

CLO Structures
An evolution

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Executive summary



Collateralised Loan Obligations (CLOs) have evolved considerably over the last decade. Whilst still retaining the same core purpose of tranching and redistributing syndicated and leveraged loans from the balance sheets of financial institutions, various adjustments have led to an evolution of CLO structures to ensure they continue to appeal to investors, as well as fulfilling a useful function in the capital markets.

In this paper we outline the features of a CLO which distinguish them from other classes of securitisation. This includes the typical life cycle of a CLO, the role of the CLO manager, plus other common structural features and how those features have evolved over time. Notable changes include: significantly higher levels of credit enhancement, as well as greater spreads on all of the tranches, along with tougher covenants that CLO managers need to operate within.

The paper goes on to discuss the current state of CLO regulation in Europe (under the Capital Requirements Regulation¹ (CRR) and the Alternative Investment Fund Managers Directive² (AIFMD)) and in the United States (US) (under Dodd-Frank³), how that regulation has evolved and what may be in store for the future.

The paper also examines issues currently facing the CLO industry in Europe and the US, and assesses the potential impact of new legislative initiatives such as Simple, Transparent and Standardised⁴ (STS) securitisation. Finally we outline an alternative perspective to tackling the challenge of risk retention faced by CLO issuers, particularly CLO managers, who may wish to optimise the capital required to operate their business.

1 CRR (Regulation (EU) No 575/2013), June 2013

2 AIFMD Delegated Regulation (EU No 231/2013), December 2012

3 Dodd-Frank Wall Street Reform and Consumer Protection Act, July 2010

4 Proposal for a regulation laying down common rules on securitisation and creating a European framework for simple, transparent and standardised securitisation, September 2015

What is a CLO?

A CLO is a securitisation transaction containing corporate loans such as syndicated and/or leveraged loans made to corporate borrowers and private equity funds. Within the CLO nomenclature, transactions are typically labelled as being either arbitrage or balance sheet CLOs. The structures that are created allow investors to take a structured exposure to the leveraged loan market, while meeting their risk/return appetite.

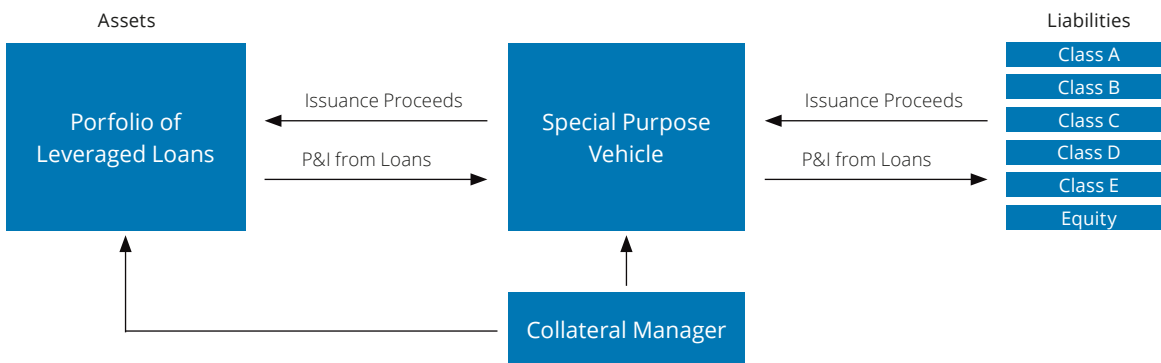
1. CLOs which seek to capture the excess spread that exists between purchasing higher yielding assets and issuing a package of liabilities with a lower yielding cost, are known as *arbitrage CLOs*.
2. CLOs used by financial institutions (typically banks) to fund assets on their balance sheet are typically known as *balance sheet CLOs*. These CLOs are attractive to financial institutions as issuers, as the structures typically allow issuers to fund leveraged loan assets at a lower cost through tranching distribution of credit risk. Depending on the structure of the CLO, regulatory capital relief may also be achieved.

Role of the collateral manager

Most arbitrage CLOs feature active management (which includes the buying and selling of the underlying leveraged loans) in order to maintain and potentially improve the yield of the portfolio. This role of acquiring and trading leveraged loans is typically performed by the collateral manager. The active management aspect of CLOs differentiates them from other types of securitisation, where investors are typically focused on the credit quality of either a static portfolio of assets, or a dynamic portfolio where new assets may only be added as principal redemptions occur and are not required for noteholder repayment.

Figure 1 – Structure of a CLO

This diagram illustrates the typical structure of a CLO



A typical CLO structure is very similar to that of other classes of securitisation except for one key additional role, the CLO manager

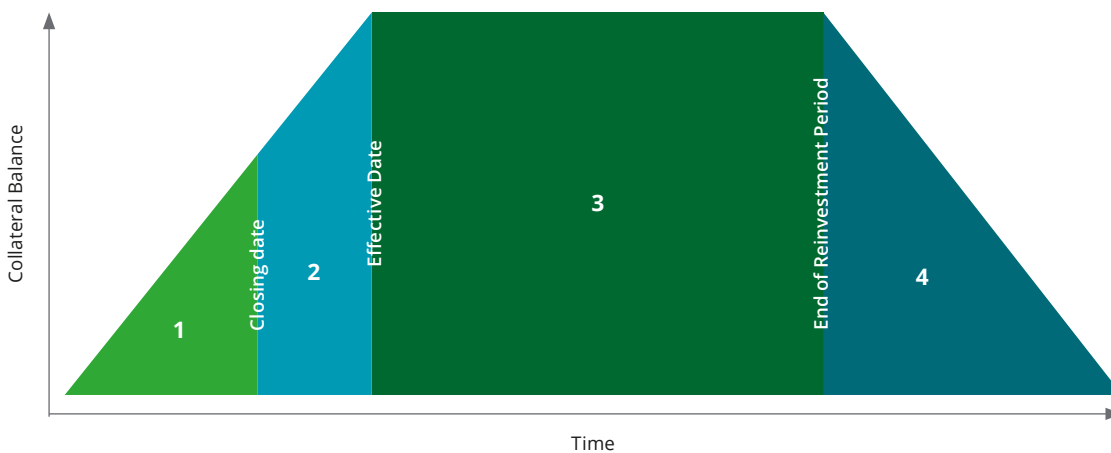
The active management aspect of CLOs differentiates them from other types of securitisation

Life Cycle of a CLO

Another characteristic which distinguishes CLOs from other types of securitisation is the life cycle that is typically observed.

| Phase | Description |
|-----------------------------|--|
| 1. Warehouse Period | Collateral Manager acquires assets on behalf of the CLO using warehouse facilities |
| 2. Ramp-up period | Collateral Manager acquires further assets for the CLO using issuance proceeds |
| 3. Reinvestment Period | Collateral Manager trades assets on behalf of the CLO |
| 4. Post Reinvestment Period | Proceeds from the assets are used to pay down the liabilities |

Figure 2 – Life cycle of a CLO



This diagram illustrates the typical life cycle of a CLO

CLO Structural Protections

Active management presents CLO investors with greater upside potential, but also greater risk. Therefore, investors seek protection from the unlimited discretion of CLO managers by requiring the transaction to adhere to various performance metrics, providing a framework for the CLO manager to operate within. Such features are somewhat similar to eligibility criteria applied to non-CLO securitisations, but with a CLO specific adaptation. The table below outlines some of the most common tests.

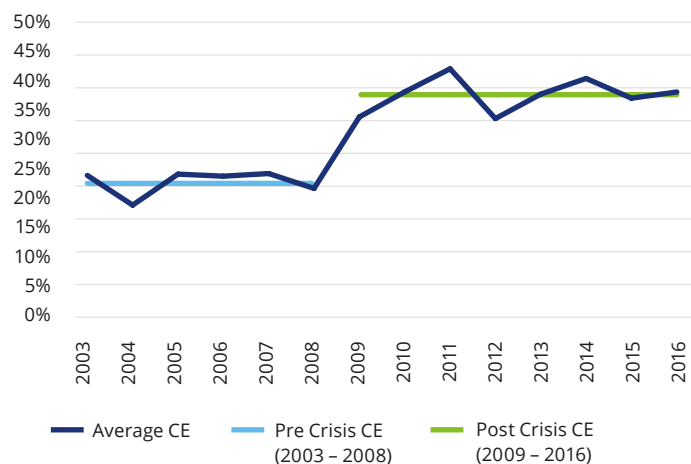
| Test | Description |
|--------------------------------------|---|
| Over Collateralisation (OC) | The OC tests protect noteholders against a deterioration in the value of the portfolio collateral. This is tested by comparing the value of outstanding notes versus collateral and ensuring it is sufficiently over collateralised. |
| Interest Coverage (IC) | The IC tests protect noteholders against a deterioration in interest income from the portfolio. This is tested by comparing the interest income received versus the liabilities due to ensure there is sufficient coverage. |
| Weighted Average Life (WAL) | The weighted average life of all the loans in the portfolio. Designed to prevent the total risk horizon of the portfolio from exceeding a covenanted level. |
| Weighted Average Spread (WAS) | The average effective interest rate spread for the loan portfolio over an index rate such as LIBOR. This test ensures a minimum level of income from the underlying portfolio that should be sufficient to pay interest on the liabilities. |
| Weighted Average Rating | A measure of the average credit rating of the portfolio, which is an indicator of the portfolio's average credit risk. |

Evolution of CLOs

Since 2008 the CLO market has seen a number of adjustments in order to meet the risk return requirements of investors. These post-crisis CLO transactions (often referred to as CLO 2.0) distinguish themselves from pre-crisis CLOs due to the following features:

- **Higher levels of subordination:** providing greater protection or credit enhancement (CE) to the senior tranches.
- **More rigorous collateral eligibility requirements:** to restrict the CLO manager from trading in riskier collateral.
- **Shorter non-call periods:** allowing managers to re-price earlier and take advantage of interest rate changes. In addition the post crisis CLOs typically have the ability to refinance on a tranche-by-tranche basis, providing added flexibility to the CLO manager.
- **Shorter reinvestment periods:** typically have the effect of shortening the average life of the CLO as the portfolio moves in to run down sooner.

Figure 3 – Evolution of European CLO CE



Source: Market Data

The table below illustrates the changes observed for certain transactional features pre and post crises.

| Covenants/Features/Terms | Pre Crisis | Post Crisis |
|--|------------|-------------|
| Weighted Average Spread Covenant (bps) | 200–250 | 350–450 |
| CLO AAA Spread (bps) | 25–35 | 140–160 |
| Leverage Multiple (Debt/Equity) | 10–12 | 8–12 |
| Reinvestment Period (years) | 5–7 | 3–4 |
| Non-call Period (years) | 3–4 | 1.5–2 |



Active management presents CLO investors with greater upside potential, but also greater risk.

Regulation of CLOs

Current CLO regulation in Europe

The EU trilogue discussions on the Securitisation Regulation concluded on the 30 May 2017. Preliminary indications are that risk retention will remain at the 5% level of the current regulations. Below we outline the current regulations which will remain in place at least until any amendments arising out of the EU Securitisation Regulations are implemented, which we would expect to be no earlier than January 2018.

The current EU regulations on CLOs are defined principally in CRR Articles 405 to 409 as well as AIFMD Articles 51 to 53. These address the need to comply with risk retention obligations to meet investor requirements and in addition, for CLO managers and sponsors to meet due diligence requirements for securitisation transactions.

Both CRR and AIFMD outline five methods that CLO managers can employ to satisfy holding the necessary retained interest in their CLO transactions.

| Option | Method |
|--------|---|
| 1 | Retention of no less than 5% of the nominal value of each of the tranches sold or transferred to investors. |
| 2 | For securitisations of revolving exposures, retention of the Originator's Interest of no less than 5% of the nominal value of the securitised exposures. |
| 3 | Retention of randomly selected exposures, equivalent to no less than 5% of the nominal value of the securitised exposures. |
| 4 | Retention of the first loss tranche and, if necessary, other tranches having the same or a more severe risk profile than those transferred or sold to investors and not maturing any earlier than those transferred or sold to investors, so that the retention equals in total no less than 5% of the nominal value of the securitised exposures. |
| 5 | Retention of a first loss exposure not less than 5% of every securitised exposure in the securitisation. |

The retained position must be held by the retaining party through the life of the transaction, and cannot be hedged or sold for this period.

Due diligence requirements for securitisation transactions (including CLOs) are outlined in the CRR and AIFMD. They state that before an institution becomes exposed to a securitisation, that it must be able to demonstrate it has a comprehensive and thorough understanding of the risks in the securitised positions. As a consequence, should there be any retained positions, CLO managers will need policies and procedures to analyse the risk characteristics of retained securitisation positions, the exposures underlying those positions, as well as the historic performance of the originators or sponsors of the exposures underlying the securitisation position. There is also a need to comply with risk retention on an ongoing basis, as well as having capabilities to value the collateral supporting the securitised exposures and also perform regular stress tests.

Current CLO regulation in the United States

The Dodd-Frank Financial Reform and Consumer Protection Act (Dodd-Frank), in the United States introduced Risk Retention Rules for CLOs which came into effect on 24 December 2016.

This requires CLO managers to purchase and retain a minimum of 5% of the fair value of any CLO issued after the effective date in order to be compliant. This poses sizable additional costs for CLO managers, as a CLO of \$500m now creates approximately a \$25m commitment for the manager. CLO managers are therefore challenged to seek financing to meet the requirement, if they do not have capital readily available.

The 5% retention may be held as i) a vertical slice, ii) a horizontal slice, or iii) a combination of the two creating an 'L' shaped slice; provided this amounts to not less than 5% of the credit risk of the securitisation. Similar to the EU rules, the vertical interest requires a minimum of 5% notional of each tranche issued in the securitisation transaction be retained. However unlike in Europe, for the horizontal slice (or an L piece), a total of 5% of the fair value of all asset-backed securities issued are to be retained.

The duration of the risk retention differs between the US and EU. The securitiser is restricted from hedging or transferring its retained interest until the later of i) the unpaid principle of collateral pool falls below 33% of closing date balance, ii) the unpaid principle on issued asset-backed securities falls below 33% of closing date balance, or iii) two years after closing of the CLO this compares to holding it for the lifetime of the transaction under the EU requirements.

Jurisdictional reach of risk retention rules also differs in the US. A 'safe harbour' exists whereby the risk retention does not apply. This includes where a securitisation transaction is not SEC registered, no greater than 10% of the value of the asset-backed security is sold or transferred to US persons, that the sponsor and issuer are neither US entities nor US branches of non US entities, and no more than 25% of the unpaid principle of the pool is acquired from US affiliates or branches.

All existing CLO structures will be required to comply with Dodd Frank. As CLO's typically refinance after two years, managers will need to ensure that they satisfy the risk retention requirements at the time of refinancing.

Evolution of EU CLO regulation

Current EU law on securitisation is on the cusp of change, with the European Commission publishing its draft regulation for common rules on securitisation and creating a European framework for simple, transparent and standardised (STS) securitisations originally on 30 September 2015. This piece of legislation is due to supersede the various directives and regulations which have applied to securitisation previously, and provide a single rule set for securitisation in the EU. The regulation could be in force before the end of 2017.

The proposed regulation has two parts. The first provides a common set of rules that apply to all securitisations, whilst the second details the criteria that defines STS securitisation.

Article 3 of the draft framework outlines the due diligence requirements for institutional investors. This remains largely the same as current regulations (Articles 405 & 406).

Article 4 of the draft framework outlines the risk retention requirements of originators, sponsors or original lenders. The existing rule-set already establishes these requirements via an indirect approach, whereby counterparties are not directly subject to risk retention and the onus is placed on investors to check whether the originator, sponsor or original lender has retained risk.

The regulatory proposal in Article 4 introduces the concept of a direct risk retention requirement and a reporting obligation on the originator, sponsor or the original lenders. This will apply to securitisations after the date the proposal comes in effect. For securitisations where neither the originator, sponsor nor original lender is not established in the EU, the indirect approach will continue to apply.

In addition, Article 5 outlines the transparency requirements for originators, sponsors and Securitisation Special Purpose Entities (SSPE's) of a securitisation. It is intended to provide investors with all the relevant information in order to allow them to understand, compare and assess securitisation transactions independently. It also creates a formal requirement to provide information on exposures underlying the securitisation on a quarterly basis.

Industry issues facing CLOs

In the European Union

Risk retention has been part of the regulatory landscape since 2013, following the introduction of CRR, and is well understood within the EU.

The proposed STS criteria raise some challenges for CLOs, should CLO managers wish to issue structures that comply with these requirements to benefit from lower risk weighting for investors. Key challenges are:

- The prohibition of active portfolio management of the securitised loans; and
- That repayment of noteholders will not depend on the sale of assets securing the underlying exposures.

The first would affect CLO managers' business models, by more than likely reducing their fees. Their ongoing role in the transaction would significantly reduce given they would no longer be permitted to actively manage the portfolio, with their role becoming more akin to a trustee of the assets.

The second presents a potential problem for CLO (and also Commercial Mortgage Backed Securities) transactions, as it effectively prohibits the inclusion of exposures with a tenor that exceeds the tenor of the bonds issued or interest only loans that are dependent on the market value of the asset to repay/refinance. This is to ensure noteholders are not reliant on the sale of assets, but rather the repayment of loans. The consequence of which may be to alter the composition of assets in CLO portfolios to ensure STS compliance.

In the United States

The Dodd Frank rules in the United States pose a challenge to CLO managers and originators, with the requirement to hold 5% of the fair value of any structure issued after 24 December 2016. One response we have observed from CLO managers has been for managers to issue "delayed draw securities", which effectively act as placeholders for future refinancing. However, this solution will not work indefinitely and is therefore unlikely to be a long term solution for the CLO industry.

The Dodd-Frank risk retention requirements effectively impose a leverage ratio on CLO managers who have historically been thinly capitalised relative to regulated banks. As a result some CLO managers may decide to leave the industry (as happened in the EU), as they face difficulties in raising additional capital/funding to support the issuance of new deals. Leaving the industry could take the form of either putting existing portfolios into run-off or mergers and acquisitions activity with larger competitors who are more able to fund risk retention requirements.

A mooted moderation of Dodd Frank may change this, as it raises the potential prospect of risk retention for certain asset classes being relaxed. However it is unclear when, or even if, this may occur.

Funding risk retention

Funding the risk retention requirements is potentially another major challenge for CLO managers. In any funding scenario the returns from the retained position in the CLO plus any management fees, would need to exceed the managers' cost of capital. This therefore raises a question regarding the optimal debt/equity structure and funding mix of a CLO manager.

Tackling risk retention

An alternative approach to risk retention

The issue of risk retention is a challenge faced by both US and European CLO managers, as many are thinly capitalised. Below we consider an alternative perspective to addressing issues created by risk retention requirements, the "5% wrapper". This alternative approach ensures a 5% net economic interest as well as meeting the regulatory intention of alignment of interests between issuers and investors, through ensuring that issuers share downside risk with investors. However it does not force the manager to raise additional day one capital to operate their business.

The 5% Wrapper

- **Retained Economic Interest:** The CLO manager guarantees to each bondholder to cover 5% of the losses that each bond suffers. This effectively gives the manager a 5% vertical exposure to the entire structure (akin to option 1 of the CRR risk retention options).
- This allows the manager to originate transactions without requiring the significant 5% outlay required to purchase 5% of each tranche, while ensuring the manager shares losses alongside the bondholders, which would be in keeping with the regulators intentions of ensuring a minimum of 5% net economic interest in the transaction.
- **Mechanics:** In order to minimise bondholders' counterparty exposure to the CLO manager, the manager would post cash equal to a 5% change in the value of the bonds each interest payment date (IPD) to an escrow account. This margining would be one way, capping at the maximum of 5% of the value of each bond when the bond fell to a value of zero.
- In order to necessitate the margining, the bonds will need to be valued each IPD (ideally based on an active market where possible).
- **Repayment:** When a particular class of bonds redeems at par (i.e. no losses occur), the cash that has been margined by the CLO manager with respect to that class of bond can then be released back to the CLO manager.

- Where a loss occurs i.e. the note repays below par the margined cash can be used to repay investors equal to 5% of the loss, anything held in the margined account in excess of 5% of the loss can be returned to the CLO manager.

Periodic verification of the value of the notes could be performed by a verification agent in order to provide further assurance to noteholders that enough cash was being posted to the margin account.

In terms of funding a 5% wrapper, the CLO manager could utilise a revolving credit facility, which they could draw down on as needed, to post cash collateral to the margin account. This therefore potentially limits the funding costs of the manager to when margin is required to be posted.

Worked example of the 5% wrapper

In CLO ABC the Class D notes have a notional of \$100m. During the life of the transaction, the CLO manager has been required to set aside \$750k in the Class D margin account due to changes in the valuation of the bonds throughout their lifetime.

At redemption, the CLO has suffered losses and Class D noteholders are in line to receive a total of \$88m from the sale of assets in the portfolio; therefore suffering a loss of 12 cents on the dollar.

However because of the 5% wrapper provided as part of this risk retention structure, the CLO manager would be required to make good 5% of the bondholders losses (\$12m * 5% = \$600k). This would mean that bondholders would receive \$88.6m in total for the Class D notes.

Therefore \$600k from the Class D margin account will go to the Class D noteholders and \$150k will be released back to the CLO manager as a surplus.

This compares with an upfront investment of \$5m should the CLO manager purchase a vertical retention.

Next steps

Role of CLOs: CLOs continue to play an important role in funding both syndicated and leveraged loans as well as being a mechanism through which risk can be transferred from originators balance sheet to investors. As we have illustrated, CLOs have evolved considerably over the last 10 years and now offer greater protections to investors.

Current and future regulation: The CRR and Dodd-Frank provide the current regulatory framework for CLOs in the EU and US respectively. The risk retention requirements of the two are broadly similar, with the US providing greater flexibility through permitting “L” shaped retention pieces. That said, market participants need to be alert to the proposed STS changes which will likely shape European securitisation issuance over the coming years.

Industry issues: STS is expected to impact CLOs through a prohibition of active portfolio management, as well as structures which ensure that noteholder repayment is not dependent on the sale of assets underlying the exposures. For CLO managers who are looking to be STS compliant this is likely to trigger changes in their business models, which include lower management fees and exclusion of certain assets from the structure, ultimately leading to a less profitable business model. One likely outcome is consolidation within the industry for those CLO managers who are looking to comply with STS as gaining scale is likely needed to counteract the decline in profitability.

Tackling risk retention: Risk retention is clearly the biggest challenge for the CLO industry at present. In this paper we have discussed an alternative perspective to approaching this in the form of the 5% wrapper, which fulfils the regulatory desire to see the alignment of interest between issuers and investors, along with ensuring that issuers share downside risk with investors. The 5% wrapper has the added advantage of achieving this while not forcing the issuer to raise additional day one capital.

Market participants need to be alert to the proposed STS changes which will likely shape European securitisation issuance over the coming years

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