Collateralized loan obligations are robust, opportunity-rich debt instruments that offer above-average returns versus other fixed income strategies. Their complexity creates hesitancy among even sophisticated investors to dig into the details. We explore how these instruments work and the potential benefits they offer to investors.
Collateralized loan obligations (CLOs) are robust, opportunity-rich debt instruments that have been around for more than 20 years. They’re also complex enough that even sophisticated investors hesitate to dig into the details — and end up avoiding them instead.

CLOs offer a compelling combination of above-average yield and potential appreciation. For many investors, the basics of how they work, the benefits they can provide, and the risks they pose are wrapped in complication.

In spite of this, we believe CLOs are attractive investments and well worth the time and effort required to understand them.

What is a CLO?

Put simply, a collateralized loan obligation is a portfolio of leveraged loans that is securitized and managed as a fund. Each is structured as a series of tranches that are interest-paying bonds, along with a small portion of equity.

CLOs originated in the late 1980s as a way for banks to package leveraged loans together to provide investors with an investment vehicle with varied degrees of risk and return, to best suit their investment objectives. The first vintage of “modern” CLOs — which focused on generating income via cash flows — was issued starting in the mid-to-late 1990s. Commonly known as “CLO 1.0,” they included some high yield bonds, as well as loans, and were the standard CLO structure until the financial crisis struck in 2008.

The next vintage, CLO 2.0, began in 2010 and changed in response to the crisis by strengthening credit support and shortening the period in which loan interest and proceeds could be reinvested into additional loans. The current vintage, CLO 3.0, began in 2014 and further reduced risk by eliminating high yield bonds and adhering to the Volcker Rule and other new regulations.

Vintages 2.0 and 3.0 represents the biggest chunk of the market with US$432 billion in principal outstanding, while only 4% of the market in 1.0 issued CLOs remain.

The vast majority of CLOs are called arbitrage CLOs because they aim to profit from the difference between the inflows from payments of interest and principal and the outflows of management fees and other costs. The market for arbitrage CLOs is valued at $521 billion globally, with about 85% issued in the US and 15% in Europe.¹

¹ Source: Morgan Stanley Research as of 30 April 2017.
Leveraged loans: more than just collateral

Leveraged loans are more than simply the underlying collateral for CLOs: They’re the fuel that powers CLOs’ attractive income stream and the first of several levels of risk mitigation built into the CLO structure.

Standard & Poor’s defines leveraged loans as senior secured bank loans rated BB+ or lower [i.e., below investment grade] or yielding at least 125 basis points above a benchmark interest rate (typically LIBOR or EURIBOR) and secured by a first or second lien. Several characteristics make leveraged loans particularly suitable for securitizations. They:

- Pay interest on a consistent monthly or quarterly basis;
- Trade in a highly liquid secondary market;
- Have a historically high recovery rate in the event of default; and
- Originate from a large, diversified group of issuers.

The size of the leveraged loan market is large and growing, with institutional loans outstanding totaling an estimated $1 trillion in the US and €113 billion in Europe.²

² iBID as of January 2017.
Many managers and owners
CLOs are issued and managed by asset managers. Of the approximately 250 CLO managers worldwide, about 75% are in the US and the remaining 25% in Europe.\(^3\)

Ownership of CLOs varies by tranche. The least risky, senior-most tranches are mainly owned by banks (which need high-quality capital to meet regulatory requirements) and insurance companies (which favor income-producing investments). The equity tranche is riskiest, offers potential upside and a degree of control, and appeals to a wider universe of investors.

How CLOs work: it’s complicated
CLOs are complicated structures that combine multiple elements with the goal of generating an above-average return via income and capital appreciation. They consist of tranches that hold the underlying loans, which typically account for about 90% of total assets, and a sliver of equity. The tranches are ranked highest-to-lowest in order of credit quality, asset size and income stream — and thus lowest-to-highest in order of riskiness.

Although leveraged loans themselves are rated below investment grade, most tranches are rated investment grade, benefiting from diversification, credit enhancements and subordination of cash flows.

\(^3\) IBID as of January 2017.
Each CLO has a defined lifecycle in which collateral is purchased, managed, redeemed and returned to investors. The standard lifecycle comprises five stages:

1. **Warehousing (3–6 months):** Manager purchases initial collateral before closing date.
2. **Ramp-up (1–2 months):** Following closing date, manager purchases remaining collateral to complete original portfolio.
3. **Reinvestment (4–5 years):** Manager can reinvest all loan proceeds.
4. **Non-call (first 2 years of reinvestment):** Loan-tranche holders earn a per-tranche yield spread specified at closing, after which the majority equity-tranche holder can call or refinance loan tranches.
5. **Repayment and deleveraging (1–4 years):** As underlying loans are paid off, manager pays down loan tranches in order of seniority and distributes remaining proceeds to equity-tranche holders.

**Tranches Allocate Assets, Income and Risk**

**Typical CLO Tranche Structure**

<table>
<thead>
<tr>
<th>Loan</th>
<th>Subordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>AAA Subordination</td>
</tr>
<tr>
<td>AA</td>
<td>AA Subordination</td>
</tr>
<tr>
<td>A</td>
<td>A Subordination</td>
</tr>
<tr>
<td>BBB</td>
<td>BBB Subordination</td>
</tr>
<tr>
<td>BB</td>
<td>BB Subordination</td>
</tr>
<tr>
<td>Equity/Excess Spread</td>
<td>Excess Spread 9-10%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Research. For illustrative purposes only.
All about the cash flows
Cash flows are the lifeblood of a CLO: They determine the distribution of income and principal, which determines the return on investment. The key concept is that distributions are paid sequentially starting with the senior-most tranche and subordinated until each loan tranche has been paid its full distribution. Equity-tranche holders absorb costs and receive the residual distributions once the costs have been paid.

Coverage tests are a vital mechanism to detect and correct collateral deterioration, which directly affects the allocation of cash flows. All CLOs have covenants that require the manager to test the portfolio’s ability to cover its interest and principal payments monthly. Among the many such tests, the most common are the interest coverage and over-collateralization tests. Covenants specify baseline values for each test.

If the tests come up short, the manager must take cash flows from the lowest debt and equity-tranche holders and divert them to retire the loan tranches in order of seniority. The diagram below illustrates the “waterfall” process in which cash flows are paid when the portfolio passes and doesn’t pass its interest coverage tests.

The Cash Flow Waterfall Has Two Streams
Interest Payments Based on Results of Coverage Tests

- Collateral Pool Interest Proceeds
- Trustee and Administrative Fees
- Senior Management Fee
- Interest on Senior Notes
- Redemption of Senior Notes
- Interest on Mezzanine Securities
- Subordinated Management Fee
- Redemption of Mezzanine Securities
- Residual to Subordinated Notes

Interest on the mezzanine securities may be deferred and compounded into the tranches’ principal balance if cashflow is not available to pay current interest due. This is referred to as PIKing (payment in kind).

If coverage tests are still not met after partial redemption of mezzanine notes, cashflows will continue to be used to redeem mezzanine notes, and no payment will be given to the equity tranche before the tests are cured.

CLO interest payment waterfall, at each payment period

Source: Morgan Stanley Research.
Built-in risk protections
Coverage tests are one of several risk protections built into the CLO structure. Others notably include:

- Collateral concentration limits. Many deals mandate that at least 90% of the portfolio be invested in senior secured loans.
- Borrower diversification. The pool of loans typically must be diversified across 100–200 distinct borrowers in 20–30 industries, with a small percentage of assets (e.g., 2%) invested in the loans of any single borrower.
- Borrower size requirements. Deals often restrict managers from purchasing loans to small companies, whose trading liquidity is low.

The equity tranche: highest risk could mean highest return
The equity tranche occupies a unique place in the CLO structure. It’s essentially a highly leveraged play on the strength of the underlying collateral. Because the equity tranche’s success depends on the success of the loan tranches — it’s last in line to receive cash flows and first to realize loan losses — its owners take the most risk of any CLO investors. Their goal, then, is to maximize the value of the equity.

As compensation for assuming a higher share of risk, the majority equity-tranche holder is given potential control over the entire CLO in the form of options to call or refinance the CLO after the non-call period expires.

- The call typically is exercised if the equity-tranche holders consider the underlying loans at or near the top of their market value — which is when the equity is most valuable. Exercising the call in this scenario results in the liquidation of the entire portfolio and, in the process, reaps the fullest-possible benefit of the equity’s leverage.
- Refinancing can happen if interest rates fall enough so the loan portfolio can be replaced at lower spreads, which reduces equity-tranche holders’ cost of leverage and thus increases their return. The portfolio can be refinanced either partially or in full.

More regulation means less risk — and greater appeal to investors
In the wake of securitized investments’ difficulties during the financial crisis, US and European regulators have taken steps to mitigate CLOs’ structural risks - and made CLOs more attractive for investors.

Risk retention, commonly known as “skin in the game,” is required both in the US and Europe. It holds that CLO managers must retain 5% of the original
value of the assets in their CLOs to align their interests more closely with those of investors. The US rule is part of the Dodd-Frank legislation and was implemented in December 2016.

A prominent US regulatory development was the implementation of the Volcker Rule which became effective in 2014. To be in compliance, most vintage 2.0 CLOs issued starting in 2014 are collateralized only with loans and many 1.0 CLOs have been “Volckerized” to eliminate non-loans from their collateral pools.

European regulation is concentrated in several rules governing the capital requirements for banks and insurance companies. European risk retention was implemented in 2010.

A wealth of benefits...

CLOs offer investors multiple benefits, both on their own and versus other fixed income sectors. Making the effort to understand them and get comfortable with their complexities can prove rewarding.

Higher returns. Over the long term, CLO tranches have significantly outperformed other corporate debt categories, including bank loans, high yield bonds and investment grade bonds.

Wider yield spreads. CLO spreads typically are wider than those of other debt instruments, reflecting CLOs’ greater complexity, lower liquidity and regulatory requirements. Compared to other higher-yielding debt sectors — notably
high yield and investment grade corporates — CLO spreads are especially compelling.

**Low interest-rate sensitivity.** Leveraged loans and their CLO tranches are floating-rate instruments, priced at a spread above a benchmark rate such as LIBOR or EURIBOR. As interest rates rise or fall, CLO yields will move accordingly and their prices will move less than those of fixed-rate instruments. These characteristics can be advantageous to investors in diversified fixed income portfolios.

**Attractive risk profile.** As demonstrated by a variety of key metrics — default rate, recovery rate, Sharpe ratio, tracking error, beta, time to maturity — CLOs present less risk than corporate debt and other securitized products. No AAA or AA CLO tranche has ever experienced principal loss.

**Diversification.** CLO correlations versus other fixed income categories are relatively low, meaning that CLOs can provide effective diversification in a broader portfolio.

**Inflation hedge.** CLOs' floating-rate yields make them an effective hedge against inflation.

**Stronger credit quality.** Unlike most corporate bonds, leveraged loans are both secured and backed by first-lien collateral.

**Skin in the game.** The requirement that CLO managers own 5% of the original value of the assets in their CLOs not only aligns their interests with those of investors, but also is unique among fixed income sectors outside securitization.

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**Historical Sharpe Ratios**  
Januray 2012 - April 2017

<table>
<thead>
<tr>
<th></th>
<th>CLO</th>
<th>Corp/HY</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>1.76</td>
<td>0.52</td>
</tr>
<tr>
<td>AA</td>
<td>1.59</td>
<td>0.82</td>
</tr>
<tr>
<td>A</td>
<td>1.50</td>
<td>0.98</td>
</tr>
<tr>
<td>BBB</td>
<td>1.26</td>
<td>1.04</td>
</tr>
<tr>
<td>BB</td>
<td>0.96</td>
<td>1.55</td>
</tr>
<tr>
<td>B</td>
<td>0.93</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Source: Zephyr, as of 30 April 2017. Diversification does not insure against market loss.
...and important risks to consider

Given CLOs’ complicated nature, it’s natural for them to present a number of risks. Investors should consider these risks carefully before investing.

Credit strength. While CLOs enjoy strong credit quality due to the senior secured status of leveraged loans, it’s important to keep in mind that leveraged loans carry inherent credit risk: They’re issued to below-investment-grade companies whose fortunes are sensitive to fluctuations in the economic cycle.

Collateral deterioration. If a CLO’s loans experience losses, cash flows are allocated to tranches in order of seniority. Depending on the losses’ severity, the value of the equity tranche could be wiped out and junior loan tranches could lose principal.

Non-recourse and not guaranteed. Leveraged loans are senior obligations and, as such, have full recourse to the borrower and its assets in the event of default. A CLO, however, has recourse only to the principal and interest payments of the loans in the portfolio.

Loan prepayments. Leveraged loan borrowers may choose to prepay their loans in pieces or completely. While experienced CLO managers may anticipate prepayments, they’re nonetheless unpredictable. The size, timing and frequency of prepayments could potentially disrupt cash flows and challenge managers’ ability to maximize portfolio value.

Trading liquidity. CLOs generally enjoy healthy trading liquidity — but that could change very quickly if market conditions turn south. A prime example is the financial crisis, when trading activity for even the most liquid debt instruments slowed to a trickle.

Timing of issuance. “Timing is everything” certainly applies to CLO issuance. While market conditions could be strong when a CLO is issued, they might not be during its reinvestment period. That’s what happened to 2003 vintages, whose reinvestment period coincided with the onset of the financial crisis and its resulting drop-off in trading volume.

Manager selection. Historical performance of CLO managers encompasses a wide spectrum of returns, underscoring the importance of choosing seasoned managers with solid long-term track records.
Choosing the right manager
The most critical decision a CLO investor can make is the selection of a manager. It isn’t easy: There are approximately 250 to choose from and each creates its own portfolios utilizing its own investment style. And it’s worth repeating that historical performance among managers greatly varies. That said, there are several key traits that successful managers share.

Everything flows from experience
To paraphrase a term used in the real estate business, the top three requirements for a CLO manager are experience, experience and experience. There’s no substitute for deep management experience, which provides the combination of skills, practice, tactical and strategic savvy, adjustment-making and chronological perspective needed to generate strong returns in such a complicated asset class.

Chronological perspective may be the most important aspect of experience in the CLO world, as the benefit of having managed portfolios before, during and after the financial crisis is incalculable.

Excellence of execution
Managers must excel in the vital competencies that collectively define best-practice portfolio management. These begin with loan selection, as creating a strong collateral base literally lays the foundation for potential success. Trading prowess enables the manager to know when to take gains, avoid losses and adjust the portfolio as market conditions evolve. Effective management of deteriorating credits affects not just the specific credits involved, but also the entire CLO due to the way cash flows are distributed through the tranche structure. And the reinvestment of principal proceeds in new collateral can make the difference between good and great performance.

A knack for handling risk
Sound risk management is both a cause and effect of these best practices: It informs everything the manager does and is reflected in the results. In addition to oversight of the portfolio, it includes skillful execution of coverage tests; the ability to understand the nuances and idiosyncrasies of CLO documentation, which is non-standard and complex; and a talent for balancing the numerous portfolio metrics by optimizing as many as possible while taking a hit on as few as possible.

PineBridge has a long history in CLOs
PineBridge Investments has extensive experience in leveraged finance not only as a manager, but also as an issuer: Starting in 1999, we’ve issued 27 CLOs in the US and Europe, with par value of more than US$10 billion. Our team of 35 professionals includes senior leadership that has been in place for nearly 20 years, as well as 17 credit analysts, most of whom have been with us for at least 10 years.

In fixed income, our portfolios total US$50.3 billion across the spectrum of developed and emerging markets, investment grade debt, leveraged finance and multi-sector strategies.

Our leveraged finance portfolios total US$12.6 billion, including US$5.0 billion in US CLOs and US$1.4 billion in European CLOs.

As of 30 June 2017.
PineBridge Investments is a global asset manager with experience in emerging and developed markets, and investment capabilities in multi-asset, fixed income, equities and alternatives. Our firm is differentiated by the integration of on-the-ground investment teams of approximately 200 professionals, providing investors with the combined benefits of global fundamental perspectives and analytical insights. We manage over US$85 billion as of 30 June 2017 for a global client base that includes institutions, insurance companies, and intermediaries.

MULTI-ASSET | FIXED INCOME | EQUITIES | ALTERNATIVES

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