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Professional Perspective

CLO Structures, Risks, and Participants

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Just over a decade ago, the U.S. economy was brought to its knees by the collapse of the housing market and complex structured finance products such as residential mortgage-backed securities (RMBS), with reverberations around the world. In recent years, a steady drumbeat of economic and legal commentators have declared collateralized loan obligations (CLOs) to be the "next RMBS," and sounded the alarm about the potential similar ripple effects of a failure of the CLO market. That drumbeat has begun to reach a fever pitch given the unanticipated and substantial additional stress placed on CLOs due to the global coronavirus pandemic.

Similar to the last economic crisis, if these structured finance products begin to fail in significant numbers, litigation between CLO participants is likely to follow. Before that happens, it is critical for CLO participants—as well as others who may be impacted by a collapse of these products—to understand their rights and obligations and the potential legal claims that could arise if CLOs are indeed the "next RMBS."

This three-part series discusses the economics and potential legal implications of CLOs. Below, in Part I of the series, the authors describe the structure and economics of CLOs and the main participants in the CLO market to provide necessary context for the legal issues that could arise in this market. Part II discusses the rise of CLOs following the last financial crisis, trends in CLO issuances and the underlying collateral, and the potential impact of the burgeoning economic crisis precipitated by the coronavirus pandemic. Finally, Part III previews the types of disputes and legal claims that may arise among CLO participants.

CLO Basics

A CLO is a structured finance product that is collateralized by leveraged (i.e., below investment grade) commercial loans. While CLOs may not yet be as widely known as other structured finance products such as RMBS or collateralized debt obligations (CDOs)—which gained public prominence during the 2008 financial crisis—they constitute an increasingly significant segment of the U.S. asset-backed securities (ABS) and fixed-income markets. Since the financial crisis, the CLO market doubled in size from $308 billion in 2008 to $617 billion by the end of 2018—at which point it comprised 38% of the U.S. ABS market.

The leveraged loans collateralizing CLOs are typically senior-secured, first-lien, broadly syndicated loans made to companies with ratings below investment grade. These companies generally have more limited access to traditional commercial debt markets and have higher funding costs than larger and better capitalized companies. Currently, roughly half of the outstanding $1.2 trillion in below investment grade debt has been securitized as part of a CLO.

Figure 1: Key Participants in a CLO Transaction

Participant	Typical Role
Arranger	Serves as underwriter and placement agent for CLO securities
CLO Manager	Initiates creation of CLO; assembles and manages underlying loan portfolio
Rating Agency	Evaluates credit risk of CLO securities
Investors	Purchase CLO securities (debt and equity)

Recent Growth of CLOs

The significant growth of CLOs over the last decade likely stems from several factors. First, CLOs provide higher yields than other forms of fixed income securities such as Treasury securities and investment-grade corporate debt. Second, since CLOs are backed by a portfolio of leveraged loans, they provide investors with the potential to not only achieve a higher yield but also diversify their risk so that they are not overly exposed to any individual company or, depending on the CLO investment strategy, any individual industry.

As with other structured products, CLOs also provide a menu of securities to suit different investor preferences for risk and return—from higher-rated senior securities with the lowest risk, to lower-rated mezzanine and equity securities that are exposed to greater risk in exchange for higher expected returns. Third, CLOs have enjoyed the perception of being somewhat resilient to default after surviving the last financial crisis relatively unscathed.

However, the fact that CLOs emerged from the last financial crisis intact does not mean that they are immune to financial shocks. As discussed further in Part II of this series, to meet burgeoning demand for CLO products, CLO arrangers, and managers have relaxed certain standards for underlying CLO collateral. Moreover, the depth and breadth of the current economic crisis—and the particular impact on industries that may feature heavily in the loans underlying CLOs—could constitute the perfect storm. CLOs have thus recently become an even greater focus of investors, credit rating agencies, analysts, and attorneys.

Figure 2: ABCs of CLOs

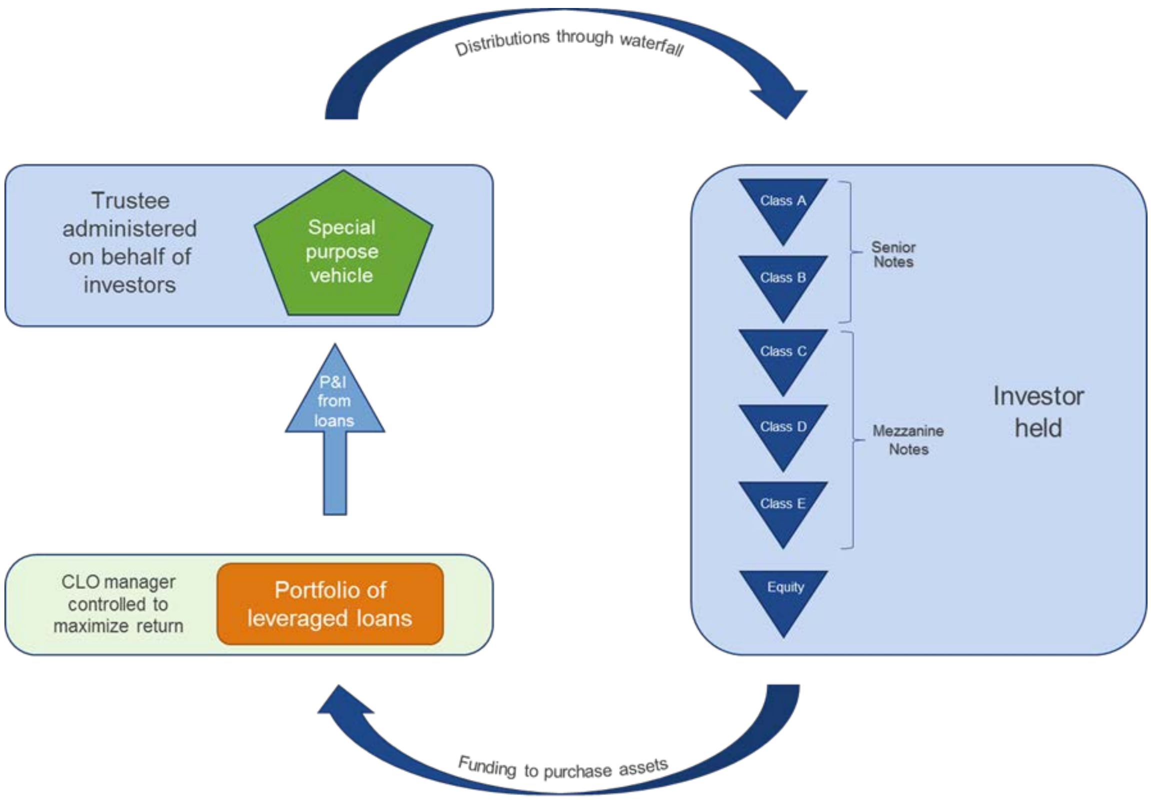
Term	Definition
Notes	Securities issued by the CLO and backed by the CLO portfolio
Tranches	Separation of notes by yield and risk, among other characteristics
Waterfall	How proceeds from the collateral are prioritized among the various tranches
Senior Debt Tranches	The highest-rated tranches of the CLO that pay the lowest coupons but experience losses only after all subordinate tranches have lost all of their value
Mezzanine Debt Tranches	The middle tranches of a CLO that have lower ratings than senior debt tranches and are senior to the equity tranche but subordinate to the senior debt tranches in the payment waterfall
Equity Tranche	The lowest tranche of the CLO that is not rated and that receives the residual cash flow in the payment waterfall
Warehouse	A facility used by the CLO manager to purchase the loans before the CLO is priced
Reinvestment Period	For actively managed CLOs, the period during which the CLO manager can purchase and sell loans in the CLO portfolio
Overcollateralization	The amount by which the outstanding face value of the collateral exceeds the face value of the notes
Excess Spread	Difference between interest on the collateral and the interest payments to the note holders

CLO Creation, Structure, and Management

A CLO is structured as a special purpose vehicle. The SPV purchases the leveraged loans using the proceeds it receives by selling debt and equity tranches to investors. As noted above, a CLO features various levels of securities that can be purchased by investors depending on their risk appetite and investment objectives. Specifically, a CLO usually issues multiple layers, or "tranches," of debt instruments (senior and mezzanine) as well as a residual equity layer.

The proceeds obtained from investors who purchase these securities are used to fund a portfolio of loans. From an economic perspective, the equity holders are the owners of the underlying pool of loans and the debt investors provide term financing. The principal and interest repayments from the underlying assets are then used to fund the repayments to the various tranches, according to rules in the transaction documents that provide prioritization of cash flows based on seniority—i.e. the "waterfall." Figure 3 below provides a graphical depiction of a typical CLO structure.

Figure 3: CLO Transaction Diagram



CLO Legal Documents

The primary legal document that governs a typical CLO is the indenture, which is the agreement between the CLO issuer and trustee. Among other things, the indenture creates the initial capital structure of the CLO including the specific securities that will be issued and associated payment priorities, provides parameters for individual underlying loans as well as criteria for the collateral as a whole, and details certain rights and responsibilities of the CLO manager, noteholders (e.g., voting and consent rights), and other CLO participants. The indenture also dictates the events that will trigger an event of default—a key issue that is described further in Parts II and III of this series—along with the available remedies and other consequences thereof.

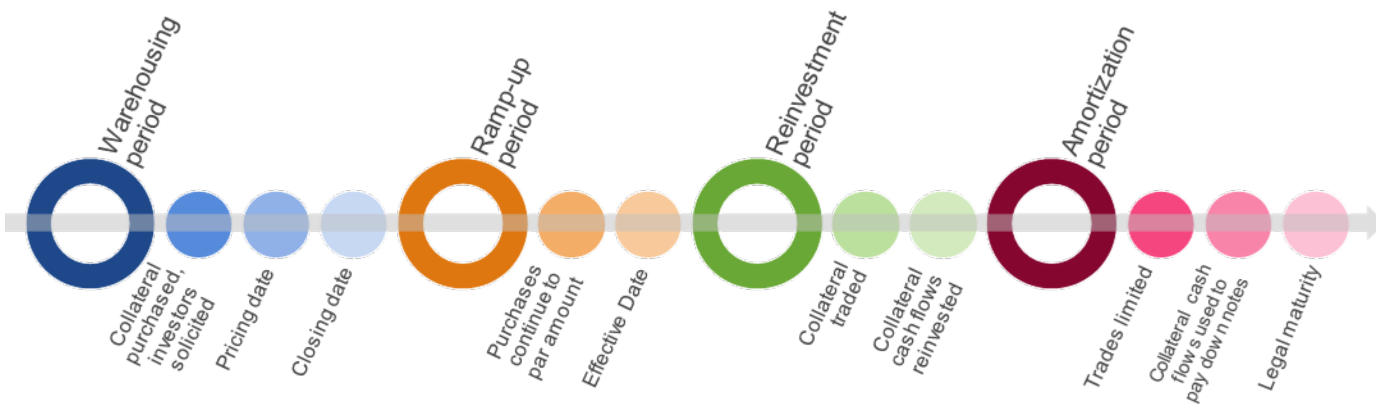
A CLO also generally involves a separate collateral management agreement pursuant to which the CLO manager is retained to manage the selection, acquisition, reinvestment, and disposition of CLO collateral in accordance with the indenture. The collateral management agreement further governs the conduct of the CLO manager, such as provisions addressing required or discretionary actions, the standard of care applicable to the CLO manager's conduct, the ordinary and incentive-based management fees payable to the CLO manager, and the circumstances under which a CLO manager may be removed.

In addition, the loans underlying a CLO are governed by individual loan agreements that set forth the financial and non-financial terms of the loans. Among other things, these agreements address covenants by the borrower, including whether the borrower must satisfy periodic maintenance tests that a lender can use to evaluate the borrower's operating performance and potentially intervene to preserve credit quality. Loans that lack such financial "maintenance" covenants are often referred to as "covenant-lite" or "cov-lite" loans.

The CLO Life Cycle

The average life cycle of a CLO is approximately 11 to 12 years, and features several discrete stages. Understanding these stages is critical to assessing claims that may exist between CLO counterparties, as discussed further in Part III of this series. As displayed in Figure 4, a CLO begins with the acquisition of the initial underlying collateral and ends on the final maturity date.

Figure 4: CLO Life Cycle



Stage 1: Warehousing Period

The warehousing period begins when the CLO manager acquires the loans that will make up the underlying collateral for the transaction. The CLO manager may already own a portion of the loans that will go into the CLO, and will then purchase additional loans in the market. In order to fund those purchases, a CLO manager may open a line of credit with an arranger, which is usually a large investment bank. The financing can be obtained from the bank following investment from an anchor equity investor. The warehousing period can last six to 12 months, since it can take time for the CLO manager to ensure that the CLO will include a diverse set of assets to match the requirements and investment strategy of the CLO.

Pricing Date. A CLO is typically priced four to six weeks before it is finalized. On the pricing date, investors and the CLO manager agree to the par amounts and interest rates for each tranche, plus any remaining transaction terms. These terms can include eligibility criteria, as well as the triggers for certain events that can have a significant impact on the legal rights of CLO participants down the road—as is discussed further in Parts II and III of this series. At the pricing stage the CLO arranger will also arrange for one or more rating agencies to assign preliminary ratings to the notes in each tranche.

Closing Date. On the closing date the transaction is finalized and the CLO is legally created. At closing, the investors will remit funds to purchase the notes issued by the CLO, and the CLO manager will use those proceeds to purchase from the warehouse the loans that had already been earmarked for the CLO at issue. Following closing, investors begin to receive payments pursuant to waterfall.

Stage 2: Ramp-Up Period

A CLO will not necessarily close with a complete set of loans, such that the total value of loans at closing may be lower than the targeted par value contemplated by the transaction. In this case, the ramp-up period gives the CLO manager time to purchase additional loans to complete the CLO portfolio. This ramp-up period may run for a couple of months after the closing date. Once the portfolio of loans reaches its targeted value, the transaction is said to be "fully ramped" and at that point "goes effective."

Stage 3: Reinvestment Period

After the transaction goes effective it enters the reinvestment period—which typically lasts up to five years after closing. During the reinvestment period, the CLO manager can actively buy and sell assets to rebalance the portfolio according to the CLO investment strategy, and reinvests any principal proceeds from the underlying collateral to purchase additional assets. Among other things, the CLO manager works to maintain credit quality, par value, and portfolio diversity, and must also adhere to the various credit quality and concentration limits set forth in the transaction documents. As discussed further in Part III, the reinvestment period is a critical time in the life cycle of a CLO—particularly amid broader economic turmoil—and the conduct of parties during this period will likely feature in future disputes.

Refinancing and Resets. The equity holders are not allowed to call the deal (redeem an individual note or the transaction in full) during the initial portion of the reinvestment period (i.e., the "no-call" period), which is often two years. After the no-call period, the CLO equity holders have the option to refinance and reissue an individual note or all notes at lower interest rate spreads, often called a "refi," or reset the payment terms of the entire CLO and reissue new notes at current market interest rate spreads.

Since the reissued notes have a lower interest rate spread than the original notes, the equity holders stand to increase their returns by capturing a larger share of the interest payments from the leveraged loans. A reset can also extend the maturity date of the CLO and prolong the period over which the CLO manager collects fees. However, refi and reset transactions require that current noteholders be paid in full, and that the CLO manager attract investors who are willing to purchase the newly issued notes at the reduced interest rate spreads. These conditions become more difficult to meet if the leveraged loans making up the CLO collateral fail to perform.

Stage 4: Amortization Period

The amortization period runs from the end of the reinvestment period until the transaction matures. During this period, the CLO manager uses principal and interest received from the underlying collateral to pay interest accruals and pay down the outstanding balances of the notes in accordance with the waterfall priorities. This period typically ends before the legal maturity date of the CLO notes since the underlying CLO assets tend to have a shorter lifespan. To the extent there are any funds remaining after paying down the balances of the notes, the equity holders receive the remaining proceeds.

Major CLO Market Players

Arrangers

An arranger plays a key role in structuring, underwriting, and placing a CLO in the primary market. Figure 5 lists the largest CLO arrangers by volume in 2019.

Figure 5: Top U.S. CLO Arrangers in 2019 (Bloomberg)

Rank	Arranger	Volume ($ in millions)	Number of deals
1	Citi	$16,088	34
2	JP Morgan	$13,841	29
3	Wells Fargo	$12,030	24
4	Barclays	$11,303	24
5	Morgan Stanley	$10,232	23
6	BofA Securities	$9,518	21
7	Goldman Sachs	$8,734	19
8	BNP Paribas	$7,772	16
9	Natixis	$7,460	18

Rank	Arranger	Volume ($ in millions)	Number of deals
10	Credit Suisse	$7,110	15
11	Jefferies	$5,086	12
12	GreensLedge Capital Markets LLC	$3,958	13
13	Deutsche Bank	$3,579	8
14	Mitsubishi UFJ Financial Group Inc.	$2,959	7
15	Societe Generale	$1,500	3
16	Mizuho Financial	$1,225	3
17	RBC Capital Markets	$914	2
18	Amherst Pierpont Securities LLC	$327	1
19	HSBC	$176	1
20	Capital One Financial	$151	1

CLO Managers

The CLO manager initiates the creation of a CLO, assembles the CLO portfolio with financing from the arranger, and generally manages the portfolio of loans throughout the life of the CLO. As shown below in Figure 6, the top CLO managers by new issuance volume in 2019 included Credit Suisse Asset Management, Octagon Credit Investors, CIFC Asset Management, and Oaktree Capital Management.

Figure 6: Top U.S. CLO Managers in 2019 (S&P LCD data)

Rank	Manager	Volume ($ in millions)	Number of deals
1	Credit Suisse Asset Management	$3,504	5
2	Octagon Credit Investors	$3,143	6
3	CIFC Asset Management	$3,135	6
4	Oaktree Capital Management	$2,749	4
5	GC Investment Management	$2,419	4
6	Palmer Square Capital Management	$2,403	5
7	THL Credit Advisors	$2,340	5
8	Blackstone/GSO Debt Funds Management	$2,320	4
9	Blackrock Financial Management	$2,288	4

Rank	Manager	Volume ($ in millions)	Number of deals
10	Carlyle CLO Management LLC	$2,224	4
11	Barings LLC	$2,167	5
12	PGIM Inc.	$2,153	5
13	Bain Capital Credit	$2,128	4
14	Sound Point Capital	$2,080	4
15	Elmwood Asset Management	$2,009	3
16	Ares CLO Management	$2,006	4
17	GoldenTree Loan Management	$1,964	3
18	Oak Hill Advisors	$1,917	3
19	Voya Alternative Asset Management	$1,882	4
20	Neuberger Berman Loan Advisers	$1,709	3

Trustees

A trustee oversees the administration of the CLO portfolio on behalf of the CLO investors. As of the end of 2019, the top five CLO trustees by volume were U.S. Bank, Wells Fargo, BNY Mellon, Citibank, and Deutsche Bank.

Rating Agencies

The arranger will retain one or more rating agencies to assess and rate the credit risk associated with each of the individual CLO securities. The primary rating agencies in the CLO market are S&P, Moody's, and Fitch.

Investors

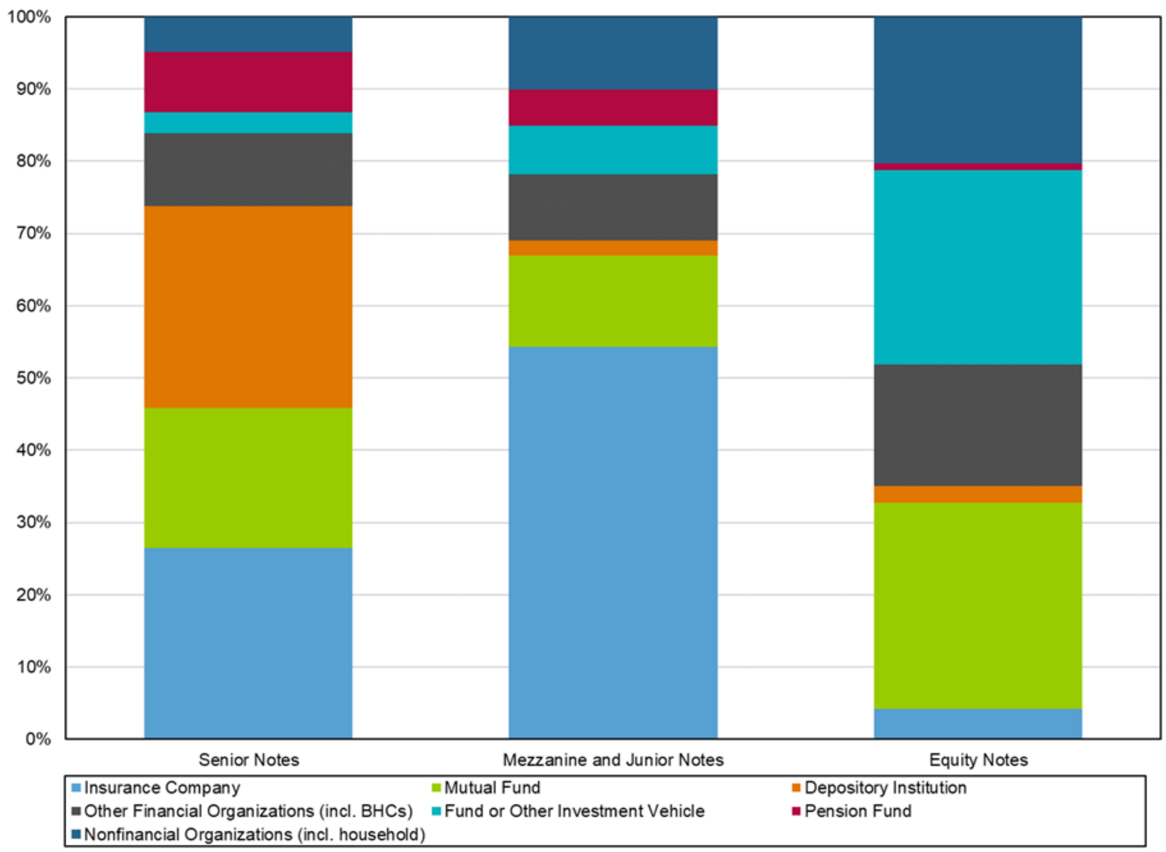
As detailed above, a CLO is divided into multiple "tranches" that offer individual investors different levels of risk versus return. Figure 7 shows the typical investor types by CLO tranche. Insurance companies, banks, and pension funds typically hold the most senior (often AAA-rated or AA-rated) notes. The more junior, and relatively riskier, mezzanine notes as well as the equity securities are often held by hedge funds, private equity funds, and the CLO managers themselves.

Figure 7: CLO Investors by Tranche

AAA notes	Mezzanine Notes	Equity
Insurance companies	Hedge funds	Private equity
Foreign banks	Asset managers	(Early vintage) CLOs
Pension funds	Insurance companies	Credit opportunity funds
U.S. regional & investment banks	(Early vintage) CLOs	CLO managers

Research by the Federal Reserve, depicted below in Figure 8, suggests that 80% of the outstanding U.S. CLO volume, as of 2018, is held by U.S. investors, with institutional investors (insurance companies, mutual funds, and pension funds) making up the majority of those investors.

Figure 8: Domestic Demand by Tranche (Federal Reserve Note)



CLO Value Drivers

Securitization

A CLO's structure allows for higher yield for debt investors. It also allows equity investors to retain the difference between the coupon receipts from the underlying leveraged loans and the relatively lower coupon payments on the CLO debt notes. This spread is referred to as arbitrage and drives the return to the equity investor. As discussed above, securitization also allows the CLO to provide different risk-return profiles to the CLO investors.

Underlying Collateral

The majority of CLOs include broadly syndicated loans to below investment grade companies made in cooperation with a group of lenders to a single company. These are leveraged loans typically used to refinance company debt, to support a recapitalization, to facilitate M&A activity (e.g., leveraged buyouts), or for project finance.

A CLO portfolio typically contains over 250 loans from 100 or more companies from various industrial sectors. A range of specific debt obligations from these loans may end up in CLOs, including senior secured loans and bonds, unsecured senior obligations, middle market loans, second lien loans, and mezzanine obligations.

As discussed in Part II of this series, there has recently been a significant uptick in adverse credit actions with respect to leveraged loans issued by many companies due to the economic impacts of the global pandemic. CLOs that have exposure to the companies and industries that have been most severely impacted by this crisis may face—and need to respond to—declines in the collateral value.

Waterfall Priority of Distributions

As illustrated above in Figure 3, the CLO structure creates a payment waterfall and the cash flow from the underlying collateral funds the required payments to the various tranches. The interest payments are based on the referenced rate (usually 3-month London Inter-bank Offered Rate, or LIBOR) plus a spread that decreases from the senior-most debt tranche to the lowest debt tranche.

The principal payments are first distributed to the most senior tranches, as they have the highest priority, and then generally flow down to the lower-rated tranches in order of seniority as the tranches senior to them are paid off. The equity tranche is the residual tranche and receives the remaining cash flow after the debt tranches have received their payments. In the event of losses suffered by the underlying collateral, the equity holders will incur the losses first, followed by the lowest level of debt tranches, then the debt tranche with the next highest rating all the way to the senior-most AAA tranche—which is the last to incur losses. Accordingly, increased defaults in the underlying collateral will impact the equity and mezzanine tranches before the more senior debt tranches.

Credit Enhancements

A CLO is typically structured with credit enhancements that can be used to offset potential losses and improve the credit quality of the underlying securities. The most common forms of credit enhancement are overcollateralization and excess spread.

Overcollateralization

This is created when the total outstanding face value of the loan collateral underlying a CLO exceeds the total par value of the notes issued to investors. Through overcollateralization, a CLO can experience a given amount of collateral loss before those losses are passed to investors—and in particular, the most senior note holders.

A CLO waterfall may also contain "coverage tests" that require a given level of overcollateralization to be maintained during the life of the CLO. If these coverage tests are not satisfied, the waterfall may alter the ordinary payment of collateral cashflows and divert additional funds to pay down senior notes that would otherwise be paid to more junior securities. Therefore, it is important for CLO participants to understand the level of overcollateralization required for the various tranches and the consequences if that overcollateralization is not maintained.

Excess Spread

This is created by collecting more interest from the loan collateral than is periodically due as interest payments to the note holders. This excess interest can provide additional credit support to the noteholders.

Active Management and Role of Manager

A key feature of the CLO market is that for most CLOs the underlying leveraged loans can be traded in and out of the CLO during the reinvestment period. As discussed earlier, the CLO manager plays a critical role in both selecting the underlying assets as well as buying and selling qualifying loans over the life of the CLO, within the constraints imposed by the legal agreements discussed above, in an effort to maximize returns.

The role of CLO manager has become even more important today due to the shift toward "covenant-lite" loans for non-investment grade borrowers, as well as the increased stress placed on many companies with loans underlying CLOs. We discuss these trends further in Part II of this series.