direct lenders are preferred by companies with \$50MM or less in EBITDA. Complexity, speed of execution, and follow-on financing drive borrowers to direct lenders.

The majority of the direct lending deals are M&A related. Over two thirds of the deals in Europe are used to fund a buyout. Unitranche seems to be the dominant financing structure. Subordinated second lien structures represent 17% of the transactions and are used by private equity sponsors as a means to increase leverage and still maintain control. To illustrate, let's look at data for the UK:

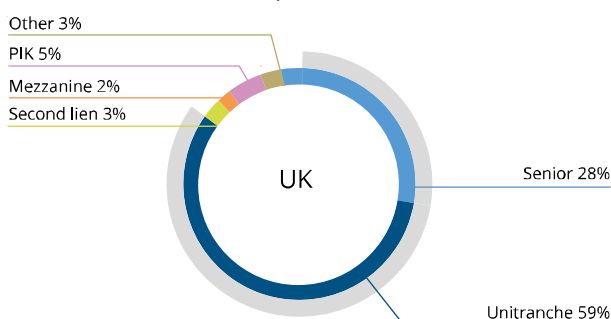
#### Deal Purpose

Source: Deloitte Alternative Capital Solutions.



#### Deal Structure

Source: Deloitte Alternative Capital Solutions.



Transactions not sponsored by a private equity fund are generally less leveraged, more stringent on terms and conditions, and carry higher spreads. Critically, the fund managers can work directly with the company to negotiate terms, impose covenants, and enhance risk adjusted returns.

### Private Credit Investment Strategies

Private credit investments represent corporate liabilities that do not trade readily in a market or do not have a publicly quoted price. Private credit investment strategies can be lumped together under either defensive capital preservation strategies and opportunistic return-maximizing strategies:

- Capital Preservation strategies include Direct Lending and Mezzanine financing. These strategies typically finance leveraged buyouts sponsored by private equity firms. Returns derive from current yields and structuring fees. Thus, there is no return upside unless the financing is structured with equity kickers. Capital protection is paramount and is supported by liens on assets and shares. Mezzanine investors have positions junior to senior direct lenders
- Opportunistic strategies include Special Situations and Distressed Debt. These strategies seek returns comparable to those offered by private equity by investing in highly complex corporate events like rescue financings, specialty lending, distressed credit, or failed syndications. Within distressed credit, there are opportunities to invest in debt issued by companies that have either breached covenants or are in insolvency proceedings.

Cambridge Associates provides the following comprehensive summary of private credit investment strategies:

Private credit offers a broad spectrum of investment strategies.

## Characteristics of Private Credit Strategies

Source: Cambridge Associates LLC.

	Capital Preservation Strategies		Return-Maximizing Strategies		Opportunistic and Niche Strategies	
	Senior Loans	Mezzanine	Capital Appreciation	Distressed Credit	Credit Opportunities	Specialty Finance
<b>Also Known As</b>	Direct Lending	Subordinated Capital	Subordinated Capital, Structured Equity	Distressed Debt, Special Situations	Special Situations	Assets-Backed Finance, Esoteric Assets, NPL strategies
<b>Strategy</b>	Capital preservation through senior or stretch senior instruments with extensive creditor rights	Origination of par, performing junior debt	Origination of par, non-dilutive, private equity substitute capital in the form of junior debt, preferred, or structured equity	Purchase of "stressed" and distressed debt	Providing more complex corporate financing arrangements	Structure or purchase of cash flow streams generated by either a physical or financial asset
<b>Return Drivers</b>	Coupon	Coupon	Equity gains, fees	Recovery in debt prices, interest payments, or restructurings	Interest income, original interest discount, and equity upside	Cash flow recovery or enhancement through active servicing
<b>Targeted Fund-Level Returns (Gross IRR)</b>	6%-10% (unlevered) 11%-15% (unlevered)	13%-17%	>15%	>15%	>15%	7%-20%
<b>Investment Period (years)</b>	2-3	4-5	4-5	2-3	2-4	2-4
<b>Term of Fund (years)</b>	5-8	8-10	8-10	6-10	5-7	5-8
<b>Competition</b>	Intense competition from other direct lenders, CLOs, and some hedge funds	Stiff competition in covering private equity sponsors	Less competition than traditional mezzanine as the unsponsored market is much larger than the sponsored	High level of competition from hedge funds and credit opps funds	Competition varies but is highest in "crowded trades" that attract disparate pools of capital like, most recently, shipping	Generally limited competition but with some "crowded trades"
<b>Funds' Ability to Influence Restructuring Process</b>	Influence correlates with control. Fewer lenders mean greater control and greater influence.	In distress, mezzanine funds must pick sides by aligning either with equity or with the senior lenders	Capital appreciation providers can assume control of a company in distress if necessary	Can be very high and is frequently part of the manager's strategy	Similar to that of distressed credit managers and capital appreciation strategies	Don't typically seek to influence

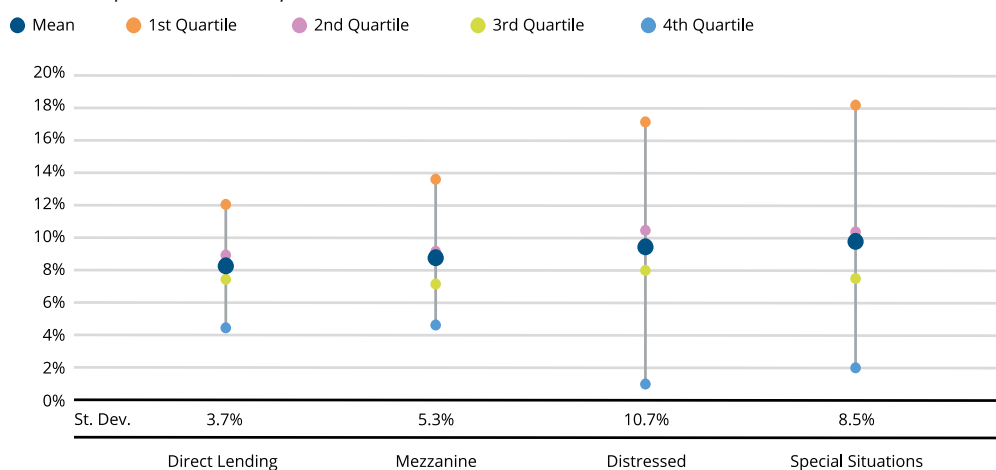
## Performance of Private Credit Investment Strategies

Preqin provides the following data for the performance of these four key investment strategies in the private credit space. Performance data is calculated as an internal rate of return and is net of fees and expenses:

Historical returns range in the 8 to 10% despite the GFC.

### Private Credit Investment Strategies 2007-2016

Source: Preqin and Altamar Capital Partners.



Standard Deviation from the mean return of all the funds in each strategy across quartiles and years. Distressed statistics exclude 2012 for lack of meaningful data



## Performance Metrics

The British Private Equity & Venture Capital Association published in 2015 a guide on *Private Equity Performance Measurement* that we may also take as a reference for this introduction to performance metrics on private credit investments.

A main challenge investors face in measuring performance of investments in private assets derives from their generally irregular cash flows. As a result, the measurement of returns is different from that of traditional asset classes. The benchmarking of private assets against traditional asset classes is, thus, not straightforward.

As we will see later on in this paper, we also need to differentiate between the performance of the fund, as it is usually measured in the industry, and the performance that an investor realizes by investing in a fund. Depending upon the intended purpose, a particular metric may be more relevant than others.

### Internal Rate of Return

The internal rate of return (IRR) is that rate which equals account drawdowns with distributions and the residual value of the fund. IRRs are widely used in the industry as they offer a means of comparing investments with irregular timing and size of cash flows. IRRs, however, are not directly comparable to the fully invested buy-and-hold returns that can be found in the public markets.

Implicit in the calculation of the IRR is the assumption that interim cash flows are reinvested at the derived IRR. Realistic reinvestment expectations typically lower materially the initial IRR. Furthermore, there is the potential for performance to be artificially improved by using leverage at the fund level and changing the timing or distributions back to investors. Early wins can disproportionately boost the IRR.

### Multiples of Invested Capital

Money multiples measure investment returns providing a cash-on-cash performance metric. Here we have to be careful in assessing the net cash flows to the fund and to the investors. The differences are material and can lead to misleading interpretations.

A multiple widely used is the Total Value to Paid-in-Capital (TVPI). TVPI measures the overall performance of a private credit fund with a ratio of the fund's cumulative distributions and residual value to the paid-in capital. Unlike the IRR, TVPI ignores the time value of money as it just adds up distributions and residual value versus contributions.

IRR and TVPI could be used as a means to compare private credit funds and the efficiency with which managers generate value. However, they are unsuitable for comparing private credit to typical public market investments, which tend to earn long-term regular returns. Returns for traditional asset classes are usually calculated as annual compounded rates of return.

Compounded annual returns can be derived from underlying market prices and are independent from the timing of the investments. An 8% annual rate of return means that €100 invested in the underlying assets grow to €147 in 5 years' time. In private markets, however, we cannot unbundle the performance of underlying fund from the timing of the cash flows. So, an IRR of 8% does not allow the investors to calculate ending accumulated wealth. It could be €147 if we earn 8% in cash that is yet to be invested or has just been received or materially lower if the underlying investments were held for a rather short period of time.

### Private Credit in a Box

When we launched this series of papers, our objective was set to help clients make better investment decisions, not publish normative investment research. As the British Private Equity & Venture Capital Association recommends, multiples should not be used to compare private asset returns with those earned in the public markets. However, we need a framework to make reasonable comparisons. With this purpose, let's just imagine an investment as if it were placed in a fully funded box.

In the single private credit fund example provided in page 51, in which we commit €100MM, we would need to place the expected €58MM maximum cumulative net cash drawdown in a segregated account. At the end of 10 years, we would have received, before taking into account some interest income earned (or paid) on cash, our initial €58MM plus another €25MM of capital gains and would be holding an investment with an estimated net asset value of €9MM. All in, our €58MM investment would have grown to about €92MM in ten years time. We can now calculate a compounded annual rate of return comparable to the one used for traditional asset classes. In this case, the return is 4.7%.

### Annual income drives returns in direct lending.

## Direct Lending

Cliffwater, a leading advisory firm in the alternative advisory space, launched in 2015 the Cliffwater Direct Lending Index, or CDLI, an asset weighted index of over 6,000 directly originated middle market loans. The CDLI is used by institutional investors to better understand the characteristics of direct lending and to benchmark manager performance.

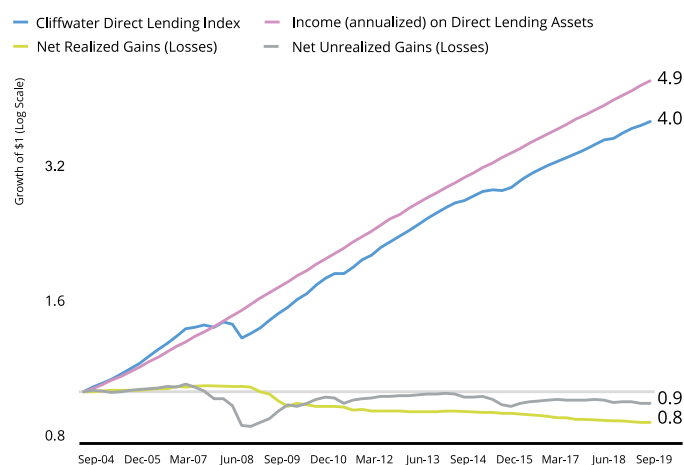
The CDLI was reconstructed back to 2004 using quarterly SEC filings required of business development companies (BDC) whose primary asset holdings are US middle market corporate loans. Around 70% of the loans in the index are senior and 20% are subordinated.

Direct lending returns have historically been driven by consistent double-digit income returns, averaging 11% over the lifetime of the CDLI. Higher yields have been associated with financial or economic distress and lower yields associated with economic growth.

The yield spreads of the CDLI indices have remained large and consistent since the 2008 GFC. The 10-year average yield-to-maturity spread between the CDLI and the Bloomberg Barclays High Yield and S&P/LSTA Leveraged Loan Indices has been 4.7% and 6.3%, respectively.

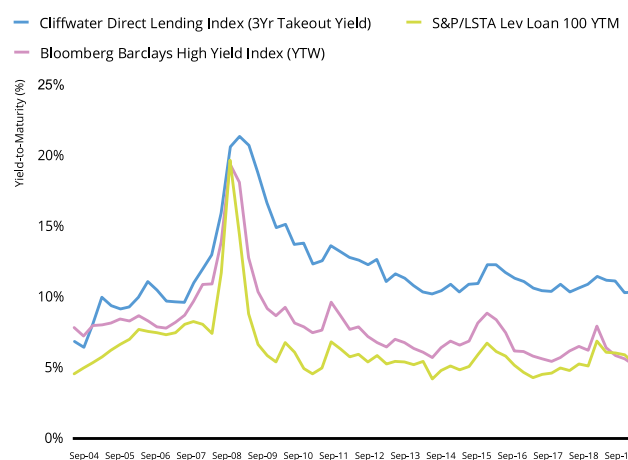
### Components of CDLI Returns

Sept 2004 to Dec 2019.  
Source: Cliffwater, 2019.



### CDLI, High Yield Bond, and Leveraged Loan Yield-to Maturity Comparisons

Sept 2004 to Dec 2019.  
Source: Cliffwater, 2019.



### Drawdowns in the GFC were limited and recovered quickly.

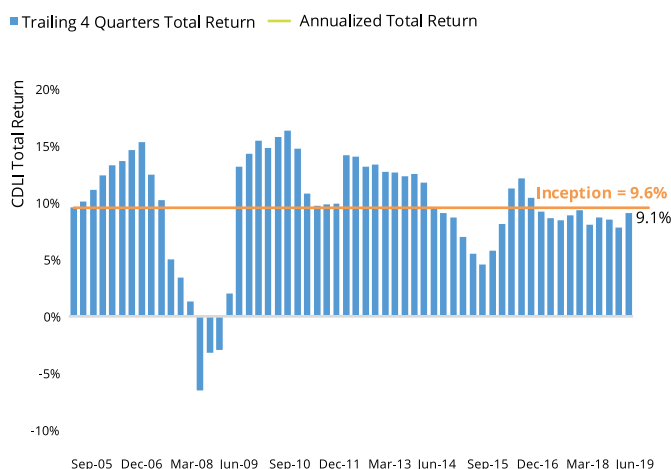
Net gains or losses in the CDLI can impact returns over shorter time periods. Realized gains or losses represent the component of valuation change that reflects completed transactions whereas unrealized gains or losses represent the component of valuation change due to a change in "fair value".

Trailing four quarter returns combining the income return, net realized gains or losses, and net unrealized gains or losses together with calendar year return comparisons reveal a limited drawdown in the GFC and a fast snap back. In 2008, the CDLI had a drawdown of just 6.5% vs. 26.1% for the High Yield index and 29% for Leveraged Loans:

**CDLI Total Return**

Trailing four quarters.

Source: Cliffwater. 2019.

**Calendar Year Return Comparison**

2005 to 2019.

Source: Cliffwater. 2019.

Calendar Year	CDLI	Bloomberg Barclays High Yield Bond Index	S&P/LSTA Leveraged Loan Index
2005	10.1%	2.7%	5.1%
2006	13.7%	11.9%	6.7%
2007	10.2%	1.9%	2.1%
2008	-6.5%	-26.1%	-29.1%
2009	13.2%	58.2%	51.6%
2010	15.8%	15.1%	10.1%
2011	9.7%	5.0%	1.5%
2012	14.0%	15.8%	9.7%
2013	12.7%	7.5%	5.3%
2014	9.6%	2.5%	1.6%
2015	5.5%	-4.5%	-0.7%
2016	11.2%	17.1%	10.1%
2017	8.6%	7.5%	4.1%
2018	8.1%	-2.1%	0.5%
2019	9.1%	14.2%	8.6%

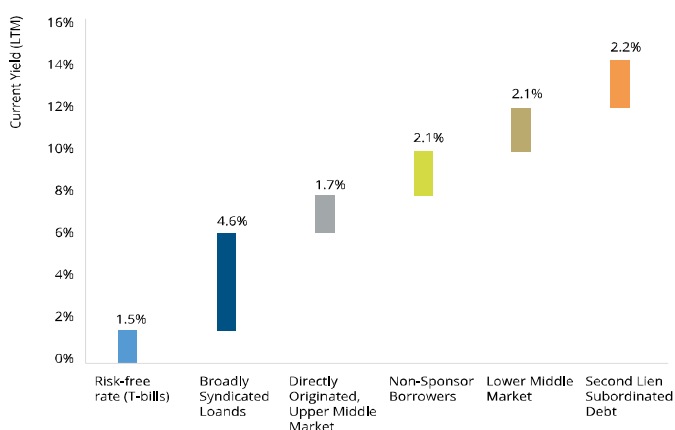
Cliffwater decomposes gross yields for the CDLI into five major risk factors, in top of the risk-free rate, through cross-sectional regressions. This analysis is valuable in understanding the risk premia that investors capture through investment in middle market direct loans:

Investors capture consistent illiquidity, governance, and credit risk premia.

- A *credit risk yield* of 4.6% found in broadly syndicated loans (BSL),
- An *illiquidity yield* premium of 1.7% for moving from liquid BSL to illiquid direct senior loans,
- A *2.1% governance yield* premium for holding debt of firms not sponsored by private equity firms,
- A *lower middle yield* premium of 2.1%, and
- A *subordinated yield* premium of 2.2% for holding subordinated rather than senior loans in the middle market.

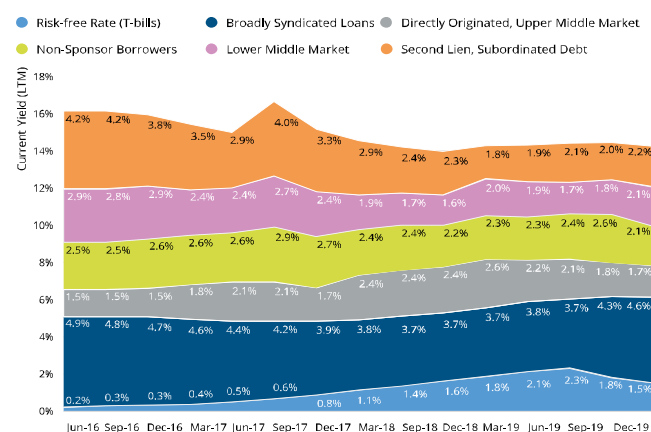
**Available Risk Premiums in Direct US Middle Market Loans**Available Risk Premiums<sup>1</sup> in Direct U.S. Middle Market Loans (as of Dec 31, 2019).

Source: Cliffwater. 2019.

**Time Varying Risk Premiums**

Corporate Direct Loan Risk Premiums, June 2016 to Dec 2019.

Source: Cliffwater. 2019.



<sup>1</sup> Excludes potential deductions for differential credit losses and fees.

Overall, we can appreciate risk premium compression throughout this period consistent with lower rates and a search for yield.

### Mezzanine

Mezzanine is an intermediate level of financing situated between the senior secured debt and the equity in an issuer's capital structure. In a typical corporate buyout transaction, the equity sponsor would finance a portion of the transaction through senior debt provided by direct lending funds or banks and would typically finance any remaining amounts with mezzanine capital.

Mezzanine debt typically takes the form of subordinated notes or second lien debt. In the event of insolvency or liquidation, mezzanine capital will only be repaid after senior loan claims have been settled.

The mezzanine investor benefits early in the life of the transaction from a high interest income and, later on in the life of the facility, through PIK interest income and potentially equity upside through warrants. This type of transaction makes up most of the volume of the sponsored mezzanine market in Europe and the US.

Niche mezzanine investors, especially in the US, may simply provide mezzanine capital to family-owned businesses and, at the same time, take minority equity stakes without a private equity transaction. This approach is known as "sponsorless" mezzanine.

Sponsorless transactions are particularly attractive to business owners who do not want to sell their businesses yet want to partially cash out and have the option to sell them later to a private equity manager. For the sponsorless mezzanine investor, this option is interesting as well. The mezzanine loan provides downside protection through double digit coupons and the equity provides the upside. This combination often allows investors to earn private equity returns. In addition, sponsorless mezzanine managers are usually able to show flexibility across the capital structure and can provide second lien, subordinated debt, preferred equity, or common stock financing.

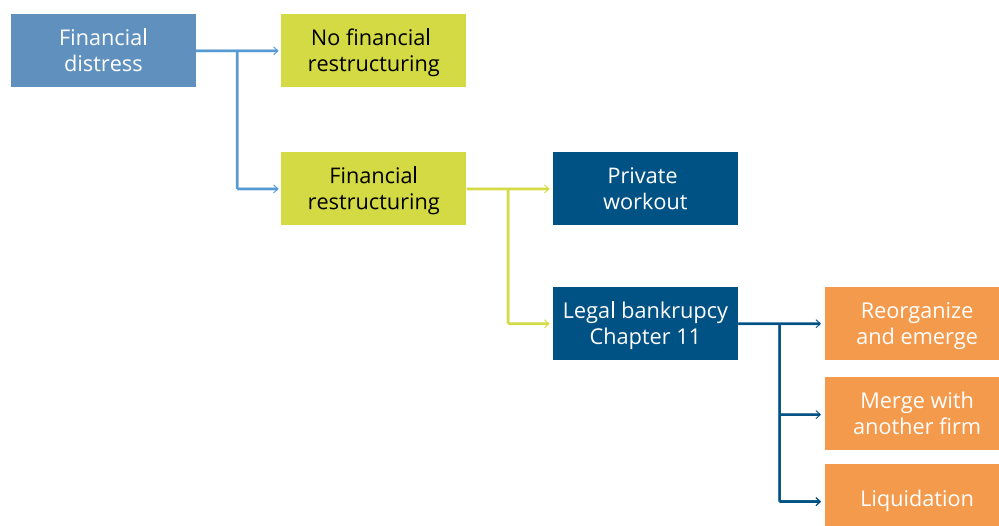
Mezzanine provides downside protection through high coupons and equity upside.

### Distressed Debt and Special Situations

Distressed debt refers to obligations of issuers experiencing operating woes or a fragile financial condition. Often, these securities face bankruptcy or liquidation proceedings.

#### What Happens in Financial Distress?

Source: UBS.



**Distressed debt investing requires a complex set of financial, legal, and operational skills.**

Industry practice regards debt as distressed when the loan or bonds trade at yields to maturity in excess of 1,000 bps above the 10-year Treasury bond. Within distressed debt, we find defaulted bonds and loans.

UBS reckons that “the basic problem of a firm in distress is that the claims on the company by creditors, equity holders, suppliers and employees are greater than the value of the firm. The other problem facing firms in distress is that they are running against time ... and usually have to decide between two courses of action: liquidate or restructure”: Loan or bond holders have two options – walk out at distressed prices with discounts that have historically averaged 40% for loans and 60% for bonds or roll up their sleeves and proactively engage with the company if they have the appropriate set of skills.

In this regard, Altman sets a high bar in *The Anatomy of Distressed Debt Markets* ... “the formula for successful distressed and defaulted debt investing has always been and will continue to be a complex set of skills involving fundamental valuations of debt and equity assets as well as technical, legal, and fixed income knowledge complemented by a patient, disciplined, and at times highly proactive approach to asset management”. All in, a tall order.

Within this sub asset class, we find the following investment styles and target returns:

#### Investment Styles and Target Returns in Distressed Debt Investing

Source: Altman.

Active Control	Active / Noncontrol	Passive
Requires one-third (market value) minimum to block and one-half (in number of debt securities) to control. May require partners.	Senior secured, senior unsecured.	Invest in undervalued securities trading at distressed levels.
Takes control of company through debt/equity swap.	Active participation, e.g., creditor committee, in restructuring process, influences process, exit via debt or equity (post-Chapter 11) markets.	Substrategies: trading/buy-hold/senior or senior secured/subdebt/busted converts/ capital structure arbitrage/long-short value.
Restructures or even purchases related businesses; rollups.	Generally does not control.	Trading oriented; sometimes gets restricted.
Equity infusion; runs company.	Holding period of 1 to 2 years.	Holding period of 6 months to 1 year generally, sometimes longer; firms of all sizes.
Exits 2 to 3 years.	Larger or mid-cap focus.	Target return: 12-15%.
Larger or mid-cap focus.	Target return: 12% to 20%.	
Target return: 15-25% per year, higher in emerging markets.		

**Distressed investors position themselves across the whole capital structure.**

Special situations funds tend to have a passive buy and hold approach as they invest in undervalued securities trading at distressed levels.

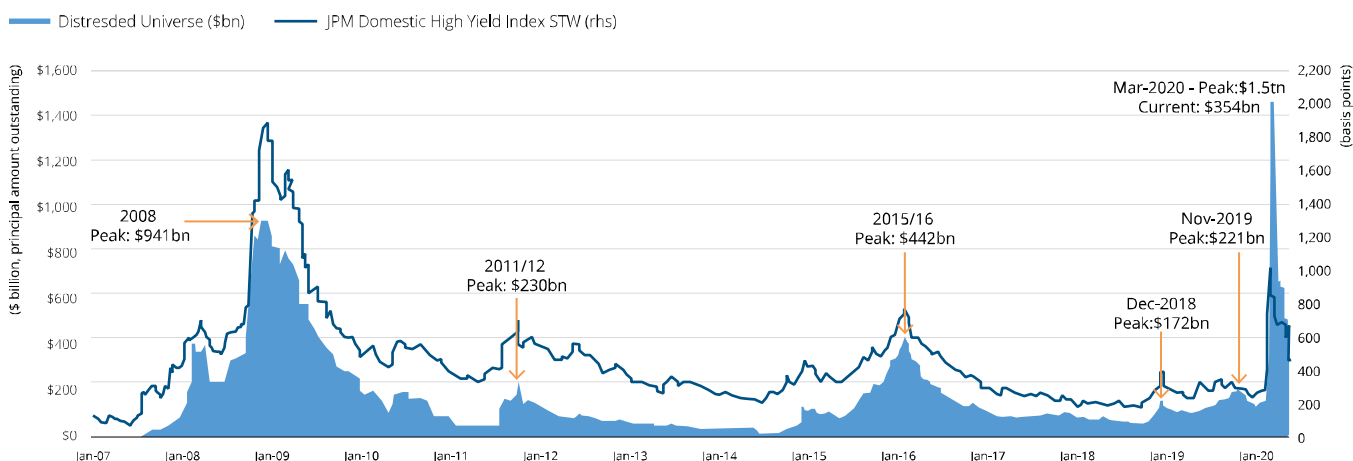
Distressed debt managers often take equity stakes in the company and, thus, position themselves across the whole capital structure of the firm using a wide variety of financial structures. These are the investors that take the highest levels of illiquidity, complexity, and uncertainty within the credit space. As we will discuss later, successful investors stand to harvest the largest compensations within the fixed income spectrum.

The distressed universe is highly correlated with the high yield market. High yields spike in economic downturns and so do the number of companies whose debt trade above the 1000 bps threshold above treasury bonds:

## Distressed Universe

*Distressed Universe represents the face value of all loans in the JP Morgan Leveraged Loan Index trading below a price of 90% and all bonds in the JP Morgan Developed Market High Yield Bond Index trading below a price of 80% (January 1, 2007 through June 5, 2020). Spreads represent the JP Morgan Domestic High Yield Index STW.*

January 1, 2007 to June 5, 2020.  
Source: Cerberus.

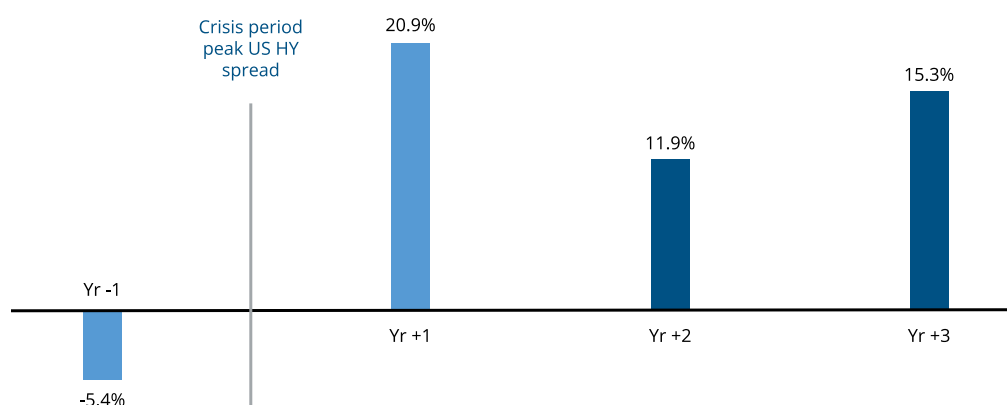


When the going gets tough, yields to maturity and levels of distressed debt go through the roof. You really do not want to get into the market shortly before the markets explode. However, you may earn handsome returns if you have done your homework and get back into the market quickly. As Strategic Value Partners (SVP) highlights, returns in the seven crisis periods since 1990 have been negative in the year before the crisis and strongly positive in the years right after:

## Returns after a crisis have been strongly positive.

### Industry Returns – Distressed Hedge Funds

HFRI Distressed Index Average Return Pre- and Post-Crisis Period.  
Source: SVP Global.



## Takeaways:

- Private credit offers a broad array of investment opportunities driven by the financing needs of corporates. Two thirds of deals finance buyouts. Regulations have kept banks at bay.
- Private credit offers high annual coupons. These coupons, together with the collateral, have offered investors high single-digit returns and limited drawdowns in adverse scenarios.
- Investing in private credit requires a complex set of financial, legal, and operational skills. Beginners are not welcome.

# Return Drivers

Credit risk typically explains 20% of the excess return premia in private debt over public debt markets. Spreads are well above the levels required to offset credit losses. The remaining 80% rewards investors for enduring levels of illiquidity, complexity, and uncertainty not found in the large quoted markets. Investors can thus harvest risk premia unique to private illiquid assets.

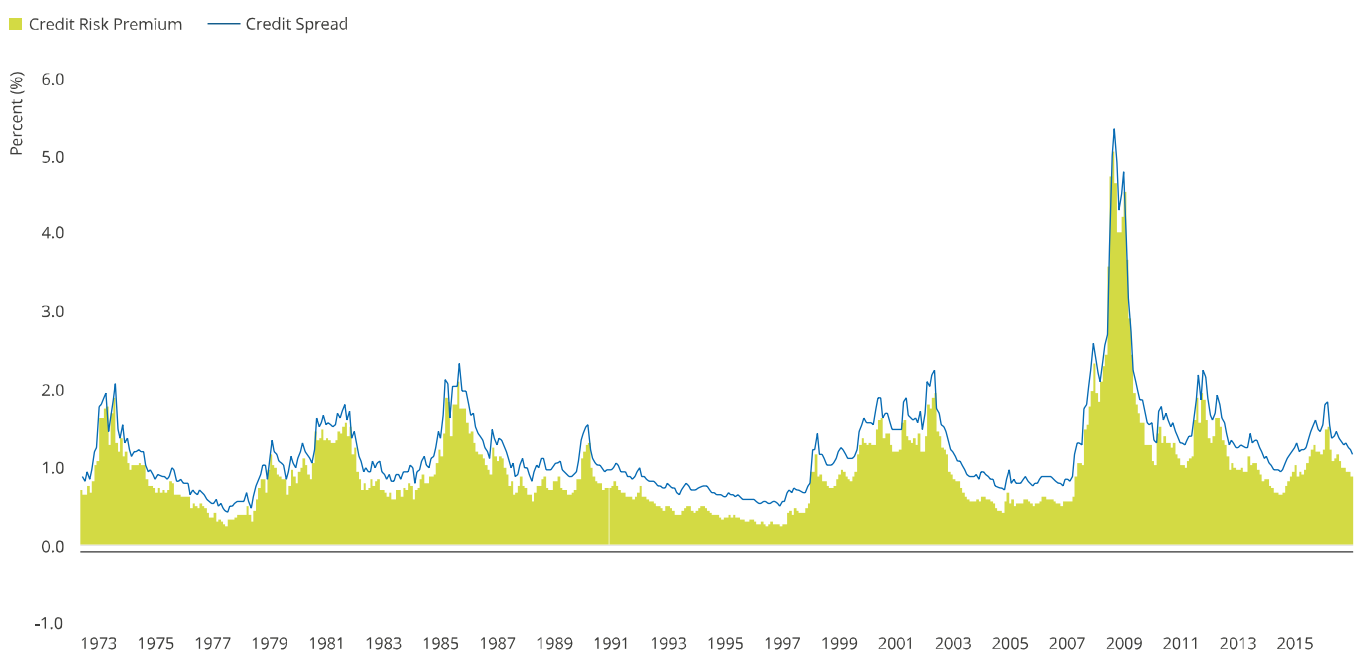
**Investment grade debt delivers returns slightly higher than those required to compensate for credit risk.**

There is a substantial body of academic literature devoted to understanding the drivers of credit spreads and whether they capture ex-post realized credit losses or ex-ante consensus expected losses. Do investors get a fair compensation for the default risks they endure? Or is it the case that, throughout a cycle, credit losses wipe out excess credit spreads?

For liquid standardized investment grade bonds, the observed credit spread is almost always slightly greater than the probabilistic default spread derived from historical data. Investors capture little other than a fair compensation for the credit risk they are exposed to:

## Decomposition of Bloomberg Barclays US Investment Grade Credit Spread, using historical rates of default 1973 - 2016

Source: Dialynas. 2017.



This is not the case, however, for private credit. Investors earn credit spreads that consistently exceed expected credit losses derived from expected defaults and recoveries. Researchers consistently find a significant return in excess of actual credit losses. Have we finally found a great free lunch?

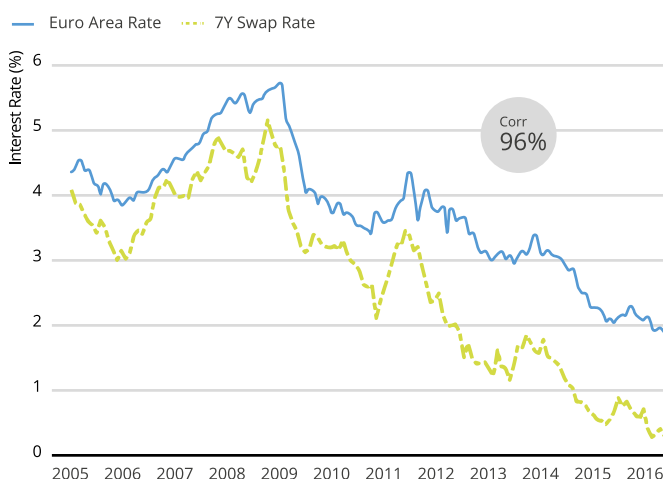


## The Components of Private Debt Performance

In the paper *The Components of Private Debt Performance*, M. Giuzio et al take a look at aggregated historical data on bank loan interest rates as a proxy for private debt performance and find a noticeable and consistent difference of about 140 bps between the spreads of these loans and interest rate swaps of comparable duration:

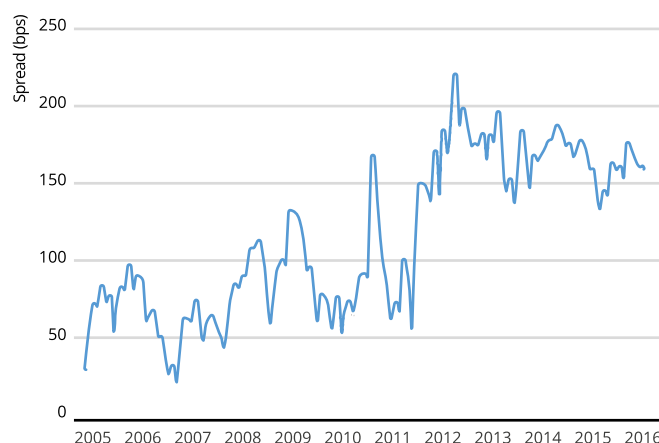
### Private Debt Rate

Interest Rates of Private Loans to Non-financial Corporations and 7-year Interest Rate Swap  
Source: Giuzio, 2018



### Loan Spread

Spread between Interest Rates of Private Loans and 7-year Interest Rate Swap  
Source: Giuzio, 2018



**Private credit has delivered spreads 140 bps in excess of swaps of similar credit quality and duration.**

Giuzio undertakes a regression analysis of the bank loan spread with:

- Spreads of other credit instruments with similar risk like corporate bonds and CDS,
- Market volatility, quantified by the Euro Stoxx 50 Volatility Index, and
- Corporate liquidity spread, calculated as the difference between the iBoxx Euro Liquid and Euro Corporate Indexes.

Credit risk can explain only 20% of the 140 bps loan spread. The overall market liquidity and volatility factors represent less than 3%. Amazing. So, what is this remaining 75% unexplained by market and systemic risk factors?

Giuzio attributes this most significant residual to an illiquidity and complexity premium inherent to private debt investments.

**About 75% of the excess returns are compensation for illiquidity, complexity, and uncertainty.**

### Illiquidity, Complexity, and Uncertainty

Private credit instruments do indeed have credit risk and experience credit losses. Investors need to be compensated for them. In addition, investors are subject to illiquidity, complexity, and uncertainty to a degree not found in the large quoted markets for investment grade, high yield, and liquid broadly syndicated loans. Naturally, investors require additional compensation.

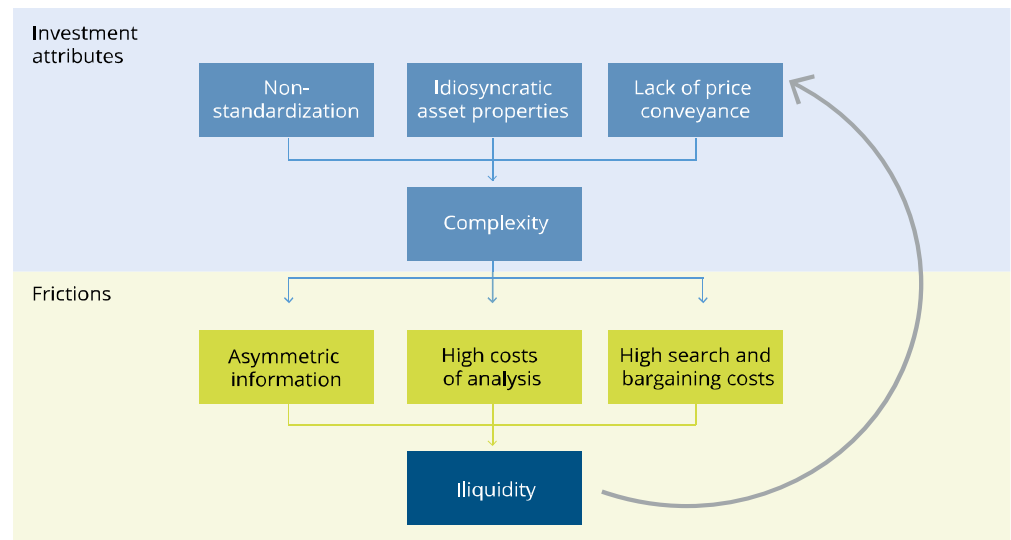
PIMCO has taken a dive into this matter and published a valuable paper *Liquidity, Complexity and Scale in Private Markets*. PIMCO develops a framework to integrate illiquidity and complexity. The additional return that investors require from patiently holding assets and foregoing alternative investment opportunities is the illiquidity premium. In addition, complexity has to be considered too, as the complexity of an investment structure can also lead to illiquidity.



PIMCO presents the following conceptual framework for connecting complexity and illiquidity:

#### Private Market Transaction Illiquidity Cycle

Source: PIMCO.2019.



**Credit markets are surprisingly heterogeneous and complex.**

On the one hand, complexity stems “from certain attributes that can be unique to the private asset market: nonstandardization, idiosyncratic characteristics of the underlying investments, and the inability to rely on past prices because of infrequent transactions or the lack of information given the private nature of past transactions”.

On the other hand, supply and demand imbalances driven by high analysis and search costs “can cause significant delays between the transactions in private markets, leading directly to illiquidity. The result is a critical feedback effect: long delays between transactions mean that prices are often stale and thus only quasi-informational. This, in turn, creates complexity for future transactions.”

In *This Time is Different but It Will End the Same Way*, D. Zwrn et al explore secular changes in the bond markets after the Global Financial Crisis and their impact on the unique traits of bonds. Bonds happen to be significantly different from stocks in their risk, behavior, and trading characteristics:

- Bonds defy characterization by classic equity factors like value, momentum, quality, and size.
- The fixed income market is surprisingly complex. At the first layer, each issuer may have multiple and heterogeneous securities outstanding, including illiquid or thinly traded ones. The second layer of complexity is deeper and multifaceted as it involves credit derivatives and the entire securitization market.
- Trading in OTC markets makes it difficult to get a sense of the true liquidity. The lack of liquidity can be amplified by the reduced diversity of the investor base. Bad news can impact liquidity dramatically through feedback effects. Ironically, when liquidity is needed the most, it vanishes. Market making becomes nearly impossible without a matched book.

**Trading in OTC markets hinders assessing true liquidity.**

Voila. We now can understand the mysterious 75% unexplained by systematic credit and volatility factors that Giuzio unveiled. Private markets offer returns materially higher than those required to compensate investors for credit losses as investors face another set of risk factors: idiosyncratic complexity and illiquidity.

The illiquidity premium comes wrapped in complexity, scarcity, and uncertainty.

## Understanding Illiquidity

The challenge investors face in measuring the illiquidity premium is that it is intertwined with other risk premia such as volatility and size and comes wrapped in complexity, scarcity, and uncertainty. Untangling each component is challenging. Hermes Investment Management has attempted to do so in a great paper, *Understanding Illiquidity*.

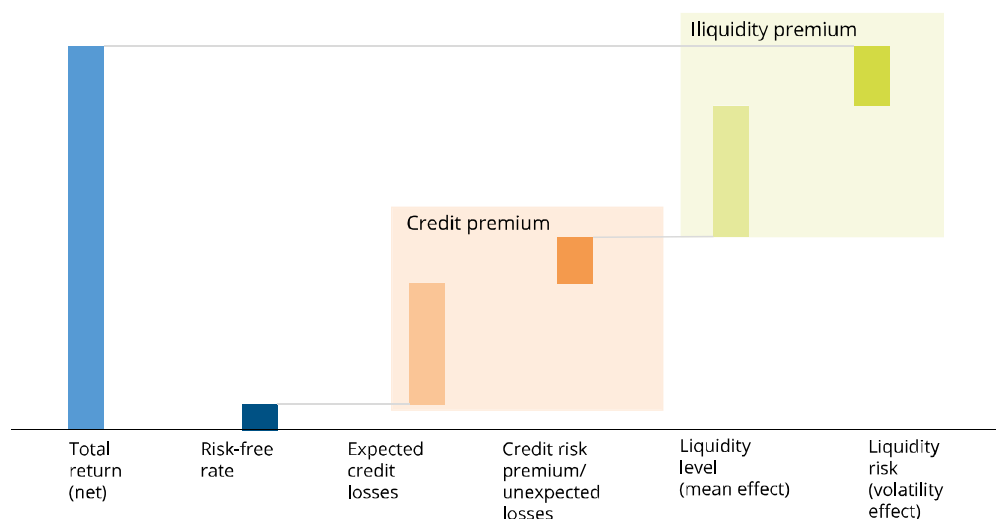
As Hermes notes, liquidity is multidimensional and subtle factors may be driving returns, such as market sentiment. In addition, the risks embedded in private illiquid assets are often underestimated for two key reasons:

- The prices of illiquid assets tend to be sticky as they are marked to model rather than to market and, thus, appear as less volatile and
- Returns have fat tails and are, thus, not normally distributed. Most of the time, not much happens. Investors cash on the high carry of the illiquid assets.

As a tool for unbundling the drivers of private credit performance, Hermes propose the following framework:

### Identifying the components of the liquidity premium

Source: Hermes, 2019.



The systemic liquidity-risk premium widens disproportionately during episodes of liquidity stress.

In this model, the credit spread includes both credit and illiquidity risk premiums:

- The credit premium can, in turn, be unbundled into a compensation for expected credit losses causing a permanent loss of capital and further risk aversion arising from the uncertainty of these losses.
- The residual unexplained spread is generally attributed to the illiquidity premium. This premium can be further broken down into a liquidity-level premium, which compensates for the expected liquidity of an asset, and a liquidity-risk premium, which compensates for the unpredictable variation in the level of liquidity.

Hermes elaborates further on these two risk premiums. "In effect, the liquidity level is a non-systemic, asset-specific component of the overall illiquidity premium. On the other hand, the liquidity-risk premium could be viewed as compensation for holding assets that may perform poorly in the event of a liquidity shock and should be regarded as a systematic factor premium. During episodes of liquidity stress, the systemic liquidity-risk premium is the component that widens disproportionately and drives up the overall illiquidity premium".

### Depth and immediacy have declined in bond markets.

Since the Global Financial Crisis, depth and immediacy have worsened in the bond markets. The investor base has become more homogeneous, making the market less diversified. The number and capital of market makers has also declined. In this regard, Hermes notes, quite insightfully from the perspective of the March 2020 market turmoil, that “an increasingly concentrated investor base typically leads to herd behavior, which amplifies risk aversion in down markets and further diminishes market liquidity. Traders like intermediaries or fund managers avoid taking positions when funding liquidity is tight. This leads to a downward spiral where falling funding liquidity results in reduced market liquidity, which causes asset prices to fall”.

As we can appreciate, the illiquidity premium is taken to be that portion of the spread not explained by either expected credit losses or the volatility of these credit losses. This analysis, however, does not address a key issue – what is the forward-looking illiquidity premium that an investor should require.

Hermes takes a stab at this question in another paper *Harnessing the Illiquidity Premium* by first mapping the estimated liquidity profiles of asset classes, including private credit:

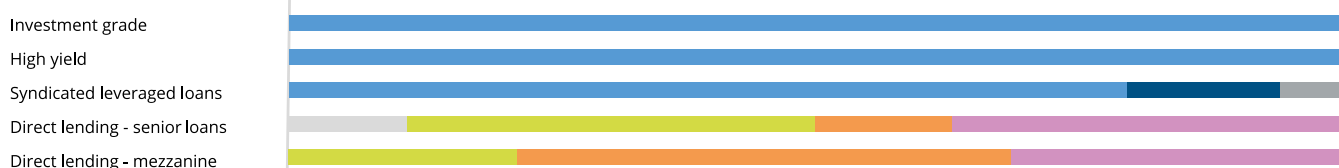
### Estimated Liquidity Profiles in Normal and Stressed Market Conditions

The share that can be liquidated with a limited price impact within the defined time horizon.

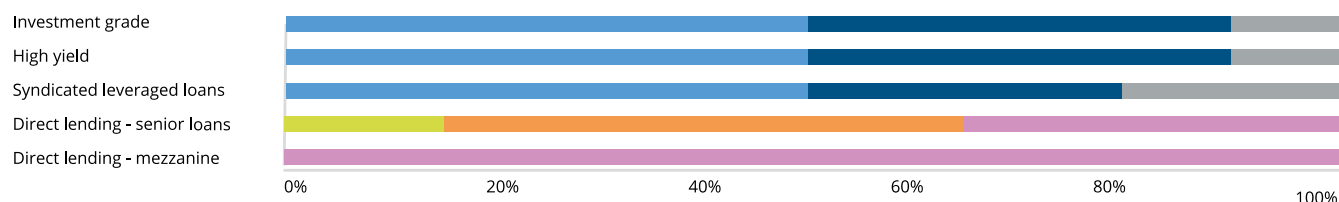
Source: Hermes. 2019.

● 1 day ● 1 week ● 1 month ● 1 quarter ● 1 year ● 2-4 years ● 5-7 years

#### Liquidity profile - normal market



#### Liquidity profile - stressed market



Next, Hermes draws on A. Ang’s work on the required illiquidity premiums according to the underlying liquidity horizons:

### Estimates of the Illiquidity Premium for Varying Liquidity

Source: Ang. 2014.

### Liquidity premiums are driven by liquidity horizons.

Expected period during which the asset cannot be traded	Required illiquidity premium, yearly, bps
10 years	600
4 years	430
2 years	200
1 year	90
1/2 year	70
Always tradeable	0

**Liquidity premiums have an economically and statistically significant explanatory power.**

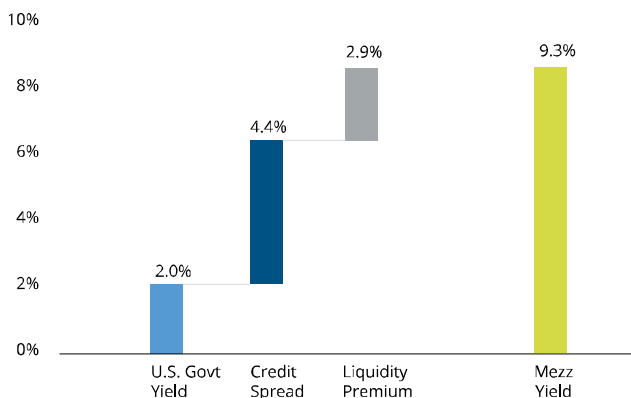
Hermes estimates that, for example, the theoretical expected illiquidity premium for senior secured direct loans stands at a weighted average 130 bps during normal markets and 160 bps during stressed ones. These estimates are consistent with Giuzio's findings. The estimated weighted average illiquidity premium for mezzanine direct loans stands at 150 bps and 300 bps, respectively.

M. Anson, in *Measuring Liquidity Premiums for Illiquid Assets*, also examines how much of the return to illiquid assets is due to a liquidity premium. Anson takes a look at Business Development Companies (BDCs). BDCs are US based funds that invest in the privately issued debt of below-investment-grade companies. Typically, this debt includes senior, subordinated, and mezzanine debt.

Anson builds a basket of BDCs and compares its return to a duration and option-adjusted series of US Treasury debt instruments whereas Giuzio compared returns against bonds of comparable credit quality. His findings:

### Backing out the Liquidity Premium

Source: Anson. 2017.



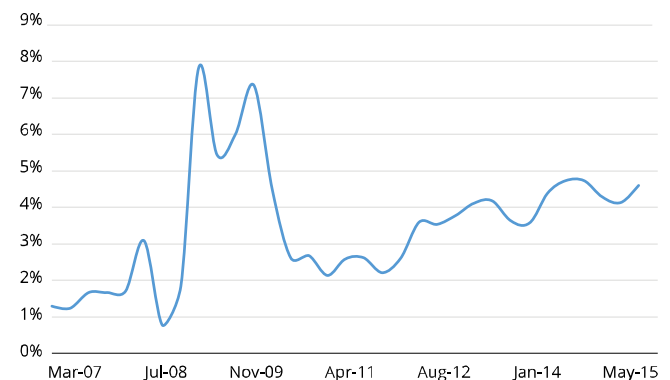
**Liquidity premiums are a factor separate from market beta, size, value, and momentum.**

Anson notes that “the liquidity premium was very low prior to the Great Recession, only in the range of 1% to 2%. This is consistent with the overwhelming supply of liquidity and credit that flooded the market prior to 2008 ... Private capital funds with vintage years 2006-2008 have done particularly poorly. There simply was too much credit and liquidity prior to the great recession ... Not surprisingly, after the Great Recession, liquidity premiums spiked up to 8% ... Once stabilized, the liquidity premium appears to be in the range of about 4% to 5%”.

In summary, Anson finds that the liquidity premium is a separate factor distinct from market beta, size, value, and momentum.

### Liquidity Premium %

Source: Anson. 2017.



## Takeaways:

- Investment grade debt delivers returns slightly higher than those required to compensate for credit risk.
- Private credit has delivered returns 140 bps in excess of liquid assets of similar credit quality. Credit risk only explains 20% of the excess return.
- About 75% of the excess return is compensation for illiquidity, complexity, and uncertainty.
- The illiquidity premium comes wrapped in complexity, scarcity, and uncertainty. The systemic liquidity-risk premium widens disproportionately during episodes of liquidity stress.
- Liquidity premiums have an economically and statistically significant explanatory power and are a factor separate from market beta, size, value, and momentum.

# Disruption and Resilience

Private credit has resilience in times of economic stress. Coping with and enduring recurring end-of-the cycle crises explains the uncertainty, complexity, and illiquidity premiums investors earn. Actually, investors get paid well for taking on board these risks.

**Senior debt funds have demonstrated resilience in the face of economic stress.**

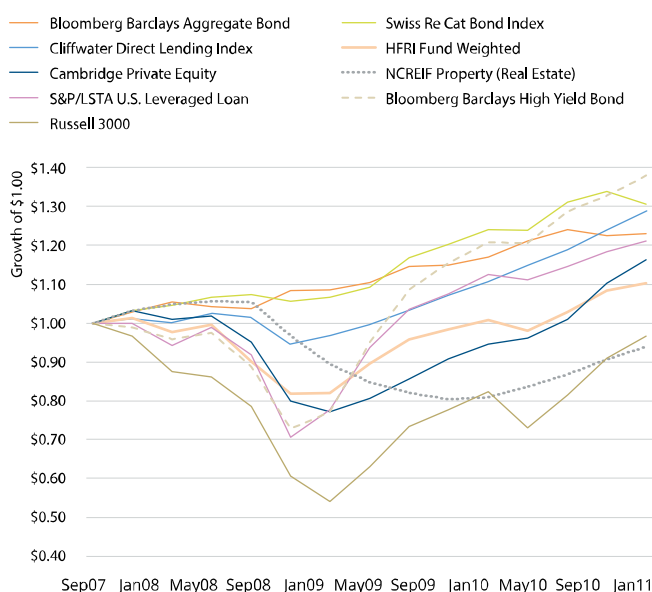
**Many of their attributes will persist.**

Cambridge Associates recently compiled a database of credit stress and losses in the direct lending market for over 2,700 first-lien loans originated between 2002 and 2017. In its paper *Stress and Losses Among Middle-Market Senior and Unitranche Loans*, Cambridge Associates finds that “senior debt funds have historically demonstrated resilience in the face of economic stress and have offered investors a low volatility, yield generating investment opportunity”. Although Cambridge Associates is concerned that the deterioration in loan terms and higher leverage in the middle market will erode its resilience, “many of its attributes will persist”.

Cliffwater has also taken a look at the historical performance of direct middle market corporate loans. In its paper *US Direct Lending: Comparative Performance Through the Financial Crisis*, Cliffwater finds similar strong relative returns in its direct lending index and resilience during the GFC:

## Asset Class Cumulative Total Returns Through the Financial Crisis

Sep 2007 to March 2011.  
Source: Cliffwater. 2019.



## Maximum Drawdown and Recovery Period

Sep 2007 to Mar 2011.  
Source: Cliffwater. 2019.

Asset Class	Maximum Drawdown	#Quarters to Full Recovery
Bloomberg Barclays U.S. Aggregate Index	na	na
Swiss Re Cat Bond Index	na	na
Cliffwater Direct Lending Index	-8%	4
HFRI Fund Weighted Index	-19%	7
NCREIF Property Index (Real Estate)	-24%	12
Cambridge Private Equity Inverse	-25%	9
Bloomberg Barclays High Yield Bond Index	-27%	8
S&P/LSTA U.S. Leveraged Loan	-30%	8
Russell 3000 Index	-46%	18

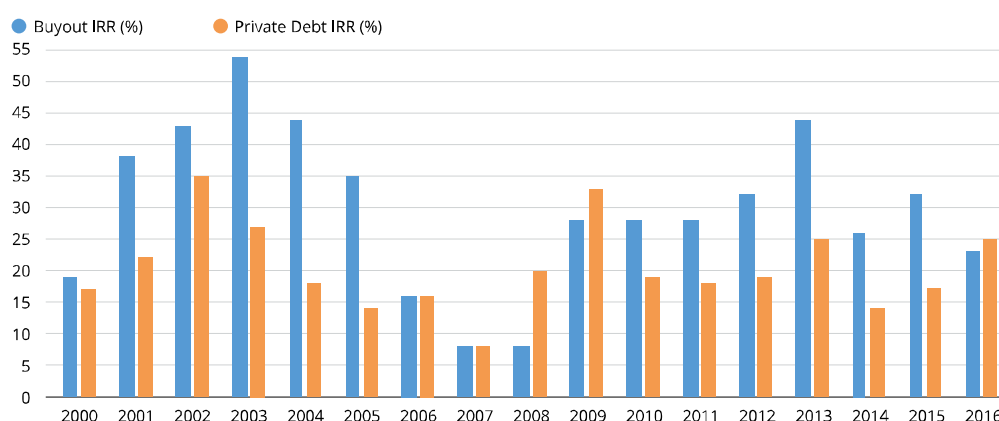
In *The Evolving Global Debt Landscape*, P. Roy looks at the new world order of banking that emerged in the wake of the GFC. The tightening of regulatory capital led to a growing imbalance of supply and demand in the credit markets, creating a funding gap for alternative non-bank lenders.

Roy finds that non-bank lending provides a compelling investment case as it delivers “strong risk-adjusted returns resulting from the combination of first-lien capital protection and an attractive yield. Indeed, private debt returns have converged with private equity returns since the global financial crisis”:

**Non-bank lending provides a compelling investment case as it delivers strong risk-adjusted returns.**

### Gross IRRs for Direct Deals by Year

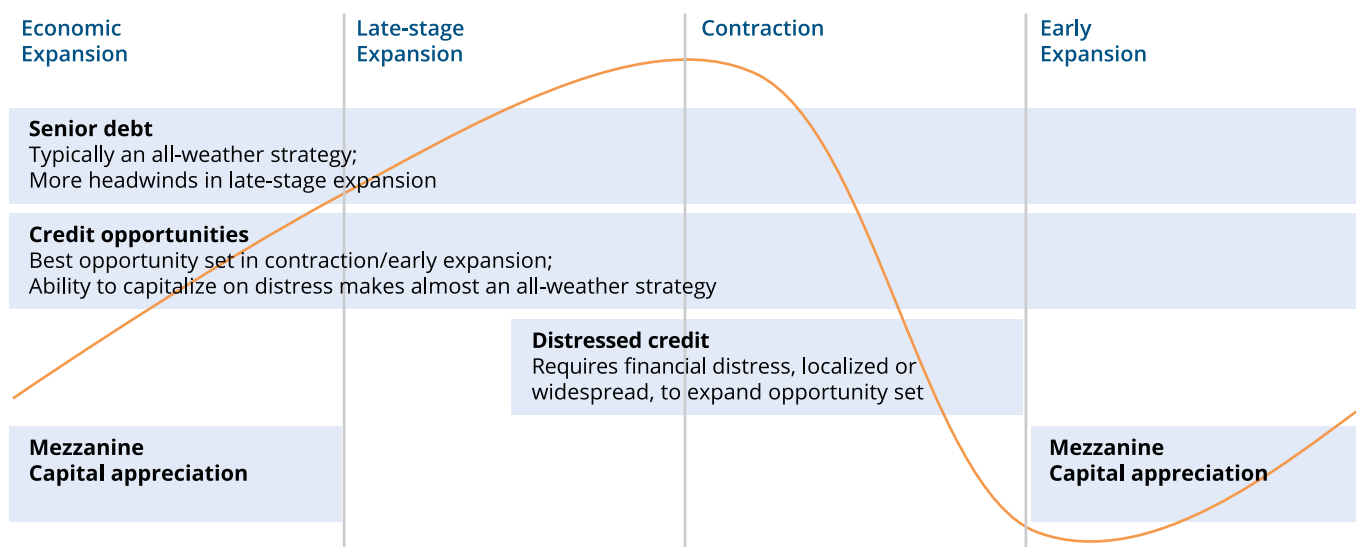
Source: Roy, 2018.



Although points of inflection in the markets provide the highest opportunities to harvest illiquidity and uncertainty premia, investors can adapt their private credit investment strategy across the economic cycle, as Cambridge Associates suggests:

### Private Credit Strategies Across the Economic Cycle

Source: Cambridge Associates, 2017.



In summary, it is clear that savvy investors are able to earn and harvest outsized returns when market complexity, illiquidity, and uncertainty are highest.

At these times, a well-thought out investment policy that considers medium term liquidity needs may allow investors to stay put or, better still, increase materially the allocation to private credit.

### Predictable Surprises

In 2007, Nassim Taleb published the much-acclaimed book *The Black Swan: The Impact of the Highly Improbable*. The thrust of the book is the role that randomness plays in our lives through the extreme impact of rare and unpredictable outlier events.

A Black Swan is a highly improbable event with three principal characteristics:

- It is unpredictable,
- It has a massive impact, and
- Ex post, explanations are developed that make the event appear less random and more predictable than it was.

The book was a great relief for those of us in the financial services industry. The Global Financial Crisis was a random event for which we could not be held accountable.

The GFC was a predictable surprise. Warning signs were ignored.

James Montier, at GMO investment advisers, differs from Taleb. Rather than genuine black swans, most financial implosions are the result of “predictable surprises”, a term developed by M. Watkins and M. Bazeman. Like a Black Swan, “predictable surprises” have three characteristics:

- At least some people are aware of the problem,
- The problem gets worse over time, and
- Eventually, the problem explodes into a crisis, much to the shock of most.

To investigate the causes of the Global Financial Crisis, the US Government created the Financial Crisis Inquiry Commission (FCIC). The FCIC reported its main nine findings in January 2011. Its first finding was that the crisis was avoidable. The crisis was the result of human action and inaction. There were warning signs. They were ignored or discounted. The FCIC found dramatic failures of corporate governance and risk management. Too many institutions acted recklessly taking on too much risk. The FCIC also found a systemic breakdown in accountability and ethics. We witnessed an erosion of standards of responsibility and ethics that exacerbated the financial crisis.

The Global Financial Crisis was not a black swan. It was a predictable surprise, just as the collapse of the housing bubble in 2007, the BP Deepwater oil spill of 2010, the nuclear meltdown at Fukushima in March 2011, and the Eurozone debt crisis of 2011. There were warning signs and they were ignored. The collapse of Lehman was simply the trigger that unveiled the fragilities and weaknesses unearthed by the FCIC.

### The COVID-19 Predictable Surprise

The COVID-19 pandemic came at the end of a long economic cycle in which the Fed put and low interest rates encouraged aggressive corporate behaviour. As in the GFC, there were too plenty of warning signs. To highlight a few:

- Deutsche Bank April 2018 *Default Study*: “Some longer-term lead indicators are starting to issue warning signs. Much can change ... but H1, 2020 looks a realistic start of the next major default cycle”. Spot on.
- Credit Suisse 2019 Davos paper *Assessing Global Debt*: “Leverage of non-financial corporates has increased significantly since 2014 and has now surpassed the pre-crisis peak. Average measures of credit quality have in the meantime decreased. In high yield, financial discipline has increased but lower quality leveraged loans have surged. An economic downturn would likely provoke a marked rise in defaults”. No complacency here either.

The pandemic came at the end of a long economic cycle. There were plenty of warning signs too.



- Hermes Investment Management, September 2019 *Private Debt Investor*: “Defaults are at an all-time low because there are no covenants upon which to default”. Institutional investors compete against one another on the loan terms. “What you will see in time is that recoveries are going to be far lower”.
- IMF, *Global Financial Stability Report*, October 2019: “Easy financial conditions have extended the credit cycle, with further financial risk taking and continued build-up of debt”. The search for yield has driven rapid growth in leverage and in private, small, and risky loans. Covenant protections in Europe have weakened as so have the credit metrics in the leveraged loan market in the US.
- S&P Ratings Performance Analytics, October 2019: “The credit deterioration and corresponding debt build-up of recent years have been made possible by an extended period of ultralow borrowing costs for corporations. However, the current favourable credit cycle is showing signs of age and may have already turned”. Past the first half of 2020, “growing risks are laying the groundwork for a greater potential uptick in the default rate, which could ... exceed 10%”. Quite an explicit warning.
- BIS March 1, 2020 *Quarterly Review*: The emerging ecosystem of credit provision to small and medium-sized firms raises concerns regarding financial stability and investor protection. “The BIS has long been concerned about unexpectedly large losses, procyclicality in loan supply, conflicts of interest in deals sponsored by private equity firms, and the opacity of effective leverage”.

#### Market participants were ignoring true dangers and risks.

Zwirn, Kyung-Soo, and Ajakh provide a detailed analysis of the challenges private credit was already facing a year ago in their paper *This Time Is Different, but it Will End the Same Way: Unrecognized Secular Changes in the Bond Market since the 2008 Crisis That May Precipitate the Next Crisis*. They are concerned about the lack of systemic restraints due to the principle of moral hazard. “After the 2008 financial crisis, the federal government bailed out the entire subprime mortgage industry and stuck the taxpayers with the bill”. The paper provides “evidence of overly levered leveraged loans and corporate bond markets providing early warning signs that we were nearing the limits of our credit markets. Market participants were behaving as if unaware of the true dangers and risk.”

Zwirn, Kyung-Soo, and Ajakh identify key secular changes that increase market fragility:

- **Lack of Liquidity.** The lack of market-making and regulatory changes will hinder price discovery in the next downturn. When an extreme crisis hits, OTC market liquidity will disappear.
- **Marked Deterioration in the Collateral.** Over a quarter of the investment grade market would have a high yield rating using Moody’s leverage buckets. Lending standards in the middle-market corporate sector have deteriorated too.
- **Rating Agencies - New Versions of the Same Games.** The Big Three rating agencies keep fighting for their 84% private sector market share. Seven agencies are challenging the big three. Players have clear incentives to please bond issuers by inflating ratings.
- **Explosion of Mismatched Fund Structures.** ETFs create a false sense of liquidity. Mutual funds with daily liquidity are holding illiquid assets. “One cannot help but wonder how the mutual fund industry plans on responding to the sudden lack of liquidity for almost \$2 trillion of corporate bond assets in distressed market conditions”.

#### COVID-19 has revealed fragilities in the capital markets rather than in the banks as in the GFC.

We all found out during the COVID-19 crisis how prescient this paper has been. The Federal Reserve also answered on April 9, 2020 the concerns as to who would provide ETFs with liquidity in a distressed market: The Fed itself!



### Investors get paid well for taking on board illiquidity and complexity risks.

FT financial editor Martin Wolf gets it right when he says “The coronavirus crisis lays bare the risks of financial leverage, again. Coronavirus has revealed fragilities in the financial system. This time it is capital markets rather than banks that have to reform”.

Lehman and Coronavirus were simply the triggers, not the cause, of the financial disruption. On the one hand, we seem to be going around in circles without learning much or having learned the wrong lesson – that the Fed will end up bailing out everyone. On the other hand, coping with and enduring these crises is why investors earn uncertainty, complexity, and illiquidity premiums.

As we have seen, investors actually get paid well for taking on board these risks. Investors cannot thus be naïve and believe that spreads above expected losses represent some form of low hanging fruit with which to finish off a picnic in the countryside.

### The COVID-19 Sell Off

The *Global Financial Stability Report* presented by the IMF in mid-April provides a comprehensive overview of the February-March sell-off. This section draws on this report.

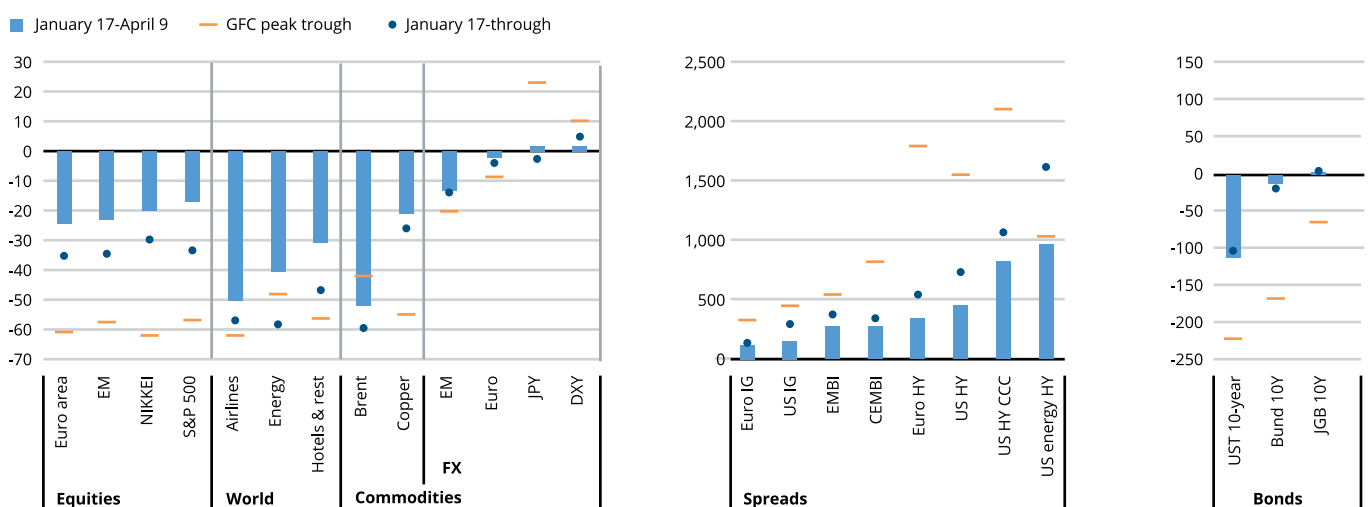
Financial markets started the year as they ended 2019 – buoyed by a widespread sense of optimism on the back of supportive monetary policies and the U-turn of the Federal Reserve, reduced trade tension between China and the US, and tentative signs of stabilization of the global economy, despite severe warnings from the IMF of increased headwinds.

### As COVID-19 spread globally, investors rushed for safety and liquidity.

However, as COVID-19 spread globally, the prices of risky assets and commodities started to fall at unprecedented speed while the price of safe-haven assets, such as gold and US Treasuries, gained as investors reassessed the economic impact of COVID-19 and rushed for safety and liquidity. Equity markets experienced the fastest drop in history with the S&P 500 falling 20% from its peak in just 16 trading sessions. Asset price declines reached about half the magnitude seen in 2008-09. Policy actions managed to stabilize investor sentiment.

### Asset Market Performance as of April 9, 2020. (Percent; basis points).

Source: IMF. *Global Financial Stability Review*. 2020.



Central banks responded with decisive monetary policy easing. Policy rates in several advanced economies came down to zero. Government bond yields in Germany and the US fell sharply reflecting declines in both term premiums and the lower expected path of monetary policy. The stock of government bonds with yields of less than 1% doubled from about 40% of bonds outstanding to about 80%.

### Corporate credit markets deteriorated sharply.

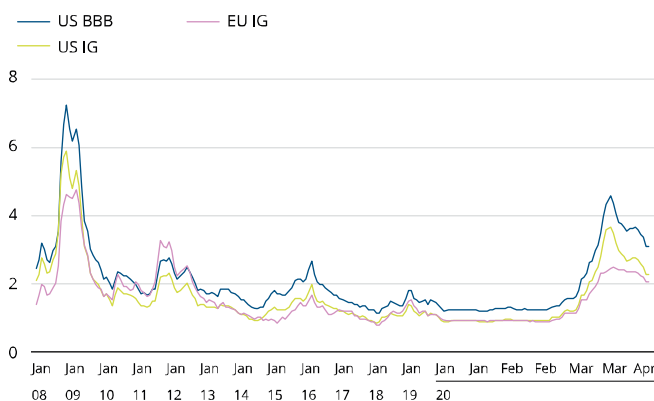
### Stress in the Credit Markets

Conditions in the corporate credit market deteriorated sharply since late February on the back of rising credit and liquidity risks. Investment grade bond spreads widened as investors started to focus on the large share of BBB credits that are at risk of downgrades and their elevated leverage.

Strains in the risky credit market segments -high yield bonds, leveraged loans, and private debt- continued thorough April. These markets expanded rapidly after the global financial crisis, reaching \$9 trillion globally, while borrowers' credit quality, underwriting standards, and investors protections weakened. High yield bonds spreads widened dramatically, particularly for energy firms, and leveraged loan prices experienced sharp declines, about half the drop seen during the GFC:

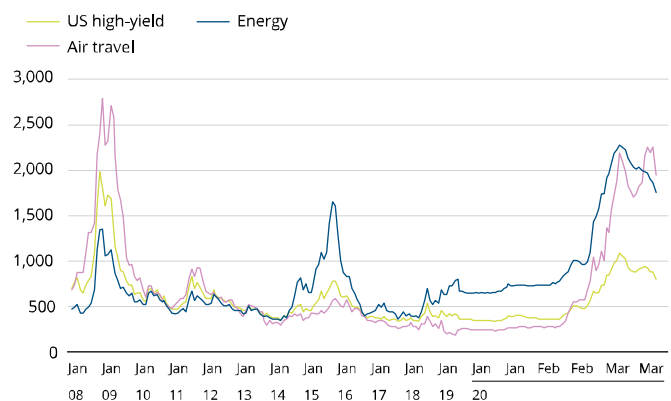
#### Global Investment Grade Corporate Spreads

Source: IMF. Global Financial Stability Review. 2020.



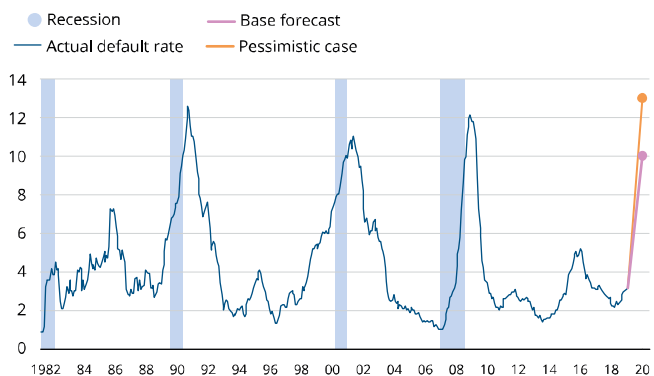
#### High-Yield Corporate Spreads

Source: IMF. Global Financial Stability Review. 2020.



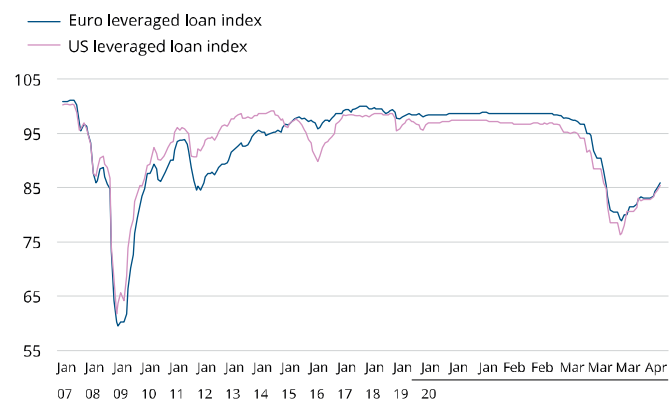
#### Speculative-Grade Default Forecasts (Percent of issuers)

Source: IMF. Global Financial Stability Review. 2020.



#### Leveraged Loan Prices

Source: IMF. Global Financial Stability Review. 2020.



Fortunately, spreads started to narrow, including in the higher risk credit market segments, following the US Federal Reserve decision, on April 18, 2020, to extend its emergency facilities to corporate debt, including collateralized loan obligations vehicles, which are one of the largest buyers of leveraged loans.

Central banks stepped in as buyers of last resort, including leveraged loans.

Investors earn premiums for providing patient capital.

## Policy Priorities

The COVID-19 pandemic required urgent measures to address health concerns, to safeguard economic and financial stability, and to prevent the emergence of adverse macro-financial feedback loops. Country authorities took temporary, targeted fiscal measures as well as measures to support firms and individuals facing payment difficulties.

Central banks significantly eased monetary policy by cutting rates by 50 to 150 basis points as well as by providing forward guidance and expanding their asset purchase programs. Central banks also provided additional liquidity to their banking systems. Finally, several central banks stepped in as “buyers of last resort” and launched facilities aimed at enhancing the liquidity and functioning of short-term funding markets, such as the commercial paper, municipal bonds, and asset-backed securities, as well as corporate debt.

## Riding the Sell-Off

We are indeed living through challenging and uncertain times, just as we have lived through them before. Over the past 50 years, we have endured the loss of the Gold Standard in 1971, the 1973-1974 Oil Embargo, Black Monday in 1987, the Dot-com bust of 2002, and the Global Financial Crisis of 2007-2008. Uncertainty is deeply rooted in the complex, diverse, recursive, interactive, adaptative, expectational social systems like the ones in which we live. Uncertainty is radical. It is inherently unknowable.

Investors earn return premiums for providing capital and staying calm through these deeply uncertain periods. As we have seen in M. Giuzio’s paper *The Components of Private Debt Performance*, 75% of the loan spreads in private debt, above comparable liquid alternatives, are risk premiums for enduring illiquidity and complexity. It stands to reason, then, that when we are sailing in calm waters, this risk premia should be low and when the going gets tough, the premia should be high.

Let’s take a look at the empirical evidence:

## High-Yield Spreads and Subsequent Forward Returns

ICE BofA US High Yield Index as of 24 March 2020.

Source: Eaton Vance. 2020.



Disciplined contrarian long-term investors could do very well when markets seize.

In the call out boxes in the graph, we can appreciate the 6 and 12-month forward returns after high yield spreads spiked in major crisis. Investors having the wisdom and the courage to take a long-term view and increase exposures when markets were seizing would have done extremely well. As spreads crossed the 800 bps threshold, average returns in the following years were impressive:

#### High-yield annualized returns (%) as spreads exceed 800 bps

Source: Eaton Vance. 2020.

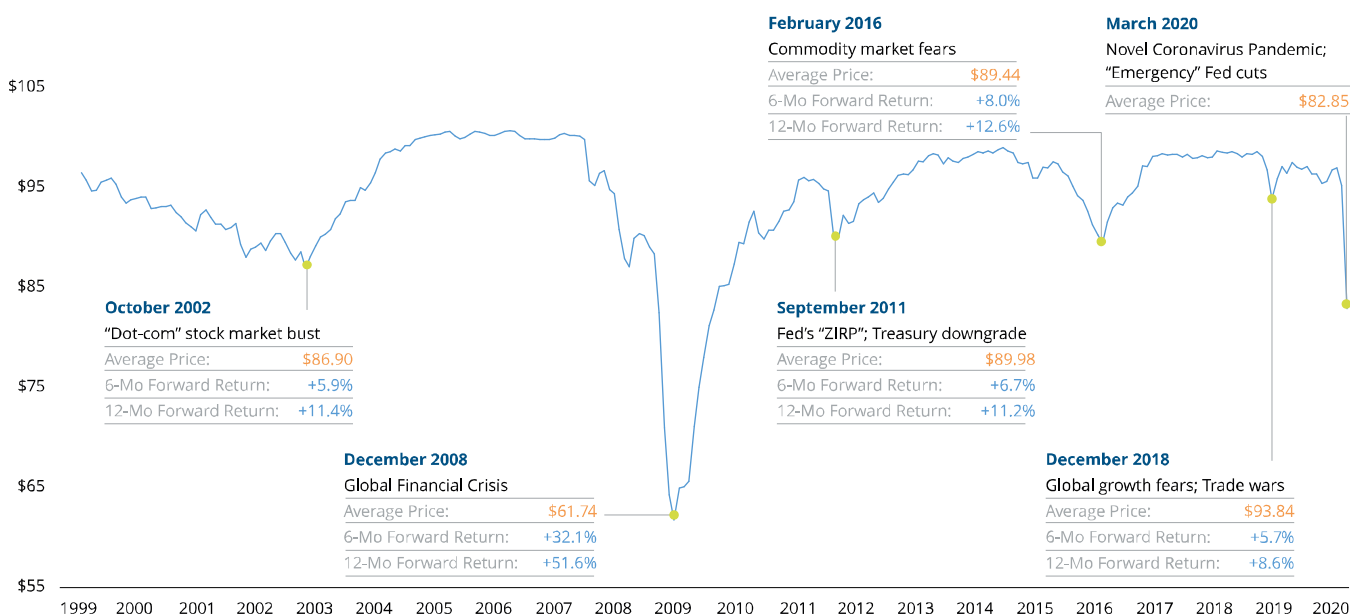
	1 year	2 years	3 years	4 years	5 years
Average	25.1%	18.6%	14.2%	13.3%	12.2%
Median	22.3%	12.8%	12.2%	12.6%	11.5%
High	57.5%	34.7%	23.7%	21.6%	18.6%
Low	-6.1%	11.0%	9.2%	6.3%	7.1%

The senior leveraged loan market has also had strong returns after major selloffs. Note both the sharp decline during 2008 and the fast snap back. Informed courageous investors aware of the underlying dynamics of senior leveraged loans could have earned strong returns for taking onboard illiquidity and uncertainty and bailing out uniformed investors chasing performance and following the crowd:

#### In Past Sell-Offs, Loans Have Snapped Back Sharply

LCD, an offering of S&P Global Market Intelligence, 19 March 2020.

Source: Eaton Vance. 2020.



Those in the mad dash for liquidity crystallize temporary market volatility into permanent losses.

GMO makes these very same points in a recent white paper *Shelter in Credit*. GMO appreciates that "the rapid seizing up of global markets has brought into play a new Minsky moment ... What seemed like an easy ride just months ago has become a bucking bronco... in a time of extreme uncertainty. Investors, who spent the past few decades loading up on illiquid assets, like private credit and private equity, are now in a mad dash for liquidity all at once". As we can see in the graphs above, those in the mad dash for liquidity will crystallize temporary market volatility into permanent losses and forego attractive returns.

Central banks have socialized substantial portions of the financial markets.

This may be a decent environment for talking credit risk.

### Government Intervention

Deutsche Bank published its 22<sup>nd</sup> annual default study in the heat of a potentially “once-in-a-century” event as the global economy is effectively in hibernation. “Without intervention, we would probably now be facing a default environment only previously rivalled by the Great Depression”. Thanks to extraordinary support from fiscal and monetary authorities, “2020/21 will likely be a supersized version of the last 17 years where the authorities have indirectly and directly artificially suppressed defaults relative to the strength of underlying economies”.

In the study, Deutsche Bank argues convincingly that “the size of the current bailouts are so large due to a lack of creative destruction over prior several cycles and an ultra-low interest rate environment that has kept negative/low profit companies alive for longer than they would have done in the past”. Deutsche Bank can hardly envision how this vicious circle can be broken without inflation or much higher defaults. In this context “this is a decent environment for those exposed to default risk”.

PIMCO supports this point of view. In its paper *When a Fact May Not Be a Fact and So What*, PIMCO makes the point that “globally, central banks have socialized substantial portions of the financial markets”. PIMCO does not expect a complete withdrawal of policy support “because the fragility is so great and because of the mediocre growth rates experienced since 2007”.

### Takeaways:

- Coronavirus has revealed fragilities in the capital markets rather than in the banks as in the GFC. Central banks have stepped in as buyers of last resort, including leveraged loans.
- Investors get paid well for taking on board these risks. Savvy investors are able to earn and harvest outsized returns when market complexity, illiquidity, and uncertainty are highest.
- A well thought-out investment policy is essential in private credit for investors to stay put when markets seize.

# Portfolio Construction

Private credit offers significant portfolio benefits as a result of its relatively high expected Sharpe ratio and low mark-to-market volatility. Optimizers make material allocations to private credit as a means to enhance both fixed income portfolios and traditional 60/40 portfolios.

**Mean-variance optimizers love private credit even when using mark-to-market volatility estimates.**

We have already looked carefully at the role that private assets have in investment portfolios. In June 2019, we published an update to our white paper *Targeting Private Assets*. We have included a summary of the paper in pages 8 – 11 of this paper.

Mean-variance optimizers love private assets as a result of their high Sharpe ratios and low correlations even when using adjusted mark-to-market volatility estimates rather than actual mark-to-model realized volatility. As you can appreciate in the frontier areas presented in page 10, the allocation to money markets and fixed income declines rapidly and is replaced by allocations to any of the four private asset classes analyzed as the risk budget of the portfolio increases. The optimizer makes insignificant allocations to public equities if left unconstrained.

Having taken a look at broad traditional and private asset classes, we now take a closer look at the role that specific fixed income assets, rather than just a single global aggregate, have in portfolio construction. We now consider the fixed income series described in the Global Asset Class Returns statistical summary in page 13.

## Capital Markets Assumptions

We use Cliffwater's Q1, 2020 Long Term Capital Market Assumptions as they offer both granularity and consistency:

### Long Term Capital Market Assumptions

Source: Cliffwater. 2020.

	Expected return	Annualized volatility	MM	FIGS	FIGC	CDL	HY	WELLI	60/40
MM	2.1%	2.0%	1.0						
FIGS	1.9%	8.0%	0.0	1.0					
FIGC	2.9%	6.0%	0.1	0.7	1.0				
CDL	7.0%	6.0%	-0.2	-0.2	0.5	1.0			
HY	4.6%	11.0%	-0.2	-0.2	0.5	0.8	1.0		
WELLI	4.8%	7.0%	0.2	-0.2	0.3	0.8	0.8	1.0	
60/40	5.1%	11.2%	0.0	0.3	0.5	0.6	0.5	0.3	1.0

MM-Money Markets, FIGS- Fixed Income Global Sovereign Investment Grade, FIGC – Fixed Income Global Corporate – Investment Grade, CDL – Cliffwater Direct Lending, HY – Credit Suisse Global High Yield, WELLI – Credit Suisse Western European Leveraged Loans, and 60/40 – 60% Equities / 40% Fixed Income.

As compared to the historical track record presented in page 13, we see here expected returns 0.7% higher for Broadly Syndicated Loans, 0.7% lower for High Yield, and 1.8% lower for Direct Loans. Volatility estimates have been marked up by 2% for Broadly Syndicated Loans and by 2.5% for Direct Loans to adjust for marked-to-model historical data. Despite these adjustments, Direct Loans offer the most attractive Sharpe Ratio.

With this data, we explore two sets of questions:

- How would the optimizer diversify out of a 60/40 portfolio using non-investment grade fixed income assets?
- How would the optimizer diversify out of an investment grade fixed income portfolio using also non-investment grade fixed income assets?

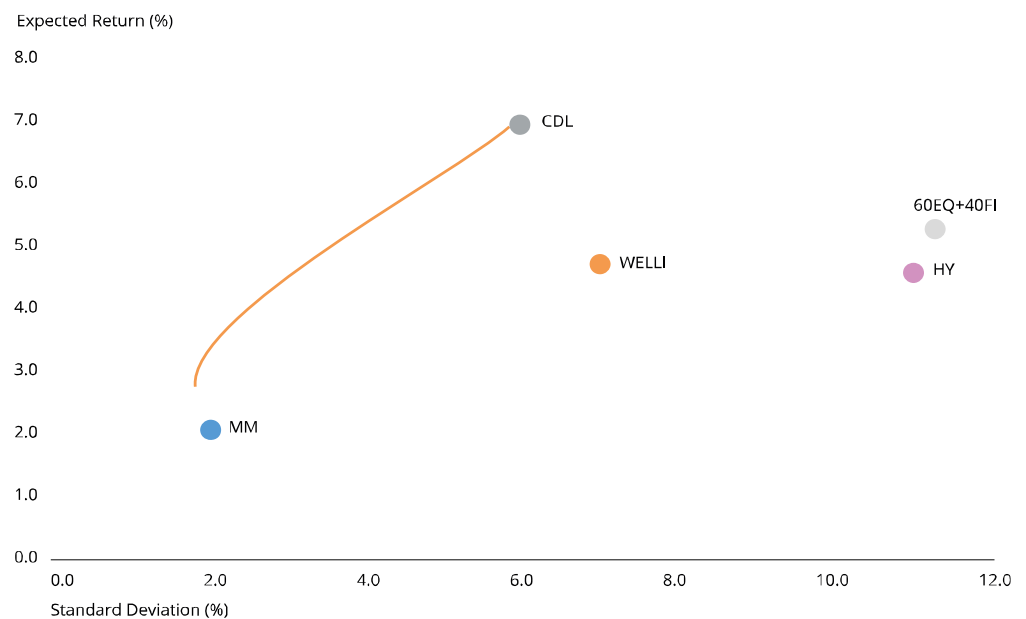
We now explore diversification out of 60/40 and fixed income portfolios.

### 60/40 Diversification

Let's first plot the 60/40 portfolio and the four credit assets and let's look then at four portfolios:

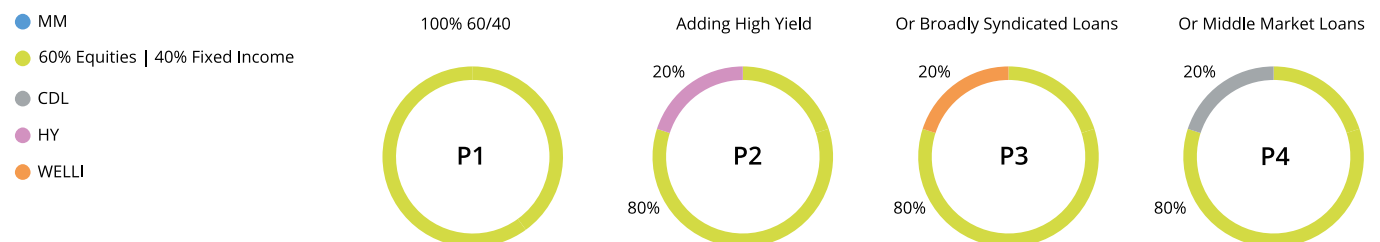
#### Efficient Frontier

Source: Eccleston Partners with Cliffwater forecasts.



#### Impact of Diversifying a 60/40 Investment Grade Portfolio

Source: Eccleston Partners.

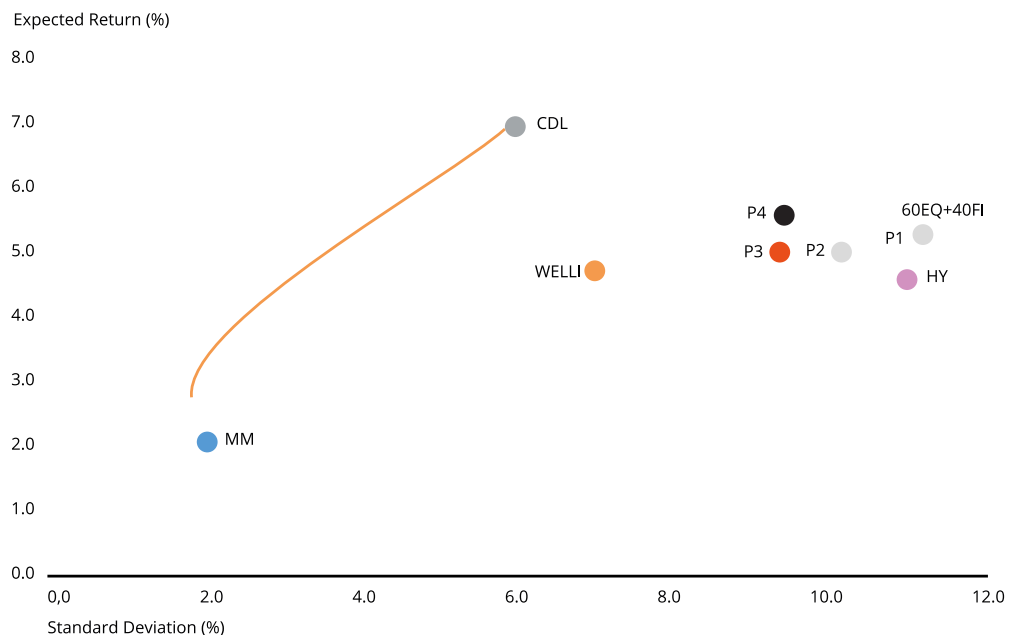


Return Forecast	5.1%	5.0%	5.0%	5.5%
Annualized Volatility	11.2%	10.2%	9.5%	9.6%
Risk-Return Ratio	0.5	0.5	0.5	0.6

Allocations to direct loans deliver a higher expected return and a lower expected volatility than a 60/40 portfolio.

### Efficient Frontier

Source: Eccleston Partners with Cliffwater forecasts.



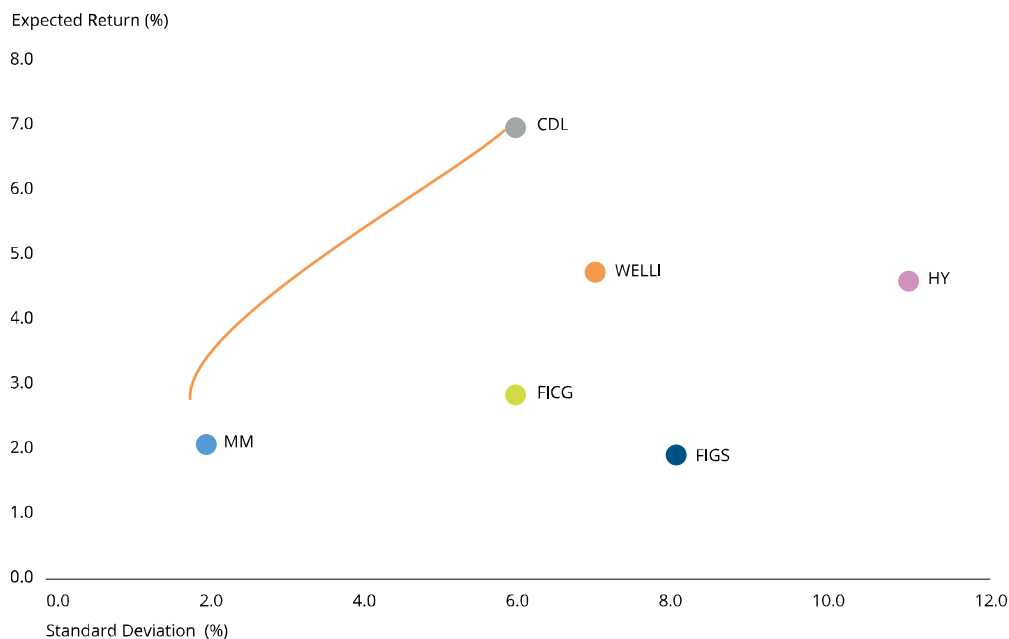
An allocation to direct loans improves the risk-return profile of the 60/40 portfolio and delivers a higher Sharpe ratio than the other portfolios. Any allocation to direct loans will improve the risk-return profile as the 60/40 portfolio delivers a lower expected return with a higher expected volatility.

### Fixed Income Diversification

Let's plot too the expected risk-return payoff for the five fixed income series in the analysis:

### Efficient Frontier

Source: Eccleston Partners with Cliffwater forecasts.

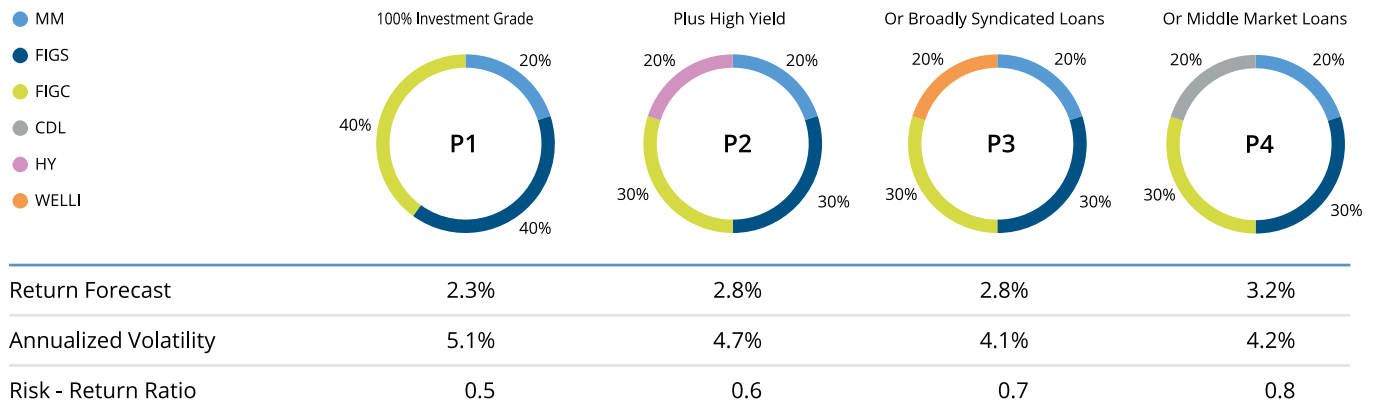




We next take a look at a diversified investment grade fixed income portfolio and consider the impact of adding non-investment grade corporate debt:

### Impact of Diversifying an Investment Grade Fixed Income Portfolio

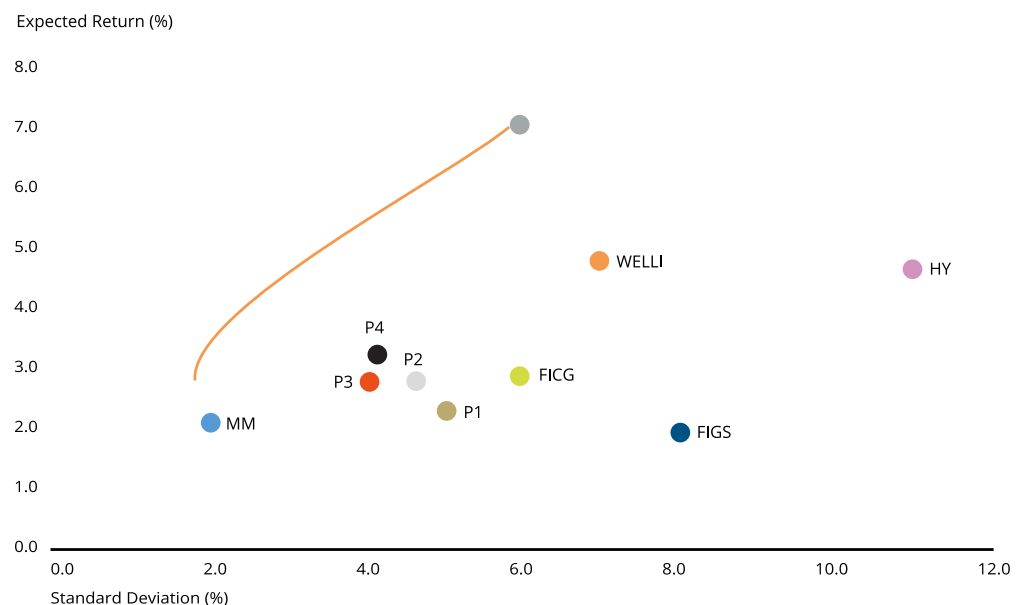
Source: Eccleston Partners.



Direct loans beat high yield and senior loans in enhancing the Sharpe ratio of a diversified fixed income portfolio.

### Efficient Frontier

Source: Eccleston Partners with Cliffwater forecasts.



We can clearly appreciate that portfolios that include non-investment grade debt have higher Sharpe ratios as a result of both lower volatilities and higher returns. Direct loans beat high yield and broadly syndicated bank loans in enhancing the Sharpe ratio.

## Takeaways:

- Even when using mark-to-market volatility estimates, private credit enhances the Sharpe Ratio of:
  - A broadly diversified traditional portfolio,
  - A traditional 60/40 portfolio, and
  - A broadly diversified fixed income portfolio.
- The secret sauce? High expected returns and low correlations.

# Commitment Strategies

Portfolio exposures in private assets are driven by commitments, actual drawdowns, and underlying asset performance. As investors just control the size and timing of commitments, they need to carefully consider what commitment strategy best serves their strategic purposes and is best aligned with their risk profile.

## The Single Diversified Private Credit Fund

To get started, we have modelled a typical private credit fund diversified across three strategies – direct lending (60%), mezzanine (20%), and distressed debt (20%). To model this fund, we have used data provided by Preqin for the past 25 years to March 2020. Preqin provides a comprehensive data set for over 380 funds.

On the back of this data, we have developed the following profile for the median single diversified private credit fund. You all have seen similar profiles before. Neat and clear:

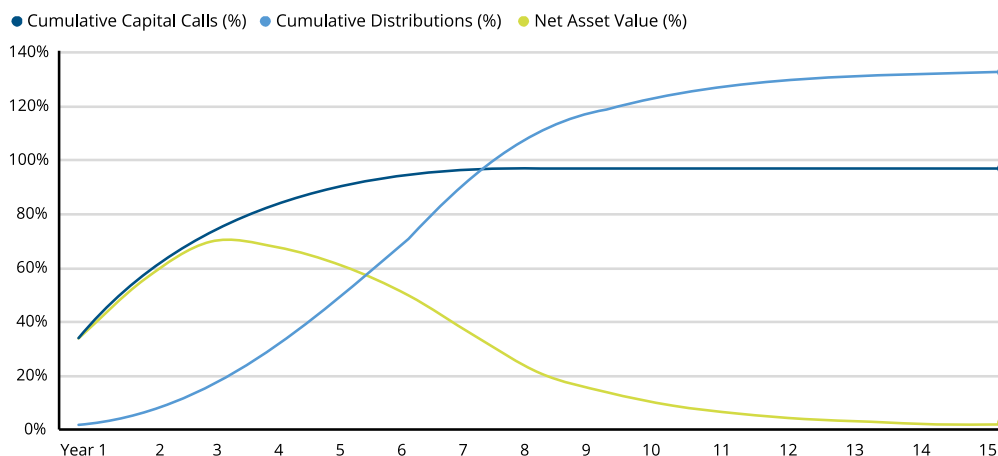
### The Single Diversified Private Credit Fund

Source: Preqin. Altamar Capital Partners.

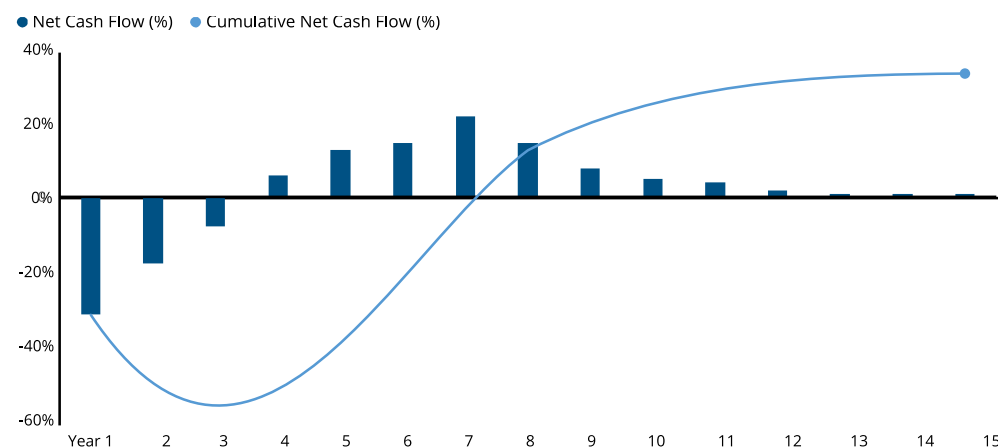
#### Average Net Asset Value (%)

5 years	57%
10 years	42%
15 years	29%

Capital is called during the first three years.



The Net Asset Value starts declining quickly in years 5 to 8 and averages 42% of committed capital during the first ten years.



**The Single Diversified Private Credit Fund**

Source: Preqin. Altamar Capital Partners.

	Year 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Commitments (%)	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Calls (%)	-34	-22	-18	-9	-7	-4	-1	-1	0	0	0	0	0	0	0
Cumulative Capital Calls (%)	-34	-56	-74	-83	-91	-95	-96	-97	-97	-97	-97	-97	-97	-97	-97
Distributions (%)	2	4	10	15	20	19	24	16	8	5	4	2	1	1	1
Cumulative Distributions (%)	2	6	16	31	51	70	94	110	118	123	126	129	130	131	131
Net Cash Flow (%)	-32	-18	-8	6	13	15	22	15	8	5	4	2	1	1	1
Cumulative Net Cash Flow (%)	-32	-50	-58	-52	-39	-24	-2	13	21	25	29	32	33	34	34
Net Asset Value (%)	34	56	70	68	60	50	35	21	14	9	6	4	3	2	2

**Summary Returns**

TVPI (X) - Fund	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4
TVPI (X) - Investor	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

**The cash flows of the fund itself and the investor may differ as the fund may use leverage and reinvest proceeds.**

At the fund level, in year 10:

- Cumulative capital calls reach 97% of committed capital.
- Cumulative distributions reach 123%.

Add in the Net Asset Value of 9% and we derive a TVPI of 1.4X. TVPI stands for Total Value to Paid In Capital. It is a multiple widely used in the private asset industry. This multiple is also known as MOIC – Multiple on Invested Capital.

However, numbers look different if you look at cash flows from the point of view of the investor rather than the fund:

- The investor has had to disburse, on a net basis, just 58% of committed capital during the first three years.
- Once the maximum draw down has been reached, the investor receives flows of 84% of committed capital during the following seven years.
- Add in the Net Asset Value of 9% in year 10 and you get a TVPI of 1.6X. Investors' TVPI starts at just below 1 and steadily build up by about 0.1 per annum.

Same fund, two TVPI. Why? As the investment manager may use some distributions to fund capital calls, we end up with two different sets of net cash flow numbers.

The fund TVPI may be valuable for measuring the value added by the investment manager. The investor TVPI may be more appropriate for measuring the real experience of the investor as it takes into account the net cash that the investor has disbursed and the net one received. Generally speaking, we find that the TVPI for investors in mature single funds may be up to 20% higher than the TVPI of the fund itself.

Anyhow, what does a TVPI of 1.6X mean for an investor? As we explain in "Private Credit in a Box" in page 17, an investor accumulates an ending wealth of 1.6X by earning a compounded annual rate of return of 4.8% over a 10-year investment horizon. So, an expected fund TVPI of 1.4X may translate into an investor's TVPI of 1.6X and a compounded annual rate of return of 4.8%. As discussed in page 17, this rate is not an internal rate of return.

These numbers may surprise some of you. Bear in mind that the database includes funds across the four performance quartiles. We have here the good, the bad, and the ugly. In addition, the database is a sample of reality, a comprehensive one but a sample. Nevertheless, it is a useful proxy to explore portfolio construction and commitment strategies in private credit funds.

**Actual exposures have a life of their own that need to be analysed carefully to achieve targeted levels.**

**A typical diversified fund earns a fund TVPI of 1.4 and delivers to investors a TVPI of 1.6 on drawn down amounts, typically 60% of committed capital. NAV peaks at 70%.**

## Exposures

Let's explore another interesting issue. What is the exposure of this investor to private credit? The €100MM committed? The €58MM drawn down? Now? On average? At peak?

From the investor's point of view, the actual allocation to private credit can be measured by the expected Net Asset Value (NAV). The NAV is driven by drawdowns, distributions, and capital gains. It typically reaches peak levels in years 3 to 5. In this example, we get to exposures of 70% of committed capital. But we will not be there for long. The NAV starts declining steadily thereafter. In year 10, our exposure is just 9% of committed capital.

There is a widely used rule of thumb in private markets that does not hold water. As net cash drawdowns typically represent 50% of committed capital, the rule of thumb to get to your investment target is to commit twice as much. The problem is that your true exposure is not the 50% of committed capital but the actual NAV, in excess of 70%. So a strategy of committing twice as much may get an investor with actual exposures in excess of 140% of committed capital, 40% higher than desired.

In addition, the investment manager may still call for additional capital, up to the committed amount. In year 3, for example, the NAV represents 70% of the committed capital. That is your exposure then. However, the investment manager may call for an additional undisbursed 26%. So, the potential exposure for the investor is 96% of committed capital. If the investor had committed twice the expected net maximum cumulative cash call, he would have ended up with 192% at risk rather than the 100% intended.

To recap, a typical private credit fund has earned, by year 10, a TVPI of 1.4X, delivered to investors a TVPI of 1.6X on actual drawn down amounts, typically 60% of committed capital, and reached a peak NAV of 70% of committed capital. This peak exposure lasts for about two years and starts declining steadily. We, thus, need to look carefully as to how we can reach and maintain our desired exposure, as we do in the section "Commitment Strategy".

## Private Credit Funds of Funds (FoF)

FoF commit to invest in single funds during their first 3 years. Underlying funds draw down committed capital over the following years. There may thus be exposure to up to six vintages in terms of the actual year in which an investment is made. The vintage diversification is indeed greater than on a single fund but the exposures naturally build up more slowly.

Preqin's data just includes four funds of funds out of which only one has reached its eight anniversary. Not that meaningful. To model private debt funds of funds, we assumed that we invested in three single diversified funds during three years and allocated one third to each. We also subtracted 1% p.a. of the NAV in management and performance fees. In consideration for the skills these fees buy, we assumed the funds of funds earned top 50% performance.

Maximum drawdowns and peak NAV are similar in FoF and single funds - about 60 and 75% - but it takes FoF an extra year to get there. Naturally, exposures decline more gently in the FoF.

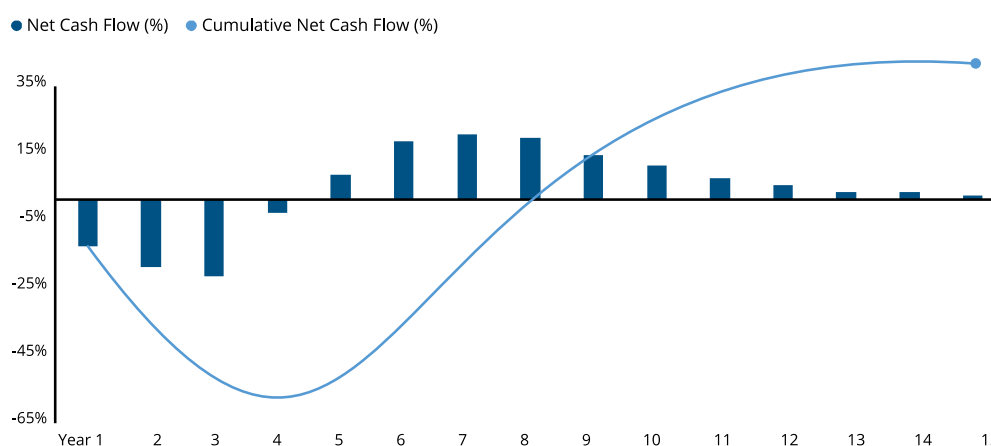
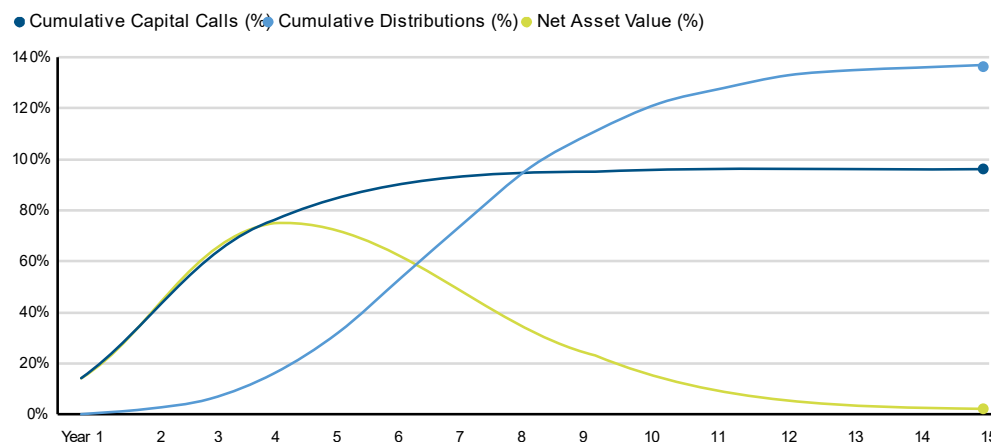
**Private Credit Fund of Funds, Q1 50% - Q2 50%**

Source: Preqin. Altamar Capital Partners.

**Average Net Asset Value (%)**

5 years	52%
10 years	44%
15 years	31%

In funds of funds,  
exposures build up  
and wind down more  
gently.

**Private Credit Fund of Funds, Q1 50% - Q2 50%**

Source: Preqin. Altamar Capital Partners.

	Year 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Commitments (%)	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Calls (%)	-14	-22	-27	-14	-8	-5	-3	-2	-1	0	0	0	0	0	0
Cumulative Capital Calls (%)	-14	-36	-63	-77	-85	-90	-93	-95	-96	-96	-96	-96	-96	-96	-96
Distributions (%)	0	2	4	10	16	22	22	20	14	11	6	4	2	2	1
Cumulative Distributions (%)	0	2	7	17	32	54	76	96	110	121	127	131	134	135	136
Net Cash Flow (%)	-14	-20	-23	-4	7	17	19	18	13	10	6	4	2	2	1
Cumulative Net Cash Flow (%)	-14	-33	-56	-60	-53	-36	-17	1	15	25	31	35	37	39	40
Net Asset Value (%)	14	36	64	75	73	59	46	32	22	14	9	6	4	3	2

**Summary Returns**

TVPI (X) - Fund	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
TVPI (X) - Investor	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7

**Commitment Strategy**

Single one-off  
commitments  
generate exposures  
that eventually fade.

As we have just seen, single one-off commitments into single funds or to fund of funds generate exposures that eventually fade as underlying investments are sold and proceeds returned to investors. To deal with this problem, we explore in this section alternative commitment strategies that may be of value in reaching and sustaining a target exposure.

**We explore commitment strategies that may help investors reach and sustain targeted exposures.**

We have explored commitment strategies assuming top half performance by allocating 50% of the portfolio to the first quartile and the other 50% to the second quartile. In Private markets, average is not good enough.

Our analysis, thus, has to be used with care and judgment. This analysis has the limitations that any historical analysis has - data may not be representative of conditions going forward - plus an additional limitation derived from lack of representative historical data. We believe, however, that this analysis is a valuable input to consider when developing an investment strategy in private credit.

With these caveats in minds, we test four commitment strategies. We run numbers from the point of view of the investor and use actual dollar values, not percentages of committed capital:

- Committing initially just €100.
- Committing €100 every year,
- Committing €100 every two years, and
- Committing €100 every three years.

As the last three strategies involve staggered investments, the desired exposure takes longer to build than committing the target amount at the outset, as in the previous examples. However, once the target exposure is achieved with the three staggered commitment strategies, it is sustainable and self-financing.

In these staggered strategies, the maximum cumulative drawdown is about 60% of the target exposure and is reached in years 6 to 8:

- For the every year strategy, the maximum cumulative net cash flow is about €270 and delivers an exposure of €450.
- For the every two years strategy, the maximum cumulative net cash flow is about €140 and delivers an exposure of €230.
- For the every three years strategy, the maximum cumulative net cash flow is about €90 and delivers an exposure of €150.

Investors may reach a target steady-state self-financing exposure by committing to invest, in round numbers, one fifth of the target exposure every year, one half every two years, or two thirds every three years.

The desired exposures start reaching a steady state in years 9 to 10. It is indeed a long journey for which investors need to have an adequate investment horizon.

These strategies come with risks, namely that distributions come in lower and later than expected and capital calls come in earlier. In these cases, it may take longer to get to the self-financing portfolio.

In the following graphs we can clearly appreciate how a strategy of committing €100 once will not deliver a sustained exposure to private credit. Need, thus, a commitment strategy that will sustain our targeted exposures over the long term.

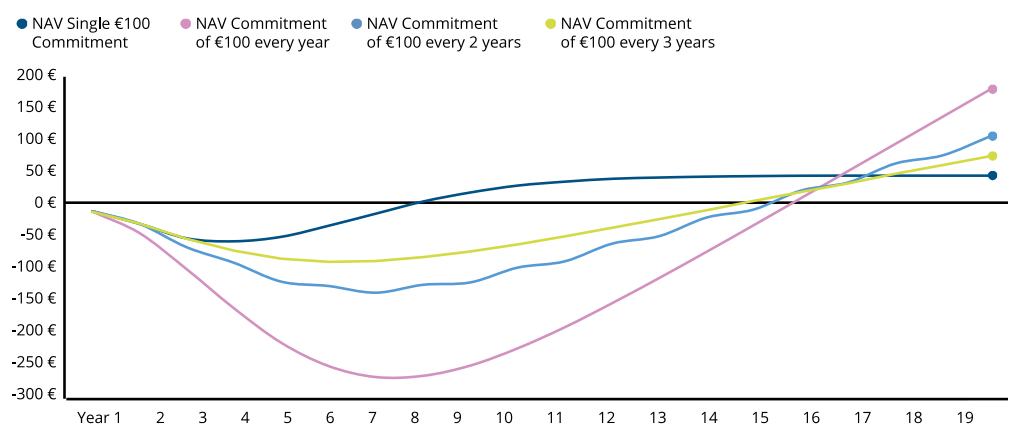
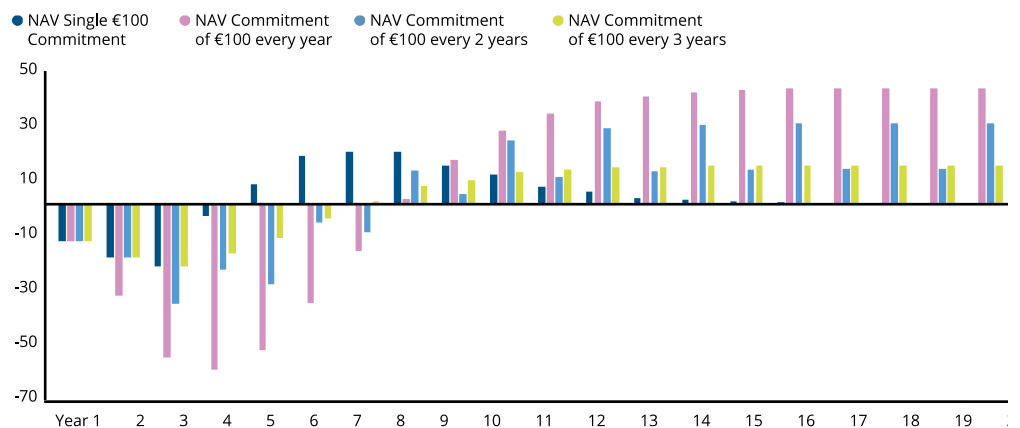
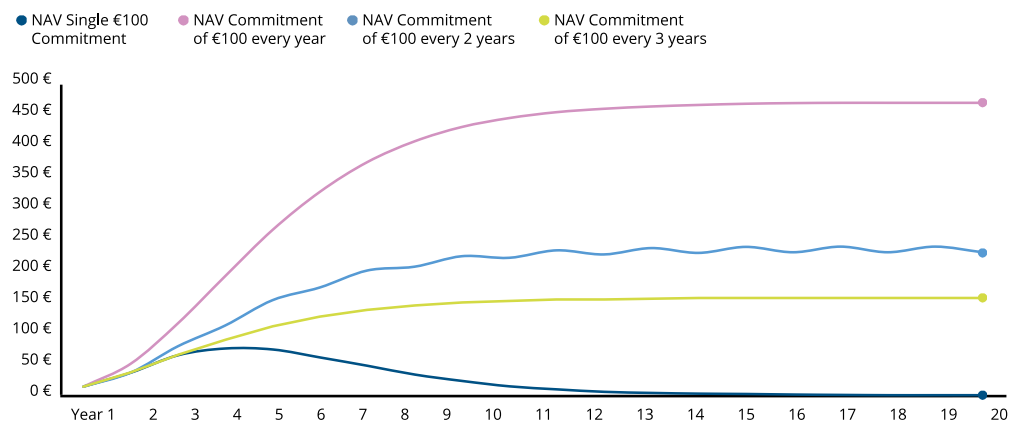
As illustrated, we can get there by committing, for example, one half of our desired steady state exposure every two years. So, for a desired exposure of €100, we would commit €50 every two years. Alternatively, we can commit to invest €70 every three years or €20 every year.

Eventually, we reach sustainable and self financing private credit portfolios that generate net annual positive cash flows, as we appreciate in the middle graph:

**Commitment Strategies with Private Credit Funds of Funds, Q1 50% - Q2 50%**

Source: Preqin and Cambridge Associates data. Altamar Capital Partners.

Investors may reach a target steady-state self-financing exposure by committing to invest, in round numbers, one fifth of the target exposure every year, one half every two years, or two thirds every three years.

**Takeaways:**

- A typical diversified fund earns a fund TVPI of 1.4 and delivers to investors a TVPI of 1.6 on drawn down amounts, typically 60% of committed capital. NAV peaks at 70% and starts declining steadily in years 5 to 8.
- Investors may reach a target steady-state self-financing exposure by committing to invest one fifth of the target exposure every year, one half every two years, or two thirds every three years.

# Implementation

Investing in private credit requires experience and judgment to carefully ponder and balance portfolio attributes that go beyond a mean-variance optimization. Investors need to understand the tail risks and quid-pro-quos of private credit and their very own unique investment needs.

**Investors have to consider carefully their unique objectives.**

Portfolio construction has to integrate a top-down macro view with a bottom-up selection of investable assets.

For traditional asset classes, this process can be highly structured and quantified:

- Mean-variance strategic allocations have intuitive appeal as distributions of returns, volatilities, and correlations can be reasonably developed.
- Investable assets are known, traded in liquid markets, and easily accessed through indexed products such as ETF.

For private credit, however, investors need to look carefully beyond mean-variance results. To determine actual policy weights for private assets, each investor has to carefully consider their very own circumstances and objectives.

## Strategic Asset Allocations

Considering “Wisdom of the Crowd” expected returns and forecasts of volatility and correlations derived from JP Morgan’s Long-Term Capital Markets Assumptions, the optimizer jumps whole-heartedly into private credit. Actually, we had to constrain the allocation to private assets in order to generate allocations that institutional investors would regard as rather reasonable.

The optimizer loves private credit for its Sharpe ratio. For a portfolio with a 4% volatility target, the optimizer would allocate over 50% to private credit.

## Challenges Investing in Private Credit

As investors dive into private credit, they need to carefully consider their investment objectives and constraints as well as a broad range of implementation issues:

### Liquidity

Investors need to strike a balance between having a portfolio liquid enough to meet future obligations and the foregone returns associated with liquid investments.

Issues to ponder:

- How much liquidity do we really need? In business-as-usual scenarios? In Lehman moments? What yield does our overall portfolio provide and how does it mitigate illiquidity risk?
- How can we proactively harvest illiquidity risk premia? How can we best cope with the fear of the unknown?
- How can we best leverage our competitive edge as a long-term institutional investor?

**What is the right balance for us between liquidity and foregone returns?**



**What commitment strategy is best suited for us to achieve a self-financing exposure to private credit?**

- Can we forecast within a comfortable margin of safety the cash flow profile of private credit strategies?

#### Commitment Strategy

Investors may access private credit through buy & hold or through self-liquidating vehicles. Therefore, they need to consider a strategy to maintain the desired exposure and consider too the trade-offs in terms of exposure and funding risks of each one. The uncertainty of future cash flows, taking into account the yield, the distributions, and the potential capital appreciation, creates the need for careful analysis and monitoring.

Issues to ponder:

- How do we measure our actual investments in private credit? Commitments? Called capital? Net asset value?
- How will we reach our desired target exposure and sustain it over time?
- What risks do we face under different commitment strategies and different private credit strategies?
- How may the economic or credit cycles impact all of the above?

#### Valuations

Primary funds usually face a J curve at launch. The net asset value declines as the fund incurs in expenses but does not yet earn any income or capital gains. Valuations, in addition, are usually based on quarterly mark-to-model fair market estimates, not on mark-to-market prices since there is no public market for direct loans.

Issues to ponder:

- What impact will the J curve effect have on the overall return of the portfolio? How long will it last? Can we cope with it? How can we mitigate it?
- Are we comfortable with the smoothing effect of mark-to-model valuations? Do we need to measure value generation taking into account real underlying economic exposures?

What impact should current valuation levels across the public and private markets have on our private credit strategy?

#### Strategies within Private Credit

Private credit encompasses various sub strategies with differentiated risk- return profiles, all the way from the top of the capital structure to junior capital or to strategies aiming at gaining control of the company in order to manage its restructuring.

Issues to ponder:

- What is the right private credit strategy for my overall portfolio?
- What is the real level of risk associated with each strategy?
- How comfortable am I assuming different levels of leverage? What is the right amount of leverage for each strategy and for my portfolio?

#### Deal Flow

To construct a portfolio, you need access to deal flow. No flow, no portfolio. Poor flow, poor returns. Privileged access, top returns.

**Which private credit investment strategy best fits our portfolio objectives and constraints?**

### How do we measure success? Which key performance indicators are most relevant to us?

Issues to ponder:

- Do we have the team and access to understand the complexity of the private credit market, its managers, and our competitive advantages?
- What edge do we have in accessing top fund managers? Do we have access? What size of allocations will we get?
- Can we expect to construct ourselves a well-diversified robust portfolio of seasoned and proven investment managers?

### Performance

Need to measure performance against predefined targets over a relevant time horizon.

Issues to ponder:

- What are we seeking by investing in private credit? Enhance returns? Current yield? Reduce portfolio volatility?
- How will we measure the performance of our current credit program? Which are our key performance indicators? What is success for us?
- Against which benchmark could we possibly compare the returns of the private credit portfolio?

### Exit Environment

In addition to earning a return on our money, we need the money returned.

Issues to ponder:

- How exposed is my private credit portfolio to current market conditions? How skilled are the managers in dealing with economic or credit downturns?
- How can I set an investment strategy that creates resilience in both the private credit and the overall portfolios?
- What impact may slower than expected exits have on my overall portfolio? May I be a forced seller of other assets in order to meet existing commitments?

### Internal Control

As investors gradually build up a diversified portfolio of private credit through funds and funds of funds, the internal management and control can become challenging.

Issues to ponder:

- How much complexity can our organization take investing in private credit?
- Is our investment strategy aligned with the complexity that we can manage?
- Shall we manage this complexity internally or rely on third-party experienced managers?

### Fees

Investors have to ascertain that they get value for the fees they pay.

Issues to ponder:

- What level of transparency do we need regarding costs?
- What is the value added of the investment managers for us today? What do we need from them?
- What is fair compensation for those services?

### How do we get value for our money?

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# Risk Considerations

The purpose of this paper is to provide a framework to assess the role that private credit has in constructing a diversified investment portfolio. As discussed in the paper, our framework has important limitations. It is a simplified view of reality. It, thus, cannot fully capture all the risk dimensions to which an investor is exposed. Reality, besides being complex, evolves.

Readers will derive the greatest benefits testing by themselves the hypothesis presented in the paper and seeking to understand how the resulting learning outcomes are relevant to their very own investment objectives.

Finally, it stands to reason that we are not offering investment advice. Investment advice can only be offered with a full understanding of the investor's unique circumstances.

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