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Collateralized Loan Obligations (CLOs) Primer

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Executive Summary

- CLOs are structured finance securities collateralized predominantly by a pool of below investment grade, first lien, senior secured, syndicated bank loans, with smaller allocations to other types of investments such as middle market loans and second lien loans.
- CLO debt issued to investors consists of several tranches, or layers, with different payment priorities and, in turn, differing credit quality and credit ratings.
- The senior-most tranche is the most-protected and, therefore, has the highest credit quality and the lowest coupon.
- CLOs have structural features that serve as protection for the debt and equity investors, such as overcollateralization and interest coverage tests.
- Due in part to sound structural features, a low default rate environment for bank loans and prudent investment management, CLOs were considered “survivors” of the financial crisis.
- While they are historically less than 1% of total U.S. insurer cash and invested assets, CLOs offer an attractive yield alternative to traditional bond investments.

Brief Background on CLOs, CBOs and CDOs

The structured finance securities market not only includes CLOs, but also collateralized bond obligations (CBOs) and collateralized debt obligations (CDOs). Note that since the financial crisis, CLOs have continued with new issuance, while CBOs and CDOs have almost disappeared. CBOs are structured finance securities that are collateralized by a pool of bonds, often high-yield corporate bonds, investment grade bonds, or emerging market sovereign and/or corporate bonds. CDOs include transactions that are collateralized by trust preferred securities (TruPS CDOs), asset-backed securities

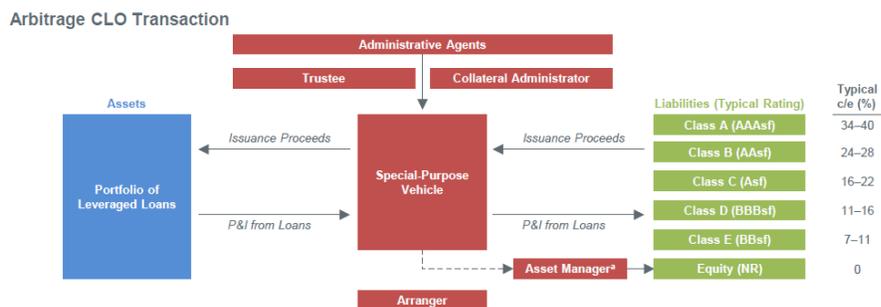
(ABS CDOs), commercial real estate/commercial-mortgage backed securities (CRE/CMBS CDOs), residential-mortgage backed securities (RMBS CDOs), and even other CDOs or CLOs (CDO-squareds). As discussed in this primer, CLOs are collateralized by broadly syndicated bank loans (BSLs), as well as middle market loans. For all aforementioned CLOs, CBOs and CDOs, principal and interest income earned on the underlying pool of assets is used to pay periodic interest to investors (most often, semi-annually or quarterly) and principal when due at maturity (on average, 10 years). The first CBO and CLO were brought to market in the late 1980s, and as the market evolved, CDOs began to appear.

Unlike CLOs, CDOs and CBOs had shown to be volatile asset types during the recent financial crisis. This was due in part to the volatility of the underlying commercial and residential mortgage loans. In particular, RMBS CDOs had undergone severe and multiple ratings downgrades by the three major nationally recognized statistical ratings organizations (NRSROs)—Standard & Poor’s Global Ratings, Fitch Ratings and Moody’s Investors Service—due to the negative impact of delinquent, defaulted and foreclosed residential mortgage loans held in the underlying RMBS pools, especially those containing subprime and adjustable rate mortgages. CLOs, however, did not experience this trend, due in part to the underlying bank loans and the ability of the capital structure to withstand certain structural performance measures (relative to credit enhancement levels and interest coverage). As a result, CLOs were deemed the “survivors” of the financial crisis.

The Composition of a CLO Capital Structure

Chart 1 shows the capital structure of an arbitrage CLO transaction. Investor proceeds are used to purchase a portfolio of leveraged bank loans, whose principal and interest are used to pay debt service to the noteholders, with any remaining amounts paid out to the equity investors. The transaction is referred to as “arbitrage” because it aims to capture the excess spread between the portfolio of leveraged bank loans (assets) and classes of CLO debt (liabilities), with the equity investors receiving any excess cash flows after the debt investors are paid in full. Arbitrage CLOs account for 90-95% of CLO transactions. The CLO is structured as a special-purpose vehicle (SPV), and sometimes the CLO manager is an equity holder. However, this is not always the case, and it is not a requirement.

Chart 1:



About 5-10% of CLO transactions include “balance sheet” CLOs, whereby the mechanics are the same as arbitrage CLOs, but they differ in that balance sheet CLOs are structured primarily as a funding source for the issuer (usually a bank or specialty finance company). With balance sheet CLOs, the issuer securitizes the bank loans (middle market or broadly syndicated) off its balance sheet into an SPV, for the purpose of raising capital, and it typically retains the equity tranche.

Whether arbitrage or balance sheet, the CLO capital structure is comprised of CLO tranches (or CLO debt) plus an equity tranche, which serves as the first loss position. The tranches range from senior to subordinated; the more subordinated the bonds, the lower the credit quality, and the more required credit enhancement (i.e., the ratio of the principal value of the collateral to the principal value of the CLO debt). As such, senior tranches are rated higher (investment grade) than subordinated tranches (below investment grade) by the NRSROs, such as Standard & Poor’s and Moody’s Investors Service. The equity tranche is typically unrated. Principal and interest on the CLO debt and returns to equity holders are paid in accordance with “waterfall” instructions that are included in legal documents, such as the trust indenture.

CLO tranches tend to offer a higher spread for comparable credit risk, as they are typically priced at a spread (in basis points) above the three-month London Interbank Offered Rate (LIBOR). The CLO structure also benefits from certain structural features such as credit enhancement. To ensure sufficient credit enhancement supports the transaction, the CLO capital structure is subject to overcollateralization (O/C) tests at each tranche level, whereby the principal value of the underlying portfolio must be greater than the principal value of the outstanding tranches. In addition, to ensure sufficient funds are generated by the underlying portfolio for timely interest payments to bond holders, the CLO structure is also subject to another structural feature in the form of an interest coverage (I/C) ratio, whereby the income generated by the pool of assets is compared to (and must be greater than) the interest due on the outstanding debt.

Assets That Comprise the Underlying CLO Portfolio – Leveraged Bank Loans

The credit risk of a CLO is dependent on the underlying assets within the portfolio. For “traditional” CLOs, the collateral pool primarily consists of below investment grade, first lien, senior secured broadly syndicated bank loans (usually at least 90% of the total portfolio), and it may include a pre-determined allowable portion of other asset types such as second lien bank loans (which are highly leveraged) and unsecured debt, as well as middle market loans. Some CLOs consist predominantly of middle market loans as the underlying collateral.

The average rating of the underlying collateral is typically about single-B, and the leveraged bank loans are typically floating rate, based on LIBOR. In addition, there is also an allowance for leveraged bank loans that are “covenant-lite,”—that is, those that do not have as many restrictions relative to the borrower’s debt-service ability as typical bank loans.

Prior to the financial crisis, the underlying collateral securitizing a CLO might also include a portion (typically 5%–10% of the total portfolio) of high-yield corporate bonds and other structured finance securities (such as asset-backed securities (ABS), residential mortgage-backed securities (RMBS),

commercial mortgage-backed securities (CMBS) and other CLOs). Post-crisis, around 2010, a new vintage of CLOs emerged with structural changes that were intended to strengthen credit support, including a shortened reinvestment period (whereby the principal and interest proceeds from the underlying bank loan portfolio would be reinvested into additional loans). Then around 2014, the current vintage of CLOs began, which eliminated the “bucket” of high-yield corporate bonds that was previously allowed in the portfolio.

For diversification purposes, CLOs are structured with specific investment limitations, such as issuer and industry concentrations, which aim to protect investors from potential losses. For example, a CLO’s underlying portfolio may consist of 100 or more issuers across several industries. There are also limits to the total amount of CCC-rated investments that may be included in the underlying portfolio, which are typically limited to 5%–7.5% of the total portfolio.

What Are the Dynamics of a CLO Structure?

CLOs are generally structured as cash flow (arbitrage) transactions, whereby income generated by the underlying collateral (i.e., principal and interest on the bank loans) is used to pay debt service to the noteholders and equity investors. In the early stages of structuring a CLO, bank loans are purchased by the CLO manager and warehoused (usually for a period of three to six months) prior to the transaction’s closing date. Upon closing, the transaction then has a ramp-up period during which time the CLO manager purchases additional collateral to complete the portfolio. Thereafter, there is a reinvestment period, which lasts anywhere from two to five years, whereby trading of the bank loans may occur. That is, during this time, the asset manager may purchase or sell bank loans to improve the portfolio’s credit quality. Sales activity is classified as either discretionary, credit risk (when an impaired asset is sold) or credit improved (when an asset is sold at a premium). After the reinvestment period has ended, the CLO manager uses proceeds from interest income on the bank loans, bank loan repayments and maturities to pay down the CLO debt in order of priority/seniority (known as the amortization period), and distributes any remaining proceeds to the equity investors as their return.

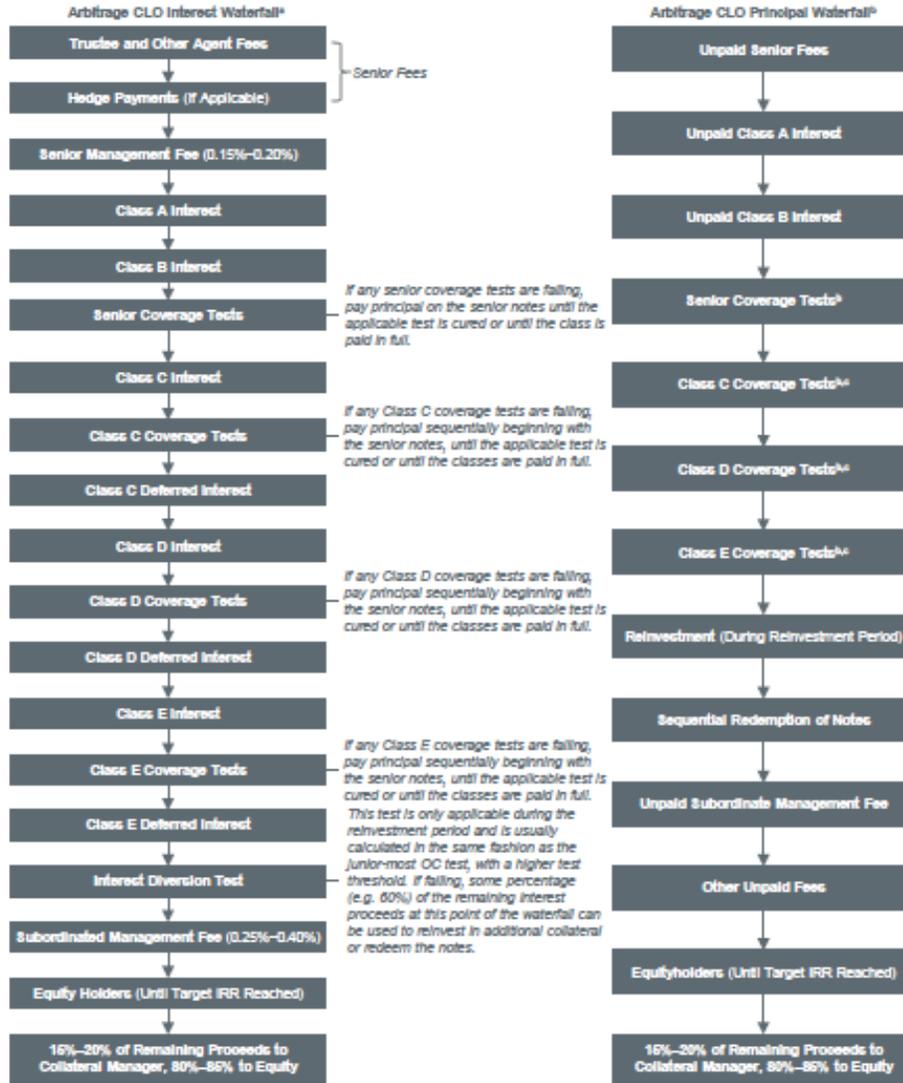
A CLO is also structured with a “non-call” period in the first two years of its life immediately following the closing date. After this period, the majority equity investor can call the deal (redeem it in full) if the transaction achieves a particular yield spread, and the CLO debt holders can be paid back in full.

Cash-flow distributions on payment dates (also known as the “waterfall”) begin with payments to the senior-most CLO tranche, which receives the highest claim on the flow of funds, followed by payment to the lower-rated tranches, in order of seniority. (See Chart 2.) In addition, on payment dates, the structure must achieve performance-based tests, such as the aforementioned minimum O/C level for each tranche layer, before funds flow through to make payment on the additional tranches. To “pass” the O/C test, the principal value of the underlying collateral must exceed the principal value of the CLO tranche by a predetermined minimum ratio. Failure to meet the minimum O/C level at any point in the capital structure results in redirecting the flow of funds to achieve this level, taking away from making payment to lower-rated tranches. Any funds that remain at the end of the waterfall may be distributed to equity investors as a return on their investment.

Chart 2:

Cash flows received from the underlying CLO collateral must follow a defined sequence of use known as a waterfall. Below we present a typical arbitrage CLO waterfall for interest and principal payments.

Arbitrage CLO Interest/Principal Waterfall



^ATransaction waterfalls can and do vary from deal to deal. These waterfalls are displayed for indicative purposes only. ^BCertain coverage tests may only be applicable in the principal waterfall during the reinvestment period or may not be included in the principal waterfall at all. ^CNon-senior coverage tests will usually include provisions for the payment of unpaid mezzanine/subordinate tranche interest amounts, in addition to payment of principal. Note: Coverage tests — overcollateralization (OC) and interest coverage (IC) tests. Source: Fitch Ratings.

Source: FitchRatings, “The 2018 Annual Manual (U.S. Leveraged Finance Primer) – Leveraged Loans,” May 18, 2018

With regard to the composition of CLO investors, they vary by tranche, as shown in Table 1. Investors with the least risk-appetite tend to invest in the senior-most tranches, while those with a higher tolerance for risk invest in the equity (first-loss) tranche. The majority of U.S. insurer CLO investments are in senior and mezzanine (middle) tranches.

Table 1:

Many Types of Investors Own CLOs
Largest CLO Owners by Tranche Type

Senior Tranches (Rated AAA and AA)	Mezzanine Tranches (Rated A/BBB/BB)	Equity Tranches
<ul style="list-style-type: none"> ▪ Banks ▪ Institutional asset managers ▪ Insurance companies ▪ Pension funds and endowments 	<ul style="list-style-type: none"> ▪ Insurance companies ▪ Institutional asset managers ▪ Banks ▪ Hedge funds ▪ Pension funds and endowments ▪ Structured credit funds ▪ Permanent-capital vehicles* 	<ul style="list-style-type: none"> ▪ CLO managers ▪ Institutional asset managers ▪ Structured credit funds ▪ Insurance companies ▪ Hedge funds ▪ Pension funds and endowments ▪ Banks ▪ Sovereign wealth funds/Family offices ▪ Private equity funds ▪ Permanent-capital vehicles*

* Permanent-capital vehicles are real estate investment trusts, business development companies and closed-end funds.

Source: Morgan Stanley Research, Citi Research, Nomura as of 30 April 2017.

CLO Managers

CLO managers are responsible for investment management decisions for the CLO’s underlying portfolio. As such, they must have the appropriate infrastructure in place to properly manage the transactions. This not only includes having seasoned portfolio managers and credit analysts as part of the team, but also experienced operations professionals and appropriate data management systems in place. Therefore, a comprehensive assessment of a potential CLO manager’s infrastructure is essential for investor (i.e., insurer) review, in order to derive comfort with their ability and experience as a CLO manager.

Depending on size, a typical CLO manager will have one or more portfolio managers (sometimes they are asset-type specific), credit analysts (who may be industry specialists or generalists) and operations professionals. CLO managers may include affiliates of private equity firms, hedge funds, large financial institutions and banks, and insurance companies, too. CLO managers typically receive a senior management fee as a percentage of the underlying portfolio of bank loans’ par value, as directed and prioritized in the aforementioned waterfall. In addition, CLO managers may receive a subordinated management fee (at a lesser percentage) after the senior debt holders have been paid, which is also considered an incentive fee for the managers to make prudent investment decisions for the benefit of investors throughout the whole capital structure.

In addition to thorough credit analysis of the CLO investment, reviewing the infrastructure of the CLO manager is equally important for the investor. This “due diligence” is intended to help the investor ascertain whether the CLO manager understands the mechanics of the CLO structure and the credit assessment of the underlying assets (leveraged bank loans), as well as to derive comfort that the CLO manager is managing to investor interests (and not his/her own).

With the increase in demand for CLOs in recent years, new CLO managers came into the market, taking advantage of favorable economic conditions. Currently, the largest 30 CLO managers represent 60% of CLO issuance, according to Fitch Ratings data. In 2017, nine new CLO managers entered the market (compared to four in 2016).

CLO Managers and Dodd-Frank Risk-Retention Rules

The federal Dodd–Frank Wall Street Reform and Consumer Protection Act’s (Dodd-Frank) risk-retention rules went into effect on Dec. 24, 2016, for ABS, CMBS, RMBS and similar securitizations. The rules are designed to prevent lenders from making risky loans, packaging them into bonds and leaving investors with all of the losses if/when payment defaults begin to occur. The “skin in the game” rules are intended to align interests between issuers and their investors. The rules came about after subprime mortgage bonds triggered significant losses for banks and investors during the 2008 financial crisis. Participants in the CLO market were initially concerned that the risk-retention rule would limit total CLO issuance. In 2014, CLO new issuance reached a record level of \$124 billion; in 2017, it reached its second highest level at \$117 billion, according to Thomson Reuters LPC. (See Appendix for historical annual U.S. CLO issuance.)

Effective February 2018, a court ruling exempted traditional (BSL) CLOs from having to comply with Dodd-Frank risk-retention rules whereby the CLO manager would have been required to retain at least 5% interest in the total capital structure. The ruling is expected to benefit smaller CLO managers who would otherwise have been challenged to comply with the requirement (as they may not have had the ability to easily raise the large sums of capital needed to comply), and perhaps, they may have been prohibited from issuing new CLO transactions. Note, however, that this exemption does not apply to middle-market CLOs as they are subject to the 5% risk retention rule.

Advantage to Investing in CLOs

Because of the higher-yielding nature of the underlying leveraged bank loans, even after subtracting the CLO manager portfolio management fees and expenses, the net yield on CLO debt is still attractive to some investors. And due in part to the relative value of CLOs compared to other structured finance securities (such as ABS, RMBS and CMBS), or even corporate bonds, the consistent performance of the underlying bank loans (in a relatively benign credit environment) combined with more stringent capital structures make CLOs an attractive investment opportunity for investors who have not previously participated in this market, or perhaps, who have participated only on a limited basis.

Depending on investment strategy and philosophy, CLOs represent attractive investment options during times when risk/reward opportunities may be challenging. Most CLO investments within the U.S. insurance industry are historically held by life companies.

What Are the Risks?

As with most investments, CLOs have credit risk—that is, risk that the underlying portfolio will not be able to generate sufficient cash flow to pay investors on a full and timely basis when principal and/or interest payments are due. This potential payment default can be influenced by a few factors – one of which is the leveraged bank loan market in general; that is, taking notice of any issuers and/or industries that are experiencing difficulties or challenges in the current environment as CLO managers are making investment decisions. Default in payment on the leveraged bank loans results in less cash for the

underlying portfolio, and, in turn, less funds available to pay the CLO investors. For this reason, it is important that CLO portfolios are diversified by issuer and industry. If the leveraged bank loan market experiences difficulties, the liquidity of CLOs could also be negatively impacted.

Prepayment risk may also arise as interest rates decrease and leveraged bank loan issuers refinance any floating rate loans, in turn reducing the underlying CLO portfolio principal value. CLO managers are then tasked with reinvesting the proceeds in new, economical (leveraged bank loan) opportunities. Conversely, as interest rates rise, borrowers may experience challenges making payments on the leveraged bank loans that comprise the underlying CLO portfolio resulting in delinquencies and or defaults and, in turn, a lesser amount of cash flow would be available to pay the CLO investors. Note that the CLO debt is typically floating rate as well, so interest owed to the CLO debt holders will also increase as rates rise.

Another factor is the experience of the CLO manager. This pertains not only relative to credit analysis, portfolio management, and necessary operations and administrative duties with regard to the underlying leveraged bank loan portfolio, but also having experience with appropriately managing CLO structures to the best interest of all investors.

Maintaining adequate issuer diversification across the portfolio is also a potential risk factor worth noting. CLO portfolios tend to have a certain amount of overlap across issuers given leveraged bank loan assets tend to be acquired in the primary market (new issues), and a large amount of overlap can occur when demand for bank loans outpaces supply. This trend is particularly evident across CLOs of the same vintage (year of origination) as well as with CLOs managed by the same asset manager. A high percentage of overlap can indicate a highly correlated portfolio; correlation measures the likelihood of defaults occurring together.

Statutory Accounting Treatment

According to the *NAIC Accounting Practices and Procedures Manual*, “loan-backed securities are defined as securitized assets not included in structured securities...for which the payment of interest and/or principal is directly proportional to the payments received by the issuer from the underlying assets, including but not limited to pass-through securities, lease-backed securities, and equipment trust certificates.” Loan-backed securities (LBASS) are issued by special-purpose corporations or trusts (issuer) established by a sponsoring organization. The assets securing the loan-backed obligation are acquired by the issuer and pledged to an independent trustee until the issuer’s obligation has been fully satisfied. LBASS investors only have direct recourse to the issuer’s assets, but they may also have secondary recourse to third parties through insurance or guarantee for repayment of the obligation.

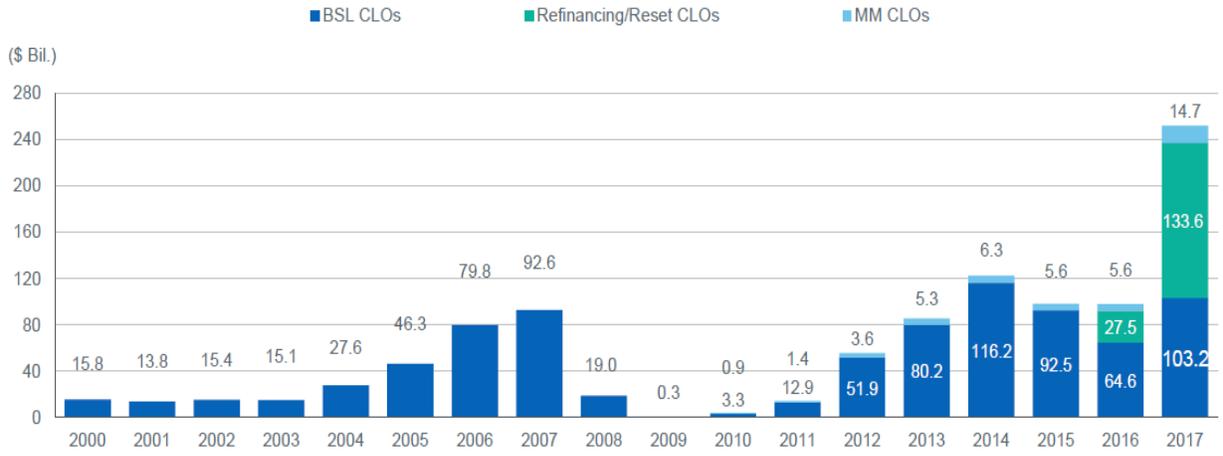
For reporting and statutory accounting purposes, CLOs typically fall into the category of loan-backed and structured securities (LBASS). If a CLO is defined as a LBASS, then it follows the guidance of *Statement of Statutory Accounting Principles (SSAP) No. 43R—Loan-Backed and Structured Securities*. SSAP No. 43R securities are reported on Schedule D-Part 1, and the measurement method for the investment depends on the reported NAIC designation. For U.S. insurers that maintain an asset valuation reserve (AVR), a reserve to offset potential credit-related investment losses, CLOs that are LBASS “... shall be reported at

amortized cost, except for those with an NAIC designation of 6, which shall be reported at the lower of amortized cost or fair value.” For U.S. insurers that *do not* maintain an AVR, CLOs that are defined as LBASS are “... designated the highest-quality and high-quality (NAIC designations 1 and 2, respectively), shall be reported at amortized cost.” And CLOs that are defined as LBASS with NAIC designations 3 through 6 “... shall be reported at the lower of amortized cost or fair value.”

LBASS meet the definition of assets as defined in *SSAP No. 4—Assets and Nonadmitted Assets* and are admitted assets to the extent they conform to the requirements of SSAP No. 43R.

Appendix:

Annual U.S. CLO Issuance



CLO – Collateralized loan obligation. BSL – Broadly syndicated loan. MM – Middle market.
 Source: The Royal Bank of Scotland, public information, Fitch.

Key Terminology

Collateralized Loan Obligation (CLO)

Structured finance security collateralized predominantly by broadly syndicated, leveraged bank loans.

Collateralized Bond Obligation (CBO)

Structured finance security collateralized predominantly by bonds, particularly high-yield corporate bonds, investment grade corporate bonds, or emerging market sovereign and/or corporate bonds.

Collateralized Debt Obligation (CDO)

Structured finance security collateralized by trust preferred securities (TrUPS), asset-backed securities (ABS), residential mortgage-backed securities (RMBS), commercial real estate/commercial mortgage-backed securities (CRE/CMBS CDOs), or other CDOs or CLOs.

Leveraged Bank Loans

Loans by a group of lenders to companies that are typically rated below investment grade. The loans are typically secured with a lien on the company's assets and are generally senior to the company's other debt.

Broadly Syndicated Bank Loans (BSLs)

As the largest segment of the leveraged bank loan market, BSLs are loans to companies with earnings before interest, taxes, depreciation and amortizations (EBITDA) over \$100 million and with public credit ratings from the rating agencies. They are usually senior secured bank loans originated in connection with merger and acquisition activity or leveraged buyouts. They are also usually floating rate based on LIBOR.

Special Purpose Vehicle (or "SPV")

Trusts whose operations are limited to the acquisition and financing of specific assets into the pool that collateralizes the structured securities (in this case, CLOs); an SPV is the actual issuer of the CLO tranches.

Tranche

Class of debt within a securitization's capital structure.

Credit Enhancement

Also referred to as 'overcollateralization', it is the ratio of the aggregate principal value of pooled assets to the outstanding debt (tranches) that comprises the capital structure.

Interest Coverage Ratio

Ratio of total interest income generated by the underlying pool of assets to the total interest due on the debt (tranches) outstanding.

Closing Date

Date the underlying portfolio is fully ramped and coverage and quality tests begin to take effect.

First Lien Bank Loan

Highest priority debt in a company's capital structure.

Covenant-Lite (also known as "Cov-Lite")

Leveraged bank loans which do not have as many restrictions relative to the borrower's debt-service ability as typical bank loans.

Middle Market Loan

Loans to companies with less than or equal to \$500 million in gross revenues and less than or equal to \$50 million in EBITDA; they are usually floating rate based on LIBOR.

CLO Manager

Responsible for credit analysis, portfolio management, operations and administration of the CLO. The CLO manager selects the underlying assets for the CLO portfolio and has a fiduciary responsibility to the noteholders and equityholders. Sometimes a CLO manager may be an investor in the CLO.

Ramp-Up Period

Following the closing date, the months following (anywhere from one to four months) during which the CLO manager purchases the remaining collateral for the bank loan portfolio.

Effective Date

Date on which the Ramp-Up Period ends and when the coverage tests begin to apply.

Non-Call Period

First two years of the transaction's life where the bond holders receive a yield spread specified at closing and the bonds cannot be called.

Reinvestment Period

Two- to five-year period during which the CLO manager is able to buy and sell collateral for discretionary, credit-impaired and credit-improved purposes. Investors do not receive principal payments during this time. Maturing collateral and prepayments are reinvested in new collateral.

Amortization Period

Once the reinvestment period has ended, the CLO manager pays down the debt (tranches, or CLO liabilities) following the priority of payments included in the legal documents, using bank loan prepayments or proceeds from the sale of underlying assets.

Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act)

A U.S. federal law that places regulation of the financial industry in the hands of the government. The legislation, which was enacted in July 2010, created financial regulatory processes to limit risk by enforcing transparency and accountability.

Credit Risk

Possibility that a payment obligation will be missed, resulting in a loss; possibility of loss if a borrower defaults on making a loan payment.

Prepayment Risk

The risk that a borrower will repay a loan before its maturity, depriving the lender of future interest payments.

Amortized Cost

Accumulated portion of the recorded cost of a fixed asset that has been charged to expense through either depreciation or amortization.

Asset Valuation Reserve (AVR)

Capital required to be set aside in order to cover a company against unexpected debt. The asset valuation reserve serves as a backup for equity and credit losses.

Useful Links

Published NAIC Capital Markets Bureau Special Reports on CLOs:

[U.S. Insurance Industry Exposure to Collateralized Loan Obligations & Market Trends, June 2014](#)

[U.S. Insurance Industry CDO/CLO Update, June 2012](#)

[Insurance Company CDO Exposure, Feb. 2011](#)

Published NAIC Capital Markets Market Buzz – LIBOR:

[The Rise in LIBOR](#)