

CLO Insights Series

March 2026

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はじめに

読者の皆様はおそらくCollateralised Loan Obligation (CLO)という言葉を目にしたことはあるものの、その仕組みを理解するのはなかなか難しいと感じ本冊子を手にとられたのではないのでしょうか。

過去数か月にわたり、Pembertonは投資家の皆様にCLOへの理解を深めていただくことを目的として、Weil, Gotshal & Manges(ロンドン)法律事務所との協力のもと、「CLO Insights Series」を発行してまいりました。本冊子の目的は、これらのインサイトを一つにまとめ、CLOの内部構造を紐解きながら、その本質的な仕組みに迫ることにあります。

複雑な概念をできる限り明確で分かりやすい言葉に置き換えることで、レバレッジド・ローン市場における基礎的な借り手と、CLO投資家の双方に利益をもたらす金融インフラの一分野について、有益なガイドとなることを願っています。

中には他よりも理解が難しいテーマや、初めは直感に反するように感じられる考え方もあるでしょう。いくつかの章については繰り返し読み返したくなる一方で、比較的容易に理解できる部分もあるかもしれません。しかし、読み進めるうちに徐々に全体像がつかめてくるはずですよ。

本冊子を理解するために必要な知識水準は概ね学部レベルを想定しており、金融分野の基本的な用語に親しんでいると、より有用にお読みいただけるでしょう。

CLOとは何か？

コラテラライズド・ローン・オブリゲーション(CLO)とは、主としてローンから構成される資産ポートフォリオを、投資家に対してノートを発行することにより資金調達する仕組みです。多くの投資家はこれらの資産へのエクスポージャーに価値を見出しているものの、市場に直接アクセスすることは容易ではないと感じています。十分に分散されたポートフォリオの構築、能動的な運用管理、ならびに規制要件への対応には、専門的な知見、システムおよびリソースが必要とされます。

CLOに投資することで、投資家は投資プロセスおよび運用管理を専門家に委ねることが可能となります。また投資家は、自身のニーズに合った投資金額やリスク・リターン特性を選択できるとともに、CLOに組み込まれた構造的な保護の恩恵を受けることができます。これらのノートは格付けされ上場されており、資本効率および流動性の向上に資しています。

どのように機能するのか？

平易に言えば、ローン・ポートフォリオから受け取る利息収入は、投資家に対する利息の支払いに充当されます。利息収入が利息支払額を上回る場合、その差額は「エクセス・スプレッド」と呼ばれることが多く、株式(エクイティ)投資家に支払われます。格付け付きノートの保有者とは異なり、エクイティ投資家は固定クーポンを受け取るのではなく、シニア・ノート保有者への支払いが完了した後に残存するリターンを受け取る権利を有します。

このような相対的に高いリターンの可能性と引き換えに、エクイティ投資家は「ファースト・ロス・ポジション」と呼ばれる立場を占めます。これは、ポートフォリオ内のローンがデフォルトした場合、または損失が発生した場合に、よりシニアなノート保有者に影響が及ぶ前に、エクイティ・ランシェが当該損失を最初に吸収することを意味します。このように、エクイティはバッファーとして機能し、格付け付きノートを保護するとともに、シニア投資家に対して返済の確実性をより高める役割を果たします。

CLOの最も魅力的な特徴の一つは、規律あるポートフォリオ構築と、経験豊富なクレジット専門家による能動的な運用管理とが、専用に構築されたシステムによって支えられている点にあります。この分野において、Pembertonの有する深い専門性は、とりわけ高い付加価値を提供するものとなっています。

何を期待できるのか？

最初の記事では、パー・バリュー(額面価値)について取り上げます。これは理解しておくべき中核的な概念の一つです。パー・バリューは、CLOを市場のボラティリティから遮断する役割を果たします。第二の記事では、コラテラル・マネージャーの行動を規定する原則について検討します。第三の記事では、市場環境が変化する中で、CLOがどのように投資家を保護するよう設計されているかを説明します。

次に、ウォーターフォールの仕組み、各種CLO指標およびテスト、ならびにそれらがマトリクスの中でどのように組み合わされているかを見ていきます。続いて、関与する主要な当事者とそれぞれの役割を整理した上で、ポートフォリオ最適化と、コラテラル・マネージャーが売買を通じてどのように投資家保護を図っているかを検討します。最後に、リスク・リテンションについて詳しく掘り下げます。

参考資料

Pembertonのウェブサイトに掲載予定の今後の記事にもご注目ください。

今後の記事には、以下の内容が含まれます。

- ドキュメンテーション
- CLOプラットフォームの立上げと成長
- アナリストの一日
- トレーダーの一日
- ポートフォリオマネージャーの一日
- 市場伝達メカニズムとしてのCLO
- 約定残高と決済残高の比較
- CLOのトラックレコード

CLOの世界についての本インサイトをお楽しみいただければ幸いです。

敬具



Rob Reynolds
Managing Director
Head of CLO

CLO Strategy Overview

Pemberton's CLO strategy invests in publicly rated, broadly syndicated leveraged loans, which are typically used to fund sponsor driven or corporate M&A activity. Such loans are originated by major arranging banks and held by various market participants. As a result, they are also liquid with an active secondary market. CLOs have proven to be resilient investment vehicles through multiple cycles delivering attractive risk adjusted returns to note holders.



€1.6bn

AUM¹ CLO Strategy



€407m

Indigo IV Closed in October 2025

Pemberton's CLO investment philosophy is predicated on the construction of highly diversified credit portfolios utilising a 3D approach focusing on fundamental analysis techniques and adopting a relative value approach for portfolio optimisation purposes.

Pemberton launched its Indigo CLO Platform in 2023 and has since successfully issued 4 CLOs in the series bringing AUM to €1.6 billion.

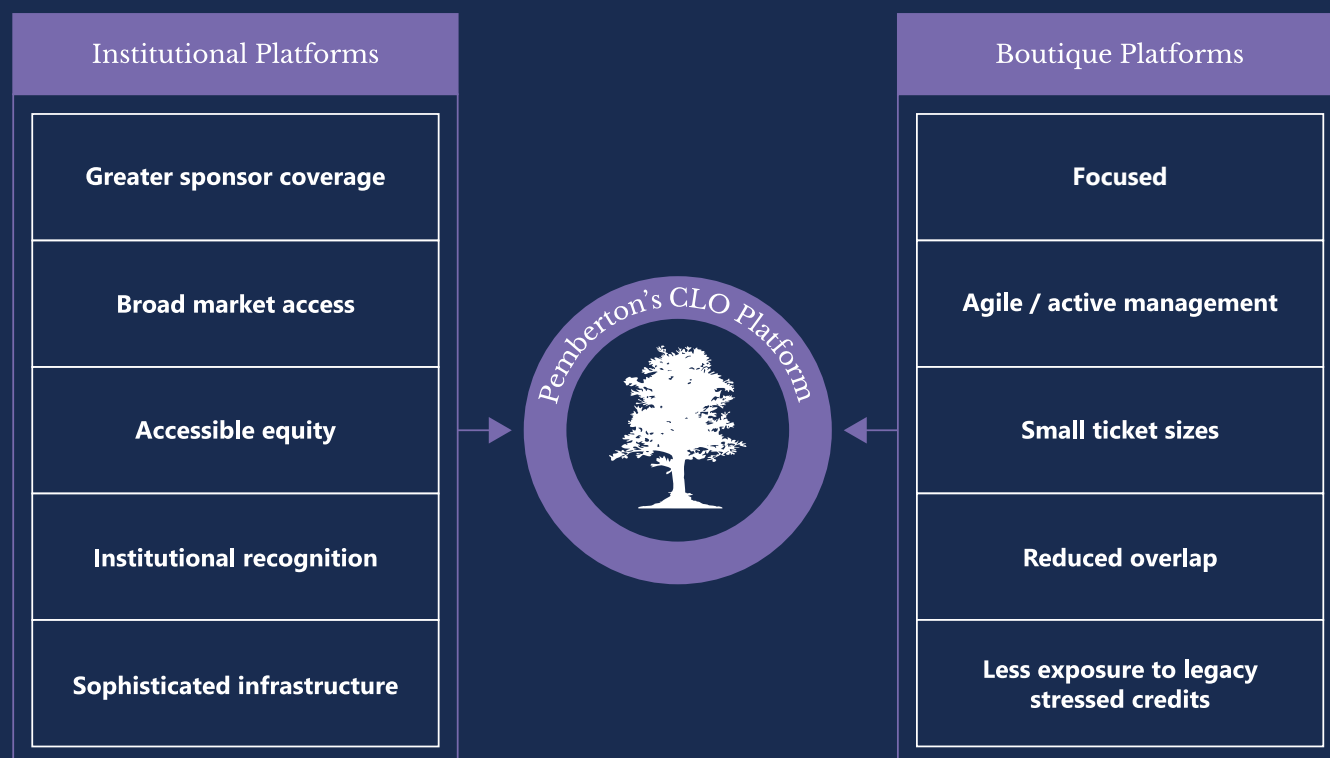
CLOs complement Pemberton's other investment strategies by offering investors access to a credit product designed to suit their investment and allocation needs.

Consistent with Pemberton's ethical principles, Pemberton's CLOs incorporate the latest thinking in sustainable investment policies and are built into investment decision making.

CLOs are a Compelling Investment for the Following Reasons:

- Diversified portfolios.
- Choice of rated notes.
- Credit enhancement.
- Additional liquidity.
- Strong relative value.
- Low correlation.
- Current yield.
- Contractual returns.
- Floating rate.
- Low duration risk.
- Limited migration.
- Regular reporting.
- Full transparency.

Boutique platform built on established institutional foundations



Source: Pemberton Capital Advisors LLP. For illustrative purposes only.

¹As of October 2025. Assets under management are defined as committed capital since inception. Excludes warehoused exposure associated with future CLO issuance.

Understanding Par Value in CLOs

Introduction

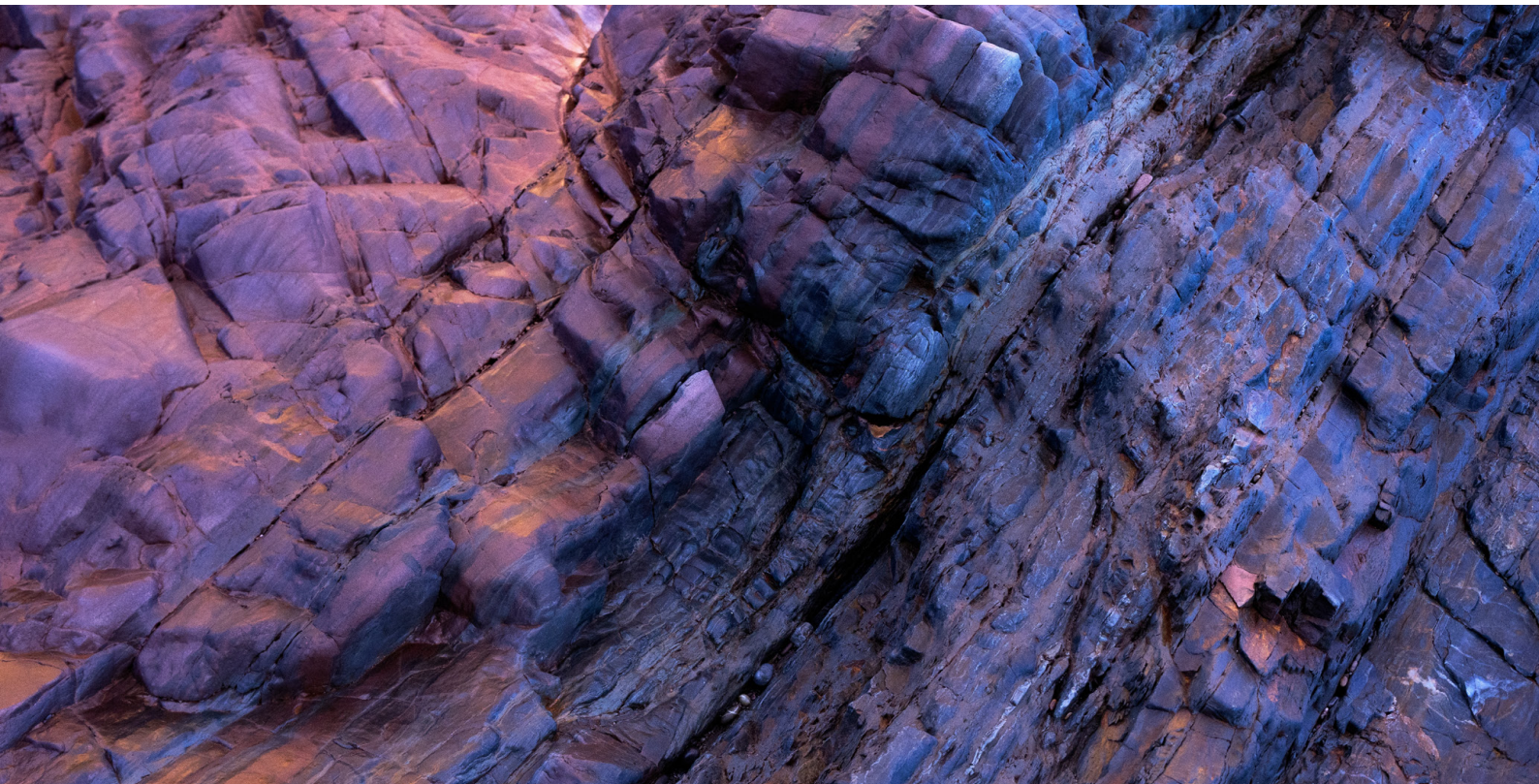
CLOs generally account for assets at par value (i.e. 100% of principal) irrespective of purchase price or market value. This is because the underlying loans are expected to repay in full. There are exceptions to this convention which are discussed below.

CLO investors pay particular attention to par value as CLO performance is largely driven by this number. One of the key tests which CLOs are subject to is the overcollateralisation (OC) or Par Value Test. There are different OC tests with their own pass levels for each class of notes. The OC test passes if the relevant OC ratio for each class of notes is above its original pre-determined level. The "OC ratio" is the par value of the CLO's collateral divided by the outstanding amount of that particular class of notes (expressed as a percentage) and all the classes of notes senior to it in the capital structure. The Par Value Tests therefore measure the value of the collateral cover underpinning the CLO notes.

A distinct but related test is the Interest Coverage Test. As with the Par Value Tests, there is an Interest Coverage Test at different levels in the capital structure. The numerator is the interest proceeds available in the waterfall and the denominator is the interest payment due on the next debt tranche. Interest Coverage Tests therefore measure the capacity of the CLO to pay coupons to the noteholders.

This article looks at the importance of par value as a way of protecting investors, comparing CLOs and assessing the skills of the CLO Manager.

Firstly, we consider some of the dynamics of the CLO note structure.



Structural Importance

CLO funding is provided by investors who subscribe to various classes of notes depending on their investment preferences. The highest category of notes is rated AAA followed by an AA tranche and further classes of notes with the lowest ranking notes being unrated. The returns investors receive vary depending on their position in the capital structure and consequently their exposure to the credit risk of the assets underlying the CLO.

Investors in the CLO notes are fundamentally interested in the quality of the portfolio as it determines how much protection they have. The highest rated noteholders have first claim on the assets in the portfolio. They benefit from the credit enhancement derived from the lower rated noteholders having subordinated claims.

The level of protection that each class of notes receives is reflected by the Par Value Tests and the Interest Cover Tests. These tests are at the heart of the CLO structure.

Over-Collateralisation Test / Par Value Ratio

Class of notes	Indicative Par Value Ratio	Approx. Opening Level	Initial Test Cushion
A/B	129%	138%	9%
C	120%	127%	7%
D	110%	116%	6%
E	106%	111%	5%
F	103%	107%	4%

Interest Cover

Class of notes	Indicative Interest Cover	Approx. Opening Level	Initial Test Cushion
A/B	120%	197%	77%
C	110%	176%	66%
D	105%	155%	50%

For illustrative purposes only.

As the tables above show the A (rated AAA) and B (rated AA) notes benefit from the highest level of asset cover and interest cover cushion. In a typical €400m CLO, the total of the AAA and AA notes is €290m which means they have €110m surplus asset cover. Additionally, the opening cushion equates to ca. €36m to cover potential losses before the AB Par Value Test is at risk. Lower classes of notes have sequentially lower levels of protection – but receive higher returns for their investment.

There are a number of consequences if any of the tests are breached.

Par Build and Par Erosion

Secondly, we look at what can happen to par value as it is important to realise that it is not a static figure.

As mentioned above, CLO assets are generally accounted for in terms of their par value. However, this par value is subject to certain deductions or "haircuts", for instance, when an asset is in default.

Conversely, the CLO manager is also able to increase the par value of the portfolio. This benefits investors since it provides more cushion to each class of note holder to withstand losses. It also increases the asset base upon which interest income is generated. Furthermore, it benefits investors in the subordinated notes who receive any excess cashflows after the CLO debt tranches are repaid.

There are a number of ways that the par value of the portfolio can be increased or decreased. This is known as par build or par erosion.

Par Build

There are several ways a CLO manager can increase par:

- Buying assets below par which can be booked at par.
- Trading assets to generate gains.
- Switching between loan tranches and bond tranches of the same obligor.
- Buying discounted assets (i.e. below 80%) which subsequently increase in price satisfying the terms of the CLO documentation enabling them to be booked at par.
- Diversion of cash flows in the waterfall to purchase additional assets.

Par Erosion

Par value can be reduced by:

- Selling assets below par (which are not replaced by cheaper assets).
- CCC rated assets above the CCC limit (typically 7.5% of the portfolio) which are recorded at the lowest rating agency recovery rate.
- Defaulted assets which are valued at the lowest rating agency recovery rate, or if such defaulted assets have been in default for 3 years are valued at zero.
- Assets bought below 80% will be recorded at purchase price.
- Holding long dated loans (due after the CLO maturity date) which are treated at 70% of par.

Conclusion

Par value is one way of monitoring the performance of a CLO portfolio. It also helps to gauge the skills of the CLO manager. A CLO manager who successfully builds par does so for the benefit of all classes of note holders. A CLO manager who erodes par, risks reducing the protections available to note holders in inverse order of seniority.

The Standard of Care in a CLO

The Standard of Care is a Core Tenet of the Management of a CLO

This article looks at the importance of this principle and discusses what it means in practice for the management of a CLO.

The CLO Manager is a key participant in, and driving force behind, a CLO transaction. It initiates the creation of a CLO, assembles a portfolio of assets with financing from the arranger and generally manages the portfolio of loans throughout the life of the CLO subject to the criteria and tests set out in the Collateral Management Agreement.

The Standard of Care refers to the requirement for the CLO Manager to perform its obligations, duties and discretions under the Collateral Management Agreement with reasonable care and in good faith consistent with practices and procedures followed by reputable institutional managers of international standing managing similar assets in the CLO.

The Standard of Care is defined in the Collateral Management Agreement and is a pervading theme in the management of a CLO. It profoundly determines the investment and portfolio management activities of the CLO Manager.

Provided that the CLO Manager acts in accordance with the Standard of Care, it will be entitled to follow its customary and usual administrative policies and procedures in performing its duties under the Collateral Management Agreement.

The Standard of Care in Practice

There are several areas that are relevant to the exercise of the Standard of Care in practice, including the following:

- The CLO Manager must undertake appropriate due diligence and exercise due care in selecting assets that fit the Eligibility Criteria and make sure the Issuer gets good title.
- The CLO Manager shall take reasonable care to avoid any action that would breach any law, regulation or contractual restriction applicable to the Issuer or subject the Issuer to taxation anywhere other than its home jurisdiction.
- The CLO Manager has an obligation to make reasonable efforts to give the Collateral Administrator and the Issuer information about the asset portfolio that these parties need to create investor reports.
- The CLO Manager must monitor the underlying assets and make any determinations regarding the classification of such assets for the purposes of the CLO, including in connection with any restructuring.
- The CLO Manager may sell assets and reinvest the proceeds in accordance with the Collateral Management Agreement.
- The CLO Manager may exercise any discretions on behalf of the Issuer in relation to any proposed amendment, modification, waiver or consent under the terms of any portfolio asset.
- The CLO Manager may arrange and negotiate the execution, modification and/or closing out of hedge transactions on behalf of the Issuer.

Limitation of Liability

Despite the obligations outlined above, the CLO Manager is not to be liable for any loss or damage resulting from its failure to satisfy the Standard of Care.

The exceptions to this are:

- Acts or omissions constituting bad faith, wilful misconduct or gross negligence.
- If the information supplied by the CLO Manager contains a material untrue statement which is misleading.
- If the information provided by the CLO Manager omits a material fact which is misleading.

Conclusion

Par value is one way of monitoring the performance of a CLO portfolio. It also helps to gauge the skills of the CLO manager. A CLO manager who successfully builds par does so for the benefit of all classes of note holders. A CLO manager who erodes par, risks reducing the protections available to note holders in inverse order of seniority.



CLOs for All Seasons

Introduction

CLOs are typically designed for all seasons.

CLOs generally do well when there is a plentiful supply of good quality assets, minimal defaults and the arbitrage is strong. This characterised the long “summer” for CLOs from 2014 – 2019.

Looking back further, CLOs have proven their resilience through the “winter” of the global financial crisis and the Eurozone crisis.

More recently CLOs have survived the turbulence of negative interest rates, Covid lock downs and high inflation.

Throughout this period performance has been impressive with negligible defaults according to Standard & Poor’s Rating Agency.

So, what makes CLOs so adaptable?

Matching

Firstly, CLOs are matching vehicles. They invest predominantly in Broadly Syndicated Leveraged loans (BSL) and seek to match the characteristics of the assets with the terms of the liabilities. This reduces some of the main investment risks associated with investing in credit assets.

Examples of matching include:

- Duration - as both assets and liabilities are linked to floating rates (or hedged).
- Currency risk – as assets and liabilities are in the same currency (or hedged).
- Maturity – as the note structure has a longer maturity date than the loans.

Structural Features

- Eligibility Criteria and Portfolio Profile Tests.
- Collateral Quality tests.
- The Waterfall.
- Lifecycle.
- Role of Trustee and Collateral Administrator.
- The CLO model has been built to withstand a level of stress.
- CLOs incorporate “cure” provisions to protect investors.

Investment Management Delegation, Expertise and Governance

CLOs delegate investment decisions to a CLO Manager with requisite expertise acting in accordance with an agreed Standard of Care.

Each asset is carefully analysed by the CLO Manager before being submitted for approval to an investment committee.

The Collateral Administrator is asked to run a “hypo” before acquisition of each asset to ensure that the portfolio requirements will be met.

Active Management

During the Reinvestment Period, the CLO Manager can reinvest repayments and trade assets to manage risk and optimise the portfolio. This means that CLO Managers can reposition the portfolio to reflect their views on individual sectors as well as to manage other risks. Typical reasons to trade include:

- Borrower performance.
- Relative value.
- Rating changes.
- Maturity changes.
- Spread changes.
- Realising gains or reducing losses.

Risk Retention

EU and UK regulation requires the originator, sponsor or original lender of a “securitisation” (which includes CLOs) to retain a net economic interest of at least 5%. Risk retention (commonly known as “skin in the game”) therefore aligns the interest of the Retention Holder with Investors.

Amortisation

Loans have scheduled repayment dates so that investors can expect to get their money back from repayment rather than sale of assets. Following the Reinvestment Period, the CLO Manager’s ability to reinvest is limited to unscheduled principal receipts and sale proceeds of credit improved or credit impaired assets and the Reinvestment Criteria also becomes more restrictive. This tilts the CLO Manager towards amortisation of the CLO notes.

Self Defence

CLOs contain a variety of techniques to limit what the CLO Manager can do whilst allowing the CLO Manager flexibility to manage the portfolio including assets that default or become distressed. The following table highlights these provisions.

Topic	Actions and Controls
Eligibility Criteria	These are criteria that must be satisfied for each asset at the time of acquisition (or binding commitment) as determined by the CM in its reasonable discretion. For instance, assets cannot be in defaulted assets and must have minimum ratings. Typically, no structured credit instruments are permitted.
Portfolio Profile Test	There are limits imposed on concentration within the portfolio (by obligor, sector and country) as well as on holdings of HY bonds, mezzanine, second lien, PIK, zero coupon, project finance, infrastructure and unsecured loans. There are also limits on extent of permitted super senior debt above the senior lenders. Typically, at least 90% of the portfolio must consist of senior secured loans and bonds.
Credit Amendments	The CLO Manager can generally agree changes to the assets including agreeing pricing and maturity amendments, subject to certain conditions.
CCC Bucket	There is usually a limit of 7.5% CCC assets carried at par with the excess carried at market value or recovery rate.
Recovery	Senior secured lenders may be able to negotiate with shareholders for additional equity. Senior secured lenders may be able to accelerate the loans and take possession of key assets to facilitate a sale.
Distressed assets	A prescribed minimum purchase price allows the CLO Manager to build par but makes buying distressed assets less attractive.
Defaulted assets	There is a range of tools to manage defaulted or distressed assets: <ul style="list-style-type: none"> • Bankruptcy exchanges are useful if eventual recovery potential is improved. • Current pay loans are loans to bankrupt companies that are still paying interest. • Restructured loans give borrowers extra flexibility. • Loss mitigation loans help preserve value for existing creditors. • Corporate Rescue loans provide additional funds to viable businesses. • Up-tier priming debt allows CLOs to participate in Liability Management Exercises to protect existing exposure.
Collateral enhancement account	This account opens the possibility of increasing potential recoveries by acquiring warrants or equities received in exchange or in connection with any collateral asset.

The “Weather” Forecast

Credit analysts are prudent people. They think about the downside rather than the upside.

They want the borrower to succeed because this means timely payment of interest and principal to the investors. Base case and downside sensitivities are run to gauge the risk of default.

Lenders don’t make multiples of invested capital, so the integrity of every asset is important.

Similarly, CLO Managers want everything to go well but they are realists and recognise that sometimes things can go wrong.

This pragmatic mindset means that CLO Managers keep a close eye on macro and market developments that could affect the portfolio.

Some of the clouds on the horizon include:

- Geopolitical events.
- Impact of technology (particularly AI).
- Trade tariffs.
- Resurgent inflation and interest rates.
- Availability of assets.
- Lower spreads.
- Increased defaults and lower recoveries.

Conclusion

This article looked at the long-term performance of CLOs describing how they have weathered historic crises and upheavals before explaining some of the tools available to CLO Managers to navigate change.

The CLO sector remains a relevant financing option for borrowers to access funding on competitive market terms and for CLO investors in all seasons.¹

¹Past performance is not a reliable indicator of future results.



The Waterfall

What is a CLO Waterfall and What Does it Do?

The “waterfall” is one of the more colourful phrases used by the CLO community.

More formally known as the Priorities of Payments, it is the mechanism that controls the flow of interest and principal proceeds received from the assets owned by the CLO to investors subject to certain controls (the Par Value Tests and the Interest Coverage Tests).

A CLO can make a particular payment only if there is enough cash left over after it has made every higher (or more senior) payment in the “waterfall”.

There are two parallel waterfalls: the interest waterfall and the principal waterfall (governing application of interest proceeds and principal proceeds received from the CLO’s assets, respectively).

To make it slightly more complicated, sometimes the waterfalls are connected - for instance, interest proceeds can be diverted to the principal waterfall if coverage tests are breached.

Interest “Waterfall”

There is a clear “pecking” order amongst investors. For example, Class A Noteholders (rated AAA) receive highest priority of payment (after settlement of taxes, expenses and certain fees). This contrasts with Subordinated Noteholders (unrated) who are at the bottom of the waterfall. The return payable to the Noteholders will be commensurate with their position in the waterfall and therefore the credit risk they assume.

In most circumstances, there will be enough money generated from the portfolio to pay all amounts when they fall due.

However, there may be occasions when the funds received from the portfolio are insufficient to pay everyone or certain CLO tests are breached which leads to the diversion of cash from junior to more senior classes of notes.

Investors may become concerned if there is a high level of assets rated CCC+ or lower. Typically, if this level exceeds 7.5% of the portfolio it causes a par value “haircut” and a reduction in the cushion.

For example, if the quality of the portfolio deteriorates such that the Class A/B Par Value Test is breached, instead of paying interest to the Class C Noteholders, available interest proceeds would instead be used to redeem the Class A Notes and

(if needed) Class B Notes until the Class A/B Par Value Test is satisfied. Operation of the waterfalls and coverage tests therefore go hand in hand.

Similarly, if there are insufficient interest proceeds available to pay interest due on all classes of notes on a given payment date, the interest waterfall will facilitate the deferral of interest in respect of the more junior classes of notes (normally from Class C down).

The interest waterfall is also particularly relevant to the CLO Manager as it determines the priority of payment for its collateral management fees. While the senior collateral management fee is paid near the top of the waterfall ahead of the Noteholders, the subordinated and incentive fees are paid lower down beneath the rated notes.

This creates balance and aligns the interests of the CLO Manager with investors at different levels of the capital structure. While the CLO Manager will want to invest in a high yielding portfolio with a view to hitting its incentive fee hurdle, the CLO Manager will also want good quality performing assets to ensure it gets paid its subordinated management fee after all payments are made to the rated notes.

Taking a Closer Look

The Conditions of the Notes includes clear rules regarding the timing and quantum of payments to noteholders. The following table provides more details.

Step	Payments	Condition
A	Tax Issuer Profit Amount	None
B	Trustee fees and expenses Administration expenses	Capped (but not after EOD) Capped
C	Expense Reserve Account	Manager Discretion
D	Senior Management Fee	None
E	Senior Hedge Payments	None
F	Payments of interest to A Noteholders	None
G	Payments of interest to B Noteholders	None
H	Payments to redeem A / B Noteholders	If the A/B Coverage Tests are not met and sufficient to satisfy the tests
I	Payments of interest to C Noteholders	None
J	Payment of deferred interest on the C Notes	None
K	Payments to redeem C Notes	If the Class C Coverage Tests are not met and sufficient to satisfy the tests
L	Payments of interest on D Notes	None
M	Payments of deferred interest on the D Notes	None
N	Payments to redeem D Notes	If the Class D Coverage Tests are not met and sufficient to satisfy the tests
O	Payments of interest on E Notes	None
P	Payments of deferred interest on the E Notes	None
Q	Payments to redeem E Notes	If the Class E Coverage Tests are not met and sufficient to satisfy the tests
R	Payments of interest on F Notes	None
S	Payments of deferred interest on the F Notes	None
T	Payments to redeem F Notes	If the Class F Coverage Tests are not met after the expiry of the Reinvestment Period and sufficient to satisfy the tests
U	To redeem the notes	If an Effective Date Rating Event has occurred and is continuing
V	Up to 50% of remaining interest proceeds in payment to the Principal Account for purchase of additional collateral.	If during the Reinvestment Period, the Reinvestment Over Collateralisation Test has not been met
W	Subordinated collateral management fee Payment on due and unpaid collateral management fees Payment of deferred collateral management fees Repayment of Collateral Manager Advances and interest	The manager has discretion to defer payment of this fee to buy additional collateral or transfer to the Principal Account pending reinvestment.
X	Payment of Trustee fees and Administrative Expenses above the Senior Expenses cap. Payment of any Hedge payments (where hedge counterparty is defaulted)	
Y	Payments to the Collateral Enhancement Account	At the managers discretion
Z	Remaining interest is to be paid to subordinated note holders Up to 20% of remaining interest proceeds to the Collateral Manager plus any VAT Any remaining interest is paid to subordinated note holders.	If the Incentive fee threshold has not been reached If the Incentive fee threshold has been met

Principal “Waterfall”

The payment of Principal Amounts follows a similar pattern to the Interest Priority of Payment until after the end of the Reinvestment Period. After that the notes are redeemed according to the Note Payment Sequence (i.e. AAA notes first) with some exceptions related to Unscheduled Principal Proceeds and Sale Proceeds from Credit Improved or Credit Impaired assets (which are permitted to be reinvested by the CLO Manager subject to certain Reinvestment Criteria).

Conclusion

The “waterfall” is an intrinsic feature of the structure of a CLO.

It tells the CLO Manager exactly what it needs to do, and the Investors know exactly what to expect, in respect of interest and principal proceeds received from the assets owned by the CLO.

Subordinating most of the CLO Managers’ fees behind the payments to the rated noteholders incentivises the manager to manage the CLO Portfolio to ensure that rated noteholders are paid on time and in full.

The “waterfall” also provides the method to “cure” certain test breaches. This is a key component of the structuring process when determining the rating classifications of the notes.

It means that higher ranking notes benefit from cash flows that would otherwise have been paid to lower ranking notes. This represents an extra layer of protection against portfolio losses as higher ranking notes are cushioned by the diversion of the interest cash flows from the portfolio that would otherwise been paid to lower ranked notes and to the CLO Manager.

Finally, the incentive management fee rewards out-performance compared to the CLO Base Case meaning that Subordinated Noteholders should expect to receive their expected return before the CLO Manager gets paid its “performance bonus.”



CLO Collateral Quality Tests and Matrices

Introduction

Fundamentally, the Collateral Quality Tests determine how risk and return are defined and measured at a portfolio level. They also incorporate portfolio concepts such as recovery, diversity and maturity. The interrelationship between these metrics is expressed in a grid or matrix which allows CLO Managers scope to pursue a range of investment strategies whilst staying true to the underlying CLO investment treatise.

This article explores how these theoretical concepts are used in practice.

Collateral Quality Tests

The Collateral Quality Tests measure the quality of a CLO's collateral in different ways. They comprise the following:

- Weighted Average Rating Factor (WARF) test, measures the quality of the CLO's portfolio in ratings terms by converting the rating of each asset into a numerical score¹.
- Weighted Average Recovery Rate (WARR) test, ensures the CLO is not over exposed to loans with low recovery prospects.
- Diversity Test, measures the industry diversity of the CLO portfolio.
- Weighted Average Spread (WAS) test, designed to ensure the CLO does not invest in too many low-yielding assets.
- Weighted Average Life (WAL) test, designed to ensure the average life of the CLO's portfolio is not significantly longer than that of the CLO's liabilities.

The CLO Manager navigates the portfolio to manage these tests via a matrix which provides flexibility for different managers to adopt different investment styles. For example, a more aggressive manager can build a higher risk portfolio but will need to make sure that there is a commensurately higher spread. A more prudent manager can adopt a lower risk strategy with lower returns.

¹A Moody's B1 Rated asset has a 2220 Rating Factor, A B2 rated asset has a 2720 rating factor.

Moody's Matrix

The Moody's Test Matrix comprises a table of maximum Weighted Average Rating Factors (WARF) based upon the axes of Minimum Diversity Score and Weighted Average Spread (WAS).

Some examples highlight the range of combinations:

- If the Diversity Score is 56 and the Weighted Average Spread is 5% then the WARF can be as high as 3568.
- If the Diversity Score is 50 and the Weighted Average Spread is 4% the maximum WARF is 3231.
- With the same Diversity Score and a Spread of 3.6%, the maximum WARF is lower at 3126.

Fitch Matrix

Fitch has two matrix cases depending on the Weighted Average Life (WAL) of the portfolio. These set minimum Recovery Rates based upon the co-ordinates of Weighted Average Spread (WAS) and Weighted Average Rating Factor (WARF).

These examples provide an illustration:

- If the WARF is 20 and the Spread is 5% then the Recovery Rate must be more than 42%.
- If the WARF is 31 and the Spread is 5% then the minimum Recovery Rate is 61.2%.
- If the WARF is 25 and the Spread is 3.6% then the Recovery Rate must be greater than 64.1%.

It's important to remember that the matrix values are weighted averages. This means that it is not necessary to fit every asset exactly into a box in the matrix. This means assets with different characteristics can be added to the portfolio. Better rated assets with lower spreads can sit alongside lower rated assets with higher spreads.

The Moody's and Fitch matrices are fundamentally similar in that they both focus on risk and return. The Moody's Test Matrix encourages the CLO Manager to construct diverse portfolios (i.e. with borrowers in different sectors) whilst the Fitch Test Matrix determines minimum recovery levels to minimise losses.

Using the Matrix in Practice

The CLO manager can move around the matrix depending on the evolution of the portfolio.

The calculations don't have to exactly match the numbers in the grid but can be interpolated between squares.

So, the matrix approach is flexible as well as serving to provide a blueprint for the management of the portfolio.

Maintain or Improve

The CLO applies the Collateral Quality Tests whenever the CLO Manager wants to perform a trade with a view to measuring the impact of that trade.

The CLO Manager manages the portfolio during the Reinvestment Period by buying and selling assets and is also permitted to make limited investments following the Reinvestment Period.

However, there may be factors outside the control of the CLO Manager (e.g. ratings changes or secondary liquidity) that can cause a breach of a Collateral Quality Test. If this happens then the CLO Manager needs make sure that its proposed reinvestment does not make the breach any worse (so called "maintain or improve" standard).

Conclusion

The Collateral Quality Tests are at the heart of the CLO model guiding the investment process and helping to protect the interest of Noteholders.

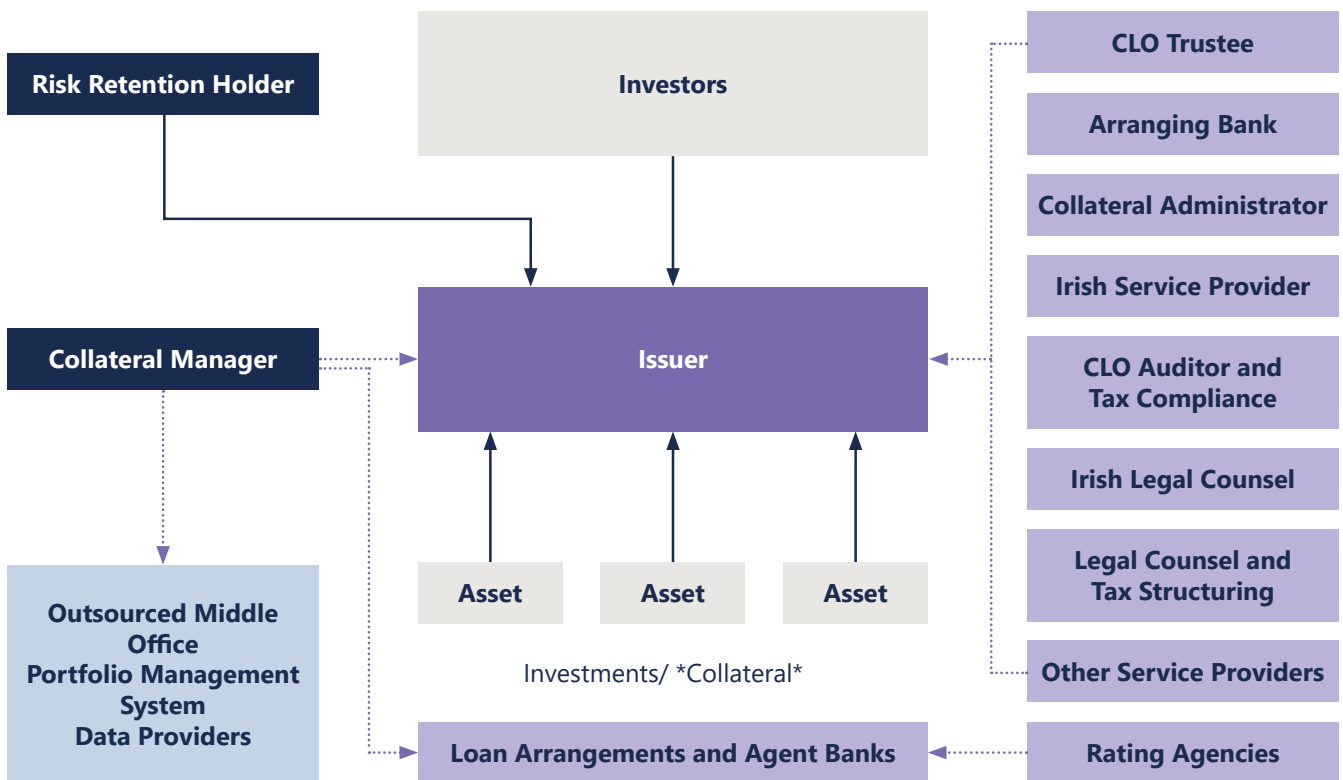
The Cast: Who's Who in CLOs

Introduction

Issuing a CLO involves multi-disciplinary teams of specialists all working together. The number of parties involved in the creation of a CLO can be bewildering.

In this CLO Insights article, we explore the roles and responsibilities of each party and provide some rationale for some of the key constructs.

Typical CLO Structure



Issuer

The Issuer is a special purpose vehicle that owns the assets and has an obligation to pay principal and interest on the CLO notes. This entity is incorporated as an orphan entity with its share capital held on trust for charitable purposes. Along with the limited recourse and non-petition provisions included in the transaction documents, this ensures that the CLO is “bankruptcy remote”.

So far so good but why are the Issuers all based in Ireland?

Ireland has the necessary infrastructure (lawyers, accountants, administrators, etc.) and double tax treaties which are essential for operating a CLO.

Investors

Investors comprise a range of institutions who have interest in the CLO notes as part of their own investment objectives. They have the choice of which notes suit them best and the ability to influence both the price and terms of the CLO although ultimately these are both market-driven.

The Collateral Manager

The Collateral Manager is appointed by the Issuer to select assets for inclusion in the portfolio and for the management of the portfolio. The Collateral Manager employs a team of analysts dedicated to selecting and monitoring the assets in the portfolio. The Collateral Manager also typically employs a Trader and a Portfolio Manager whose roles are to ensure that assets are bought and sold for the benefit of the Investors.

The Arranger

This is usually a well-known investment bank.

The Arranger's principal job is to structure the CLO notes and negotiate with the Rating Agencies. The Arranger identifies suitable Investors and helps to negotiate the CLO documentation. Importantly the Arranger is the initial purchaser of the Notes before they are on-sold to Investors. The Arranger typically also provides warehouse financing for purchase of assets before the CLO is issued. This means that investors can see what will go into the portfolio and also have the benefit of having income producing assets from the closing date.

Corporate Services Provider

The role of the Corporate Services Provider is to provide independent directors and make sure that the Issuer is run properly and efficiently including keeping necessary records and ensuring that all filings are made on time.

The Trustee

The Trustee works for the Investors to make sure their interests are protected. Firstly, it holds the security interests created by the Issuer on trust for the benefit of the Investors (and other secured transaction parties). If the Issuer defaults and CLO debt is accelerated, the Trustee would run the enforcement process on behalf of the Investors and arrange the liquidation of the assets. Secondly, the Trustee represents the interests of the Investors in accordance with the Trust Deed, such as in relation to modifications and waivers.

Account Bank

The Account Bank may be the same institution as the Trustee. Its role is to maintain the various bank accounts that are required for a CLO including Interest and Principal accounts.

The Collateral Administrator

The Collateral Administrator carries out certain administrative functions on behalf of the Issuer, such as booking and settling trades in the CLO's portfolio, collecting payments and determining whether proceeds are interest or principal in nature. It also assists with payment directions to the Account Bank and determines amounts to be disbursed on each payment date pursuant to the priorities of payments. In addition, the Collateral Administrator will, in co-ordination with the Issuer and the Collateral Manager, produce the reports to be sent to Investors detailing the performance of the CLO.

The Rating Agencies

The Rating Agencies play a key role in the formation and functioning of CLOs. They use their experience and research to assist the Arranger in providing ratings for the notes as well as ratings for the underlying assets. The Rating Agencies monitor the CLO's performance through its life, adjusting the ratings for the notes if necessary, and they also provide the methodology for the collateral quality tests which the Collateral Manager needs to comply with.

The Risk Retention Holder

The Risk Retention Holder is a special type of Investor that is required by regulation to hold at least 5% of the European CLO notes for the entire life of the CLO. The intention is that this serves to align the interests of 3rd party Investors with the Collateral Manager. There are a number of ways this can be achieved. The Risk Retention Holder is not permitted to sell or hedge this investment.

Lawyers

Each of the Collateral Manager, the Arranger, the Issuer, the Trustee and the Risk Retention Holder will appoint a law firm. Together they make sure that the CLO is issued in accordance with applicable laws and regulations and negotiate the legal documents on behalf of their respective clients.

Listing Agent

The listing agent provides services to the Issuer to list the CLO notes on a suitable exchange.

Valuation providers

Third party firms that provide valuation services for the underlying assets and also for the notes especially in respect of US Risk Retention rules.

Other essential service providers

These are organisations that assist the Collateral Manager in managing the portfolio including portfolio management systems providers, trading platforms, information providers, ESG ratings providers plus auditors and accountants.

Conclusion

The process of issuing a CLO brings together a multi-disciplinary team of professionals. Each is an expert in their own field, and the work is generally undertaken in a spirit of mutual co-operation and respect.

The Importance of Portfolio Optimisation in CLOs

This article explores the critical role of portfolio optimisation throughout the lifecycle of a Collateralised Loan Obligation (CLO).

CLO portfolios typically consist of over 100 underlying leveraged loans, which are primarily first-lien loans to companies backed by private equity sponsors. These loans are generally tradeable in the secondary market giving the CLO manager scope to make changes to the portfolio. While CLOs are also permitted to invest in other instruments, such as unsecured loans or bonds, these exposures are typically capped.

Once the initial loan ramp-up is complete, the focus shifts to active portfolio management – aimed at optimising the portfolio for the benefit of all noteholders.

Optimisation can involve a variety of objectives, such as building par, adding diversity, increasing the weighted average spread (e.g., replacing loans paying E+350 with those paying E+400), and managing risk. The objective is to improve the resilience of the CLO portfolio by improving risk-adjusted returns while simultaneously controlling downside risk. Accordingly, during both the ramp-up period and the reinvestment period, CLO managers actively trade assets - subject to eligibility criteria and portfolio tests. Although the ability to optimise is more limited following the reinvestment period, certain amendments and trades may still be permitted under specific circumstances.

Other reasons for a CLO manager to make changes to the portfolio may include in response to changing geo-political conditions or macroeconomic forecasts - reducing exposure to countries or sectors expected to underperform and increasing investment in others with more favourable outlooks.

However, portfolio optimisation is not straightforward as assets are not homogeneous and there are some costs involved. Different borrowers have different attributes including spreads, credit ratings, or recovery expectations, which need to fit into the overall CLO constraints including:

- **Eligibility Criteria:** which must be satisfied for each asset at the time of acquisition.
- **Portfolio Profile Tests:** to mitigate portfolio concentration risk such as single obligor limits, fixed-rate asset caps, and CCC bucket restrictions.
- **Collateral Quality Tests:** mainly driven by the rating agencies, including the Weighted Average Rating Factor (WARF), Weighted Average Spread (WAS), Weighted Average Life (WAL), and Diversity Score.
- **Coverage Tests:** such as Overcollateralisation (OC) and Interest Coverage (IC) ratios, designed to ensure that the par value and interest proceeds of the portfolio is sufficient to cover payments due on the rated notes.

These tests are designed to protect the CLO noteholders. If not satisfied, they either result in the early paydown of some of the CLO notes or prevent the CLO manager from any reinvestment that makes the test failure worse than it already is (often called maintain-or-improve tests).

Conclusion

Ultimately, the CLO manager has a fiduciary responsibility to manage capital on behalf of investors in accordance with its Standard of Care. Through active management, the CLO manager aims to optimise the CLO portfolio by enhancing yield while preserving value and managing risk for the benefit of investors at all levels of the capital structure.

Risk Retention Deep Dive

Introduction

The idea behind Risk Retention (sometimes called “skin in the game”) is to improve standards in Asset Backed Securitisations (ABS) by aligning the interests of those who create ABS transactions with those who invest in them.

It is perhaps useful to think about skin in the game like an insurance excess. If you have to pay the first £500 of any damage to your car it changes the way you drive. You are “on risk” and therefore likely to be more careful.

The Risk Retention Rules were introduced in response to the Global Financial Crisis (“GFC”). The “Originate to Distribute” model was considered partly to blame for losses in sub-prime mortgage securitisations. There was a perceived conflict of interest as originators of the mortgages were viewed as not taking enough care to ensure the creditworthiness of the underlying borrowers as the risk was being passed on to others by means of securitisation.

This note discusses the “Risk Retention Rules” as applicable under the EU and UK securitisation regulations.

So, what is securitisation?

A securitisation is a transaction whereby the credit risk of a portfolio of assets is divided up into different layers (tranches). Payments to different tranches are dependent upon the performance of the portfolio and paid according to an order of priority in the structure which determines the distribution of any losses.

Although CLOs survived the GFC relatively unscathed they were tarred with the same brush as sub-prime mortgage securitisations.

The definition of securitisations therefore captures CLOs and also CLO warehouses.

So, What Do the Risk Retention Rules say?

The Risk Retention Rules impose an obligation on CLO **Sponsors, Original Lenders or Originators** to hold on an ongoing basis a material net economic interest of not less than 5 % in a CLO (and a warehouse), referred to in this note as the “Retention Interest”. EU or UK (as applicable) institutional investors are also required to verify that this risk retention requirement has been satisfied.

So, Who Are All These People and What Do They Do?

A Sponsor is a credit institution or investment firm that establishes a CLO and purchases assets from third parties and subsequently manages the portfolio.

An Original Lender is the entity which, itself or through related entities, was involved in negotiating the underlying loan or bond with the borrower or issuer.

An Originator can be an original lender or an entity which purchases assets from third parties for its own account and then securitises them.

Please see below for more details about these parties but first we will look at what the term “Retention Interest” actually means.

Retention Interest

There are five ways that the Retention Interest can be held but only one method can be applied in any particular case.

1. Holding in the first loss tranche of not less than 5% of the nominal value of the securitised exposures (a 'horizontal' slice).
2. Not less than 5% of the nominal value of each of the tranches sold or transferred to the investors (a 'vertical' slice).
3. In the case of revolving securitisations or securitisations of revolving exposures, the retention of the originator's interest of not less than 5% of the nominal value of each of the securitised exposures.
4. The retention of randomly selected exposures equivalent to not less than 5% of the exposures in the portfolio provided there is at least 100 assets at origination.

5. The retention of a first loss exposure of not less than 5% of every asset in the portfolio.

The Risk Retention Holder must keep the holding for the life of the CLO. It is permissible to finance the Retention Interest provided this does not involve selling or hedging the associated credit risk. Retention financing techniques such as repos are more commonly used in connection with vertical retention holdings.

EU and UK institutional investors are obliged to verify that the Risk Retention Rules have been satisfied and carry out a due-diligence assessment to assess the risks involved in the CLO. Non-compliance may result in sanctions being imposed.

Types of Risk Retention Holders

There are a number of established routes to funding the Retention Interest.

Sponsor Route

In theory this is the simplest and easiest route.

The CLO Manager invests 5% (€20m for a €400m CLO).

However, this is not so straightforward as it seems.

- The CLO Manager needs to be a regulated investment firm under MiFID to qualify as a "sponsor" under the Risk Retention Rules.
- The amount of capital (i.e. investment in a horizontal slice of subordinated CLO notes and a first loss tranche of a warehouse) required to build a profitable CLO Platform of ca. €1 bn is ca. €100m.
- This route means that there is a barrier to entry giving large asset managers an advantage and depriving investors of choice.

Co-Manager Route

If the CLO Manager does not have the capital itself, it can team up with a co-manager who can provide the funding. The co-manager would need to show that it is actively involved in some aspect of the management of the CLO perhaps by sitting on the investment committee and approving trades. This would clearly mean sharing the management fee.

This method is seldom used.

Original Lender Route

This is most likely to be a bank wishing to securitise some of its portfolio. It becomes the Risk Retention Holder by virtue of originating the assets. Such "balance sheet" CLOs need to clearly explain to investors how the CLO will be managed independently from the bank's own assets. So called "captive" CLOs experienced some of the worst outcomes in the CLOs issued before the GFC. These balance sheet CLOs are rare compared to the arbitrage focused CLOs that currently drive the market.

Originator Route

There are two ways to qualify as an "Originator" for the purposes of the Risk Retention Rules. It is either an entity which:

- a. itself or through related entities, was involved in the original agreement which created the obligations being securitised; or
- b. buys assets for its own account and then securitises them.

The first option is very similar to the Original Lender route as discussed above. The second option can be satisfied into two main ways:

1. Manager Originator Route

This is where the CLO manager holds the risk retention investment as “originator” for the purposes of the Risk Retention Rules. The CLO manager may obtain third party funding (including by way of repo) in order to finance its holding of the Retention Interest.

Apart from taking and holding the Retention Interest in the CLO, there are a number of additional requirements that need to be satisfied in order to comply with the regulations:

- The Manager Originator must have substance and be regulated in its own jurisdiction. This involves setting up appropriate structures and policies and may impose capital and reporting obligations. Decisions are made by the board in the jurisdiction of the vehicle meaning a degree of travel for the CLO Manager.
- The Manager Originator must also originate (i.e. be on risk) for at least 5% of the assets that are subsequently included in the CLO.

One of the ways that have been used to fulfil the second condition is by the use of Conditional Sale Agreements. This is where the Manager Originator agrees to buy assets from the CLO if they become defaulted during a specified period of time (or “seasoning period”) prior to the CLO closing date (typically 15 business days). It has recently (August 2025) been clarified by the European Commission that this is not what was originally intended and CLOs that have used this technique have not complied with the Risk Retention Rules. Since this is a clarification of existing law, there has been no “Grandfathering” of these CLO transactions which are now being remediated by a number of CLO managers.

2. Third Party Originator Route

This is where a third party investor provides the funds and holds the Retention Interest, but the vehicle is independent from the CLO Manager. Instead, the CLO Manager often becomes the Investment Advisor to the vehicle.

This vehicle does not need to be a regulated credit institution or investment firm but will need to comply with customary corporate requirements (such as filing accounts and holding board meetings).

The vehicle will also need to be compliant with the following requirements to ensure that it qualifies as an “originator” for regulatory purposes and is therefore eligible to hold the Retention Interest:

- The vehicle needs to be involved in the establishment of the CLO (e.g. by signing the engagement letter with the arranger and appointing service providers) and taking part in negotiation of the warehouse and the CLO documents.
- It must have a board including expert directors who are experienced and capable of assessing the credit risk of individual assets and managing the vehicle.
- It must not have been established for the sole purpose of securitising exposures or holding the Retention Interest. This means that it should have a broader business strategy and capacity to meet its payment obligations from other capital and sources of income. In other words, it must not rely on the securitised exposures or the Retention Interest (or any corresponding income) as its sole or predominant source of revenue. In March 2025, a Joint Committee of EU supervisors expressed its view that this means that an “originator” must derive more than 50% of its revenues from sources other than the exposures to be securitised or the risk-retention securities. Existing transactions that did not meet this requirement have been Grandfathered.
- In addition to having a general origination business which constitutes its predominant source of revenue as mentioned above, it must also season (i.e. be on risk for) at least 50% of the assets that are subsequently securitised in the relevant warehouse and / or the CLO. For this purpose, Third Party Originators typically use Forward Sale Agreements, which provide for the sale of assets from the originator to the CLO on a forward basis provided they have not defaulted during the seasoning period. Since this involves the actual purchase and sale of assets by the originator, Forward Sale Agreements are, in general, not caught by the recent update regarding Conditional Sale Agreements referred to above.

Conclusion

Risk Retention is an important requirement serving to align the interests of Investors and other parties in a CLO transaction.

Recent clarifications have been helpful in the interpretation of the regulations for the benefit of all parties in the CLO market.

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