

A Case for Collateralized Loan Obligations (CLOs)

June 2013

CLOs are in the midst of staging a big comeback with over \$30 billion year-to-date and over \$50 billion in issuance last year, the highest in five years as the structures withstood the Great Recession and the resulting default cycle. As yields of other asset classes decline, a number of institutional investors are turning to CLOs because they offer investors the ability to access leveraged loans with the benefits of diversification, customized risk/reward profiles, attractive yields, leveraged returns and transparency with monthly reporting.

Introduction

Collateralized loan obligations are a type of securitization where assets, generally leveraged loans, are pooled together and the income and principal payments from that pool are paid out to investors in a specific order. A CLO raises money primarily by issuing its own bonds and then reinvests those proceeds into a portfolio of predominantly loans. Similar to a mutual fund, a CLO pools together funds from a variety of investors to give each investor greater diversity than otherwise would be achievable by investing directly in leveraged loans. However, all investors in a mutual fund are *pari passu*, and no one investor is more senior than another. In CLOs, and most securitizations, investors purchase specific tranches, or slices, of the transaction with a specific seniority structure and priority of payments.

One of the key advantages of CLOs is that investors can gain exposure to leveraged loans while choosing a specific risk/return profile that suits their needs. The tranches of a CLO range from the most senior slice, which is always first in line to get paid but receives the lowest return, to the most junior tranche, known as equity, which receives all the residual income from the collateral pool of loans after the other tranches have received their income. Even with today's low-rate environment, equity tranches generally have expected rates of return in the low-to-mid teens.

CLOs are similar in structure to other securitizations known as collateralized debt obligations (CDOs), which invest in ABS, mortgages, credit cards, student loans or other debt. However, CLOs have a very distinct return history and investor base. In this piece, we will focus on CLOs and their performance.

Even within CLOs, there are several types as follows:

1. **Static versus Managed CLOs:** Static CLOs maintain the same pool of collateral throughout the life of the transaction. As the collateral is paid off the value of the pool declines. On the other hand, managed CLOs have dynamic collateral pools whereby the portfolio manager actively buys and sells assets. Therefore, the makeup of the pool will likely be very different over time.
2. **Balance Sheet versus Arbitrage CLOs:** Balance Sheet CLOs are created for the purpose of securitizing certain assets and removing them from balance sheets to reduce regulatory capital requirements. Arbitrage CLOs are designed to take advantage of additional income from the pool of loans over the CLO's cost of financing (i.e., average coupon of the issued debt tranches).

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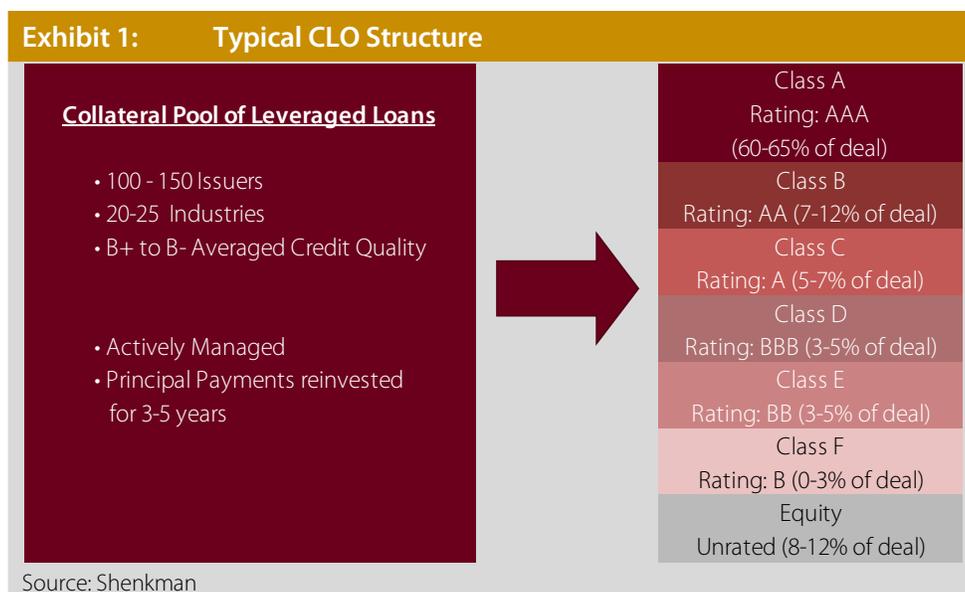
Highlights:

- The primary market for CLOs has opened up again, with over \$50bn of issuance in 2012 and more than \$30bn during the first five months of 2013.
- CLOs offer exposure to leveraged loans with customizable return and risk profiles.
- CLO tranches offer greater spreads than other similarly rated bonds.
- CLOs offer investors attractive spreads with calculated risks, which can be managed.

3. **Cash Flow versus Market Value CLOs:** Cash Flow CLO tests are based on the par value of the collateral. Market value CLOs use the market value of the collateral, which subjects the transaction to mark-to-market risk.
4. **Cash versus Synthetic CLOs:** Cash CLOs buy real assets (actual leveraged loans as underlying collateral). Synthetic CLOs are backed by credit default swaps on loans (LCDS), a form of swap agreement where one party can purchase insurance against a single entity's default in exchange for premium payments. Most CLOs historically were cash transactions, and no synthetic CLOs have been printed since the Credit Crisis.

Nearly all outstanding CLOs and new deals coming to market currently are managed, cash flow, arbitrage deals.

While there are many possible structures of a CLO, a typical one includes five tranches of rated debt and an equity tranche. The debt of a CLO is also referred to as the liabilities. Exhibit 1 below shows a typical structure for a recent vintage transaction.



The appendix has more details on the parties involved, lifecycle and key collateral tests of a CLO.

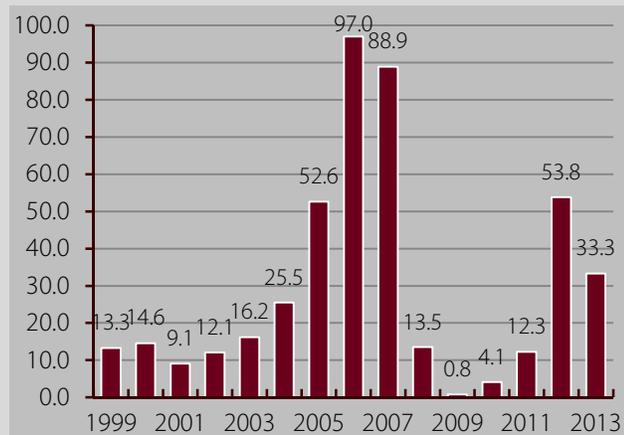
History of the CLO Market

As mentioned earlier, CLOs are a type of CDO that use leveraged loans in the collateral pool. CDOs were first issued in the late 1980s, and the first CLOs were issued about a decade later.

The market remained relatively small for about a decade. In the early 2000s, institutional investors started seeking out higher yielding alternative investments because historically low interest rates at the time made interest rate risk a concern for many investors. Default rates were starting to decrease after spiking in 2002 to just over 8%. Therefore, exposure to leveraged loans became very appealing given the floating rate nature, seniority and security in the corporate capital structure. CLOs were a good option for domestic and foreign investors to gain exposure to the U.S. leveraged loan market without having the administrative burden of settling leveraged loans directly.

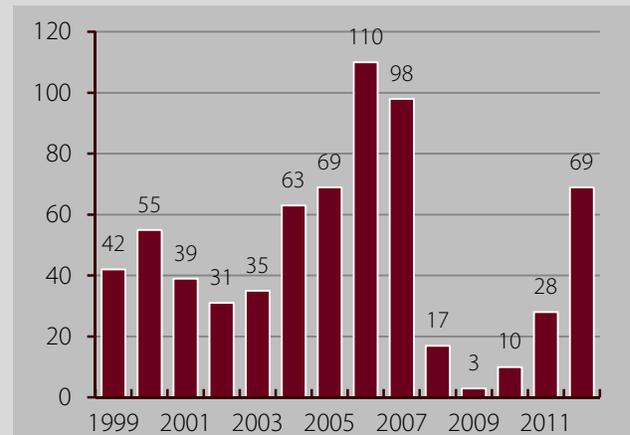
Exhibit 2: Growth of the CLO Market

Annual CLO Issuance Volume (\$ billions)



2013 data points are YTD May 23rd. Source: S&P LCD

Number of Unique Managers Issuing CLOs



CLOs reached a peak in issuance in 2006 when \$97 billion of deals were brought to market. The strong trend continued into 2007, with another \$89 billion priced. By 2008, however, the weakness in sub-prime collateral led to a global Credit Crisis, which dramatically curtailed investor interest in all structured products, including CLOs. In turn, the Credit Crisis caused leveraged loan defaults to increase, and default rates for leveraged loans reached nearly 10% in 2009.

By late 2010, the effects of the Credit Crisis started to wane and default rates began to decline. Investors remained cautious about re-entering the structured product market as many of their other types of CDOs suffered large losses. However, CLO investors quickly realized that using leveraged loans as collateral and the structure of a CLO differed in important ways than other CDOs. Fears of double-digit default rates and major “Events of Default” in the CLO structure were overblown, and in fact, the vast majority of actively managed, cash flow, arbitrage CLOs backed by a real pool of leveraged loans remained intact.

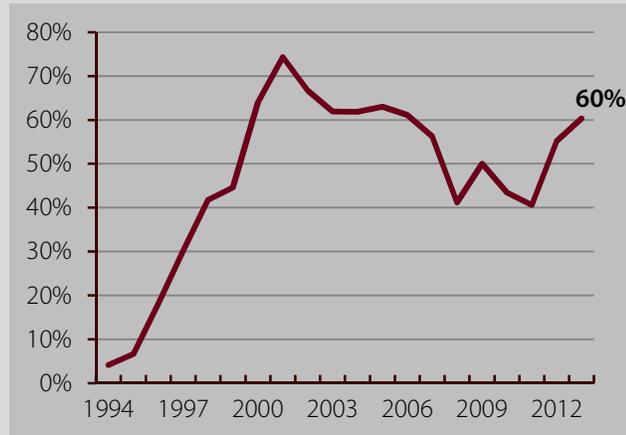
At year-end 2012, S&P estimated over \$280 billion in 670 transactions of CLOs were outstanding net of transactions that have been called². With over \$30 billion of issuance year-to-date³, there are now approximately \$310 billion of CLOs under management. Moreover, CLOs represent the single largest type of investor in institutional leveraged loans today, accounting for over half of all primary institutional leveraged loans that come to market.

² Standard & Poor's U.S. CLO Transaction Count And Assets Under Management By Collateral Manager As Of December 2012 by Robert J Radziul, published February 28, 2013.

³ Source: S&P/LCD. Year-to-date May 23, 2013.

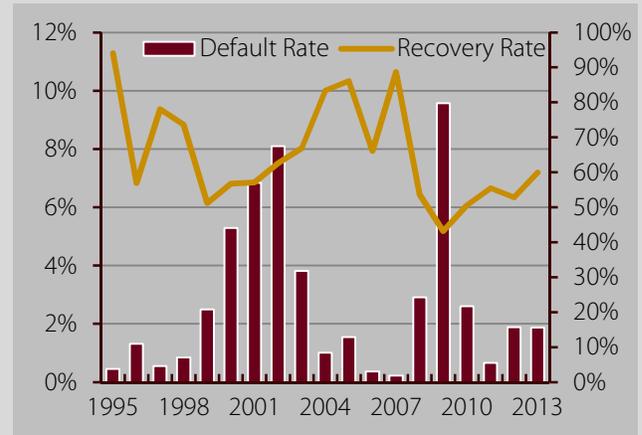
Exhibit 3: CLO Primary Market

CLO Share of Primary Institutional Leveraged Loans



Last data point is 1Q13.
Source: S&P LCD

Bank Loan Default (left) and Recovery (right) Rate



2013 data point represents LTM March 31, 2013.

As leveraged loan default rates remain benign, primary CLO volumes have dramatically picked up over the past year. The first quarter 2013 was the busiest first quarter on record with over \$26 billion of issuance. In fact, the average monthly volume for the first five months of 2013 was \$7 billion, despite a slowdown in primary issuance in April and May. Expectations are for liability spreads of CLO tranches to continue to decline in 2013 and defaults rates to remain benign. The asset class is once again attracting previous investors back to the market and many new investors are also showing significant interest. All of this activity is likely to lead to a healthy year of issuance for CLOs.

Primary CLO volumes have recently picked up significantly.

Current vintage CLOs do differ from older vintage deals (pre Credit Crisis) in a few significant ways. Current CLOs have greater subordination as the AAA tranche now represents 60-65% of a new deal, whereas it used to be as much as 75%. Newer deals have on average been less levered (debt-to-equity). Lastly, newer deals comply with stricter ratings criteria and collateral tests. In other words, while CLOs survived the Credit Crisis relatively unscathed, they did go through a transformation. Many market participants refer to these newer vintage deals as "CLO 2.0".

Risk Factors

CLOs have a variety of risk factors, which can generally be summarized into three categories: structure risks, collateral risks, and overall macro risks. It is important to note that each tranche of the CLO capital structure has a different exposure to these risks.

1. **Structure Risks:** This category of risks is predominantly specific to CLOs and other structured products. They include risks related to how a deal is structured, including leverage, compliance tests, non-call periods, etc. The reliability and effectiveness of third parties involved in the transaction, such as the trustee, lawyers, accountants, and ratings agencies, is also a risk.

The relative illiquidity of a CLO transaction would also fall under this category. The market for these transactions is not as deep as other credit markets, and many investors approach CLOs as buy-and-hold investments. Therefore, the liquidity of CLO tranches remains relatively limited. A nascent secondary market for CLO tranches is emerging, but many transactions are still largely done by appointment

and the number of market participants remains relatively small. Nonetheless, this is promising for the secondary liquidity of CLOs.

The structural risks are likely the most prominent risks of a CLO, but they are also the most predictable. CLOs are governed by specific documents available to investors prior to purchase, and those documents lay specific guidelines on how a manager can invest the portfolio. Early investors can also negotiate terms to further reduce these risks.

2. **Collateral Risks:** This category of risk pertains to investing in sub-investment grade bank loans and is largely similar to the risks involved with a mutual fund or other vehicle that primarily invests in leveraged loans. These risks are driven by credit-specific events and can include default, recovery, downgrade, speed of prepayment, etc. Collateral risk also includes the risk related to investing with a specific manager. CLOs are ultimately large pools of investments with a portfolio manager. The manager's ability to avoid default losses and maintain a high level of income from the collateral pool is paramount to making the structure work.

Collateral risks vary greatly between tranches. For example, defaults immediately affect the equity tranche, but barely affect AAAs. Like structural risks, collateral risks are largely expected, and in fact are modeled into the transaction itself.

3. **Macro-Economic/Political Risks:** As with nearly every type of investment, negative macro-economic and political events can impact both pricing and liquidity. This category would include broad risks like federal spending cuts, the economy, and monetary policy changes. The risks associated with this category are probably the smallest, but also the most unpredictable (e.g., country-level default, military conflict, or oil shock).

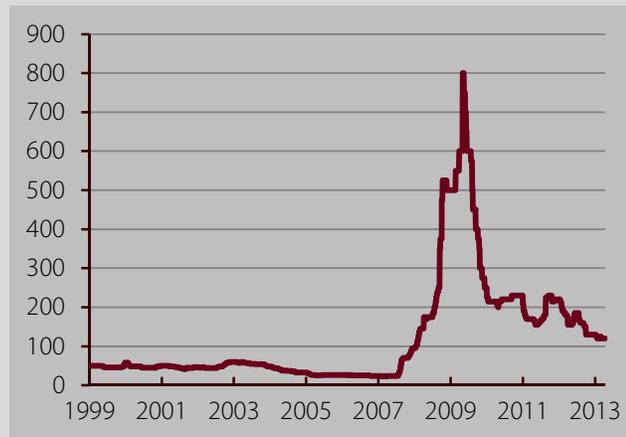
Relative Value

As mentioned earlier, the vast majority of CLOs are cash flow arbitrage transactions, which means investors are seeking to maximize the difference between the weighted average spread of the collateral pool minus the cost to finance that pool (weighted average spread of the liabilities). This dynamic drives the return/risk profiles for CLO investors. When loan spreads tighten, one would expect CLO spreads to also tighten, albeit at a much slower pace. Exhibit 4 shows the secondary spreads for older vintage CLO transactions. Prior to the Credit Crisis, CLO AAA spreads were as low as 20-25 basis points over Libor. While the Credit Crisis was initially centered around mortgage structured products, CLO tranches also traded down significantly based on those technicals. However, as the market recovered, levels tightened dramatically in the secondary market. Today, AAA levels have tightened to approximately L+110-120bps⁴.

⁴ AAA coupon levels for primary deals from May 2013.

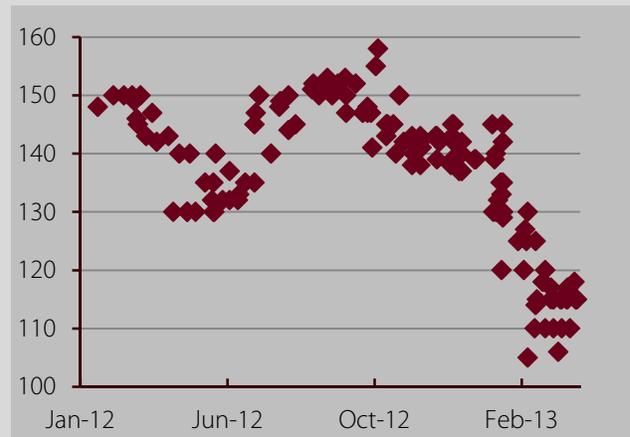
Exhibit 4: CLO AAA Pricing

CLO 1.0 secondary AAA spreads (bps)



Source: J.P. Morgan, S&P LCD

Recent Primary CLO AAA levels



CLOs can have a variety of structures, and underwriters are innovating with every transaction in response to different investor needs, manager styles, and ratings agency requirements. Nonetheless, a fairly typical structure for a CLO 2.0 is shown in Exhibit 5. Most AAAs are coming to market at par, hence coupon and discount margins match. Original-issue discounts are still in effect for lower-rated tranches.

Exhibit 5: Typical Primary Market Structure (2013 Vintage)

Class	Tranche	Percent	Rating	Coupon (bp)	Discount Margin(bp)
Class A	Senior Priority	60-70%	AAA	110-120	115-125
Class B	Senior Subordinated	7-12%	AA	155-175	155-200
Class C	Senior Mezzanine	5-7%	A	255-300	255-335
Class D	Mezzanine	3-5%	BBB	330-375	350-450
Class E	Junior Mezzanine	3-5%	BB	450-500	525-600
Class F	Junior Mezzanine	0-3%	B	550-650	650-750
Equity	Preferred Notes	8-12%	Unrated	NA	NA

Source: Recent deal documentation, S&P LCD News, JP Morgan Global ABS/CDO - Weekly Market Snapshot, dated May 24, 2013.

When compared to similarly rated leveraged loans or high yield bonds, CLO tranches offer far greater spreads. As mentioned earlier, CLO tranches are less liquid than loans of the same rating. Therefore, the additional spread is in large part to compensate investors for the illiquidity. The CLO structure would also account for some of the additional spread. However, for an investor that is comfortable with the reduced liquidity, the compensation can be profitable. For example, at year-end 2012, the average primary and secondary BB CLO tranche traded at 675-700bps⁵, nearly 300 basis points more than BB leveraged loan spreads of 408bps⁷.

At year-end 2012, CLO BB tranches were nearly 300bps wider than BB leveraged loans.

Even compared to asset classes that have similar risks related to the structured product transaction, CLOs still offer attractive levels. At the AAA level, structured products that have

⁵ Source: JP Morgan Global ABS/CDO - Weekly Market Snapshot : US HY CLO Spreads. Data as of December 27, 2012.

⁷ Source: S&P/LSTA Leveraged Loan Index. BB 3-year Discount Margin as of December 31, 2012.

a similar average life as a AAA CLO tranche – roughly three to five years – trade at a fraction of AAA CLO spreads. Of course, the economic and collateral risks differ, but it still demonstrates a favorable relative value proposition for CLOs.

Exhibit 6: AAA Spreads (3-5yr) (basis points)					
CLO	Credit Card (Fixed)	Credit Card (Floating)	Prime Auto	Student Loans	CMBS
115	26	28	18	28-65	120

Source: JP Morgan Global ABS/CDO - Weekly Market Snapshot, dated May 24, 2013.

Conclusion

In many ways the Credit Crisis was an event that reinforced the main thesis for CLOs. While there was significant trading volatility during the crisis, the structure of the deals helped the integrity of the transactions. In the end, investors quickly realized that CLOs were one of the few structured products that fared well during the recession and the vast majority of transactions survived.

Today, CLOs are quickly re-emerging as an alternative asset class for institutional investors to earn additional yield as more investors are looking for exposure to leveraged loans. CLOs offer investors attractive spreads with calculated risks, which can be managed. As a result, primary market volumes are increasing and more participants are entering the market.

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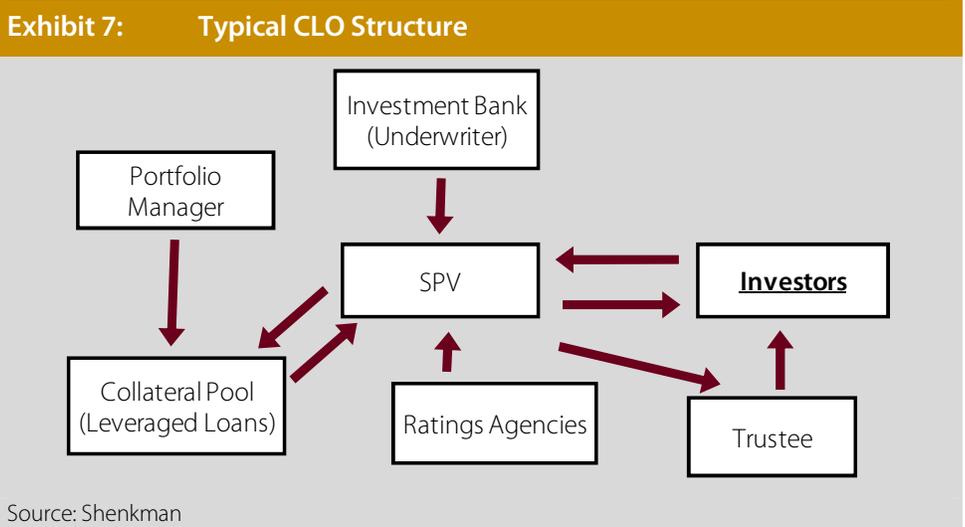
APPENDIX A

Parties Involved in a CLO

In order to have a better understanding of CLOs, a brief discussion on the mechanics, lifecycle, and the parties involved in a CLO transaction is necessary. CLOs can vary greatly, but most will have many parties involved. Exhibit 7 shows a simplistic diagram of the various parties and how they interact.

Starting at the top, an investment bank creates a Special Purpose Vehicle (SPV) that issues bonds that are rated by Moody’s, S&P, Fitch or another major ratings agency, as well as an equity tranche. Investors purchase those bonds and equity. The money is used to fund purchases of leveraged loans for the collateral pool within the guidelines established by the rating agencies and transaction documents. The loans are chosen by the portfolio manager, who also manages the pool throughout the life of the transaction. Lastly, the trustee serves a key role for investors. The trustee monitors the transaction to ensure compliance with all the collateral tests established at the outset and provides investors with monthly reports.

There are several other parties involved that are not listed. They generally include settlement agents, law firms, and accountants.



APPENDIX B

Key Terms of a CLO

1. **Warehouse:** The process by which the portfolio manager begins to accumulate assets for a cash CLO. This generally begins once the manager and underwriter agree to work on a deal and can last from a few weeks to several months. Many deals today are done without a warehouse.
2. **Ramp-up period:** After pricing, the portfolio manager might have identified or acquired only 50-75% of the portfolio. The ramp-up period follows the closing and is the period of time needed to acquire the remainder of the initial portfolio.
3. **Effective Date:** The date by which the portfolio manager must acquire 100% of the portfolio and begin compliance with all CLO covenants and tests.
4. **Diversity Score:** A score, originally developed by Moody's, which measures the industry and issuer diversification of the portfolio. The score captures industry-related correlation by grouping obligors into 33 industries and assigning a numerical value to each industry that reflects the number and relative sizes of obligors within that industry. The higher the Diversity score, the more diverse the portfolio.
5. **Weighted Average Rating Factor (WARF):** A weighted measurement of the rating of every asset in the portfolio intended to provide a uniform method of comparing the ratings of different portfolios. The scale is ascending (see table below), therefore a high WARF Test is indicative of lower quality assets (lower ratings) and can result in a portfolio with a higher risk profile.

Rating	Factor	Rating	Factor	Rating	Factor
Aaa	1	Baa1	260	B1	2220
Aa1	10	Baa2	360	B2	2720
Aa2	20	Baa3	610	B3	3490
Aa3	40	Ba1	940	Caa1	4770
A1	70	Ba2	1350	Caa2	6500
A2	120	Ba3	1766	Caa3	8070
A3	180			Ca and lower	10000

6. **Over-Collateralization (O/C) Test:** Over-Collateralization is the process of posting more collateral than is needed to obtain or secure financing. Thus, the test measures the ratio of underlying collateral versus the class (tranche) in question (and all classes above it). The Over-Collateralization, or par value, test requires that the collateral portfolio exceed the rated bonds by the minimum trigger level as set out in the Offering Memorandum.

Example: Class C O/C =
$$\frac{\text{Total Par of Performing Collateral}}{\text{Par of Class A} + \text{Class B} + \text{Class C}}$$

7. **Interest Coverage (I/C) Test:** The interest coverage ratio is designed to ensure that the collateral pool generates sufficient interest cash flows to service the outstanding debt. Interest coverage ratios for each class are calculated similar to the O/C test, by dividing the total interest generated by the collateral by the amount of interest required to pay expenses and service each class of debt plus all classes above it.

APPENDIX C

Lifecycle a CLO

The lifecycle of a current vintage deal can be thought of in approximately three main stages:

1. **Marketing and Asset Accumulation (0-6 months):** During this stage, the underwriter determines the underlying structural elements and assumptions of the transaction in conjunction with the portfolio manager. Negotiations are held with potential initial investors. The portfolio manager also begins to identify potential leveraged loans for the structure, and may begin to purchase them if there is a warehouse. The CLO is then priced (setting a final price for all tranches) and closed about a month later, during which time the manager purchases the majority of the collateral.

For a primary CLO, the early months of a transaction generally adhere to the following timeline during this phase of the lifecycle:

- a. One month: Documentation of the deal, warehouse (if used), Offering Memorandum, and Investment Management Agreement.
 - b. One to two months: Marketing of the debt tranches and other equity if needed.
 - c. Pricing date: Once all commitments to fund the tranches are arranged, a pricing date is established to determine the spread (coupon) for all the liabilities. Typically, 50% of the collateral has been purchased on or around the pricing date.
 - d. Closing date: Closing usually occurs 2-4 weeks after pricing. This is the date when the entire deal funds and the liabilities start to accrue. Typically, 75% of the collateral is purchased by this date.
 - e. Effective date: The date by which 100% of the portfolio must be purchased. Ratings agencies also give final ratings. The effective date is generally not longer than four months after closing.
2. **Non-Call Period:** Equity investors have the final vote of when to call a CLO and close it completely. However, most CLOs have a non-call period so that all parties know the deal will be outstanding for at least a few years. Typically, the non-call period for recent vintage deals is two years.
 3. **Reinvestment Period:** During the reinvestment period, the portfolio manager is charged with redeploying any principal repayment and any proceeds from sales into new leveraged loans. Most recent vintage deals have had four-year reinvestment periods.
 4. **Wind-down:** After the reinvestment period ends, all principal proceeds go to pay down the CLO tranches starting with the AAAs (assuming the transaction was not called). Depending on the repayment rate, this can take three to four years (the average repayment rates for the past 15 years was 34%, according S&P/LSTA). However, as AAAs get paid down the average cost of financing the pool goes up, therefore, this wind-down period usually lasts about 18 months before the entire deal is called.

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