REGULATORY & STRUCTURAL EVOLUTION OF COLLATERALIZED LOAN OBLIGATIONS

Thesis submitted to

HEC Paris

In partial fulfillment for the award of the degree

of

Master in Management

Major in Finance

by

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Under the esteemed guidance of

Prof. Richard BRUYERE

June 2016

Declaration

I certify that:

i. The work contained in this thesis is original and has been done by me under the guidance of my supervisor.

ii. The work has not been submitted to any other institute for any degree or diploma.

iii. I have followed the guidelines provided by HEC Paris in preparing the thesis.

iv. I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the school.

v. Whenever I have used materials (data, theoretical analysis figures, text) from other sources, I have given due credit to them by citing them in the text of the thesis and giving their details in the references.

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Acknowledgement

I take this opportunity to express my sincere gratitude to Prof. Richard Bruyere for his support, guidance and encouragement throughout the research and thesis-writing process. His calm demeanor and profound understanding of the subject helped define the research goals clearly right from the beginning and supported me at every stage of the process.

I am also grateful to Prof. Jean Edouard Colliard for helping me understand and appreciate the complex regulations associated with various financial securities through our interactions during the course 'Financial Regulation' at HEC Paris – Major Finance.

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Abstract

This paper talks about the regulatory changes that have affected the structure of the Collateralized Loan Obligations (CLOs). CLOs are important financial instruments that help distribute the risks of banks and other loan issuing institutions to outside investors. These instruments are extremely useful to provide liquidity to the otherwise illiquid market of leveraged loans. The financial crisis of 2008 exposed the structural deficiencies and loopholes in the pre-crisis vintage CLO structures, popularly called as CLO 1.0.

This led to a series of regulations passed by various regulatory authorities around the world. This changing regulations environment and lack of investor interest due to huge write-offs in the then existing CLOs led to a dramatic fall in the CLO issuances after the crisis period. The regulations helped create a safer and more transparent structure for investors thereby boosting their confidence and the CLO issuances at a later stage. These CLOs of 2011 and 2012 vintages are thereby popularly called as CLO 2.0.

The CLO 2.0 had a better performance record over the CLO 1.0 transactions. They mandated issuers to retain the credit risks when placing the CLO Notes and abolished the loan to distribute strategy which had become common in the pre-crisis period. The CLO issuance levels and the assets under management rebound to pre-crisis level especially in the United States but then the Volcker's Rule was passed.

Volcker's Rule mandated that all CLOs of 2.0 structure are to be classified as covered funds and that investments by banking entities into such structures needed to be supported by corresponding Tier 1 Capital. This classification hurt the CLO industry dramatically with the CLO issuances falling sharply. The CLO managers responded by finding ways to get the CLOs to be exempt from this classification and this led to the development of a new Volcker's Rule compliant CLO structure or popularly known as CLO 3.0.

The CLO have had a turbulent history with several regulations and macro events affecting its structure. There has been a change in its investor composition as well. The paper follows such changes and comments on these events and the impact of it on the CLO industry and its varied participants.

Table of Contents

I. Introduction

Financial institutions, and banks in particular, have traditionally collected deposits from those who have money in excess of their consumption or investment needs and redistribute it to those that have a financing need; they act as intermediaries between borrowers and lenders. These 'lenders' thus lend to the financial institutions as depositors of money. The financial institutions then take upon itself and manages the risks associated with lending to such individuals, public bodies and/or corporations that borrow funds by transforming short-term deposits into long-term loans.

Financial institutions have long struggled to manage the aforementioned risks. The inherent risks in managing the difference in durations of these institutions' assets and liabilities and the management of the credit/counterparty risks have become a major concern for the banks, more so in the current age of increased regulatory requirements which in turn affects profitability by requiring additional equity. These institutions have long explored different mechanisms to manage these risks on and off books. This led to the use of an asset securitization structure known as a "Collateralized Loan Obligation", or "CLO", to meet their financial objectives. CLOs enable banks to sell portions of large portfolios of commercial loans (or in some cases, the associated credit risks) directly into international financial markets, and offer banks a means of achieving a variety of goals such as but not limited to –

- Transfer of credit risk to third parties
- Off balance sheet accounting treatment
- Increased liquidity of bilateral and/or syndicated loans
- Access to efficient funding source for lending or other activities, generally with a longer duration than deposits
- Overall reduction in regulatory capital requirements and increased profitability

The first major CLO - $5 billion R.O.S.E. Funding No. 1 Ltd. Transaction was placed successfully in November 1996 by National Westminister Bank Plc and the trend soon exploded in the world financial markets. More than sixteen bank CLO transactions, accounting for $34.1 billion of rated securities, were closed in 1997. An increasing investor appetite buoyed by a lucrative return on these fixed income securities, and the increased use of these instruments to manage banks' risks due to the favorable accounting treatment post CLO structuring led to an increased number of such transactions in the market. Since an increased diversity of the underlying increased the credit rating of CLOs, larger, diverse and more complex CLO structures started appearing in early 2000s which were favorably rated by the rating agencies. A second level and sometimes a third level of structuring to develop securities with other CLOs as underlying started to appear in the market and were considered safer due to a greater amount of diversity of the underlying pool of assets.

The increased proliferation of CLOs was accompanied by an increase in the number of CLO managers and CLO funds, which had warehousing facilities to buy loans and then securitized the said loans through an SPV to other investors. Most of the times, the CLO issuer retained an economic and credit risk in the transaction by subscribing to a part of the security but between 2005 and 2007, several securities had a loan-to-sell structure wherein there was no risk retention by the party making the original loan to the borrower. Another important party involved during this period of increased CLO activity were the rating agencies. They were responsible for assigning ratings to syndicated loans comprising the collateral of

CLOs and also rated the different tranches of the securities post-structuring. The institutional investors, such as pension funds, who were principal investors in these fixed income securities due to their high payout based their risk assessments on the rating agencies' recommendations and did limited due diligence of the same due to increased difficulties originating from the complex structures of these securities.

In the financial market crash of 2007-08, securities such as ABS and CLOs took a huge hit. The systemic failure caused due the financial crisis proved the supposedly diverse underlying assets of CLOs to be very highly correlated and saw the failure of a number of such securities. The European CLO market, comparatively, did much better but suffered from the increased apprehensiveness of investors to invest in these securities resulting in widened spreads owing to increased assumed risks. The annual CLO issuance fell from $88.9bn in 2007 to $0.8bn in 2009. The CLO market has since recovered but the issuance amount dropped recently in response to new regulations.

CLOs, and securitization in general, have sparked a heated debate among the international financial market participants. Regulatory bodies understand the importance of such securities and have been trying to come up with newer and better regulatory and structural changes to the CLOs to build up investor confidence in these securities, which had plummeted post crisis. This led to the development of a new type of post crisis CLO structure popularly known as CLO 2.0 (pre-crisis CLO structures are now popularly called as CLO 1.0). The new CLO 2.0 structures are deemed safer by regulators and investors alike and feature better credit protection for the senior tranche holders and enforce the issuers to retain some amount of risk in the securities before selling them into the market. The new CLOs conforming with the prescribed CLO 2.0 structures have performed better than their CLO 1.0 counterparts. This has enabled the CLO market to bounce back to its pre-crisis levels.

In 2014, Volcker's Rule was put into place in the United States which classified the then popular CLO 2.0 structures as covered funds and making it difficult for banking entities to invest in the same. The banks needed to post tier 1 capital to hold even the senior tranches of these securities resulting in lower returns on equity for them. CLOs senior tranches have had banking entities as their most prominent investors, therefore, Volcker's Rule was a huge setback for the CLO industry especially in the US. Massive lobbying efforts have been launched by the participants of the CLO industry to pursue the regulators to reevaluate the classification of CLOs into covered funds. Meanwhile, several CLO managers have launched Volcker's Rule conforming CLOs, popularly known as CLO 3.0, that are exempt from being classified as covered funds making it easier for banking entities to invest. That said, these newer structures provide a lower return and the inflexibility of the underlying portfolio has made them riskier thereby proving the regulation to be counter-productive.

Therefore, the CLO market is ever-changing and extremely dependent on new regulations. The CLO managers have been able to keep up with the constant regulatory changes since the great financial crisis of 2008 and have launched newer structures in the form of CLO 2.0 and CLO 3.0. These new CLO types have helped revive the CLO market and attract back the investors to this very important asset class. That said, a close eye needs to be kept on the issuers and the regulators as the newer structures are a result of the lobbying tussle between these two primary market participants. A brief timeline of the CLO Market is shown in Exhibit 1 on next page.

Exhibit 1: CLO Market: Timeline

1998	1990s	Early 2000	2002	2004-2007	2008-2009	2010-2015	2016
First CDO structure created backed by a pool of high yielding, speculative grade bonds (CBOs)	CDO managers started issuing securities backed by a pool of only leveraged loan portfolio (CLOs)	Credit Downturn	High yield CBO market practically ended	CLO markets flourish and become the primary buyer of new issue leveraged loans	CLO markets temporarily shut-off in wake of credit crisis	Resurgence of CLO markets (CLO 2.0)	Risk Retention Regulations go into effect in the US
CDO managers started including leveraged loan in the collateral pool	CLO issuance gains momentum	Low recoveries in speculative grade bonds	CLO market continued to gain momentum			New peak issuance in the US during 2014	On-going changes from US and European regulatory bodies with respect to risk-retention and CLO composition
Leveraged loan as a collateral became more appealing due to: – Higher recoveries – Floating rates which reduced interest risk and obviated the need for a interest rate swap		Fixed to floating asset-liability mismatch increases CBOs backed by high yield speculative grade bonds fall out of favor	At one point, nearly 50-60% of new loan issuances were securitized Loans continued to trade close to 90 cents despite market recession			Risk retention regulations go into effect in Europe	

Source: ING, Wells Fargo

II. CLO Overview

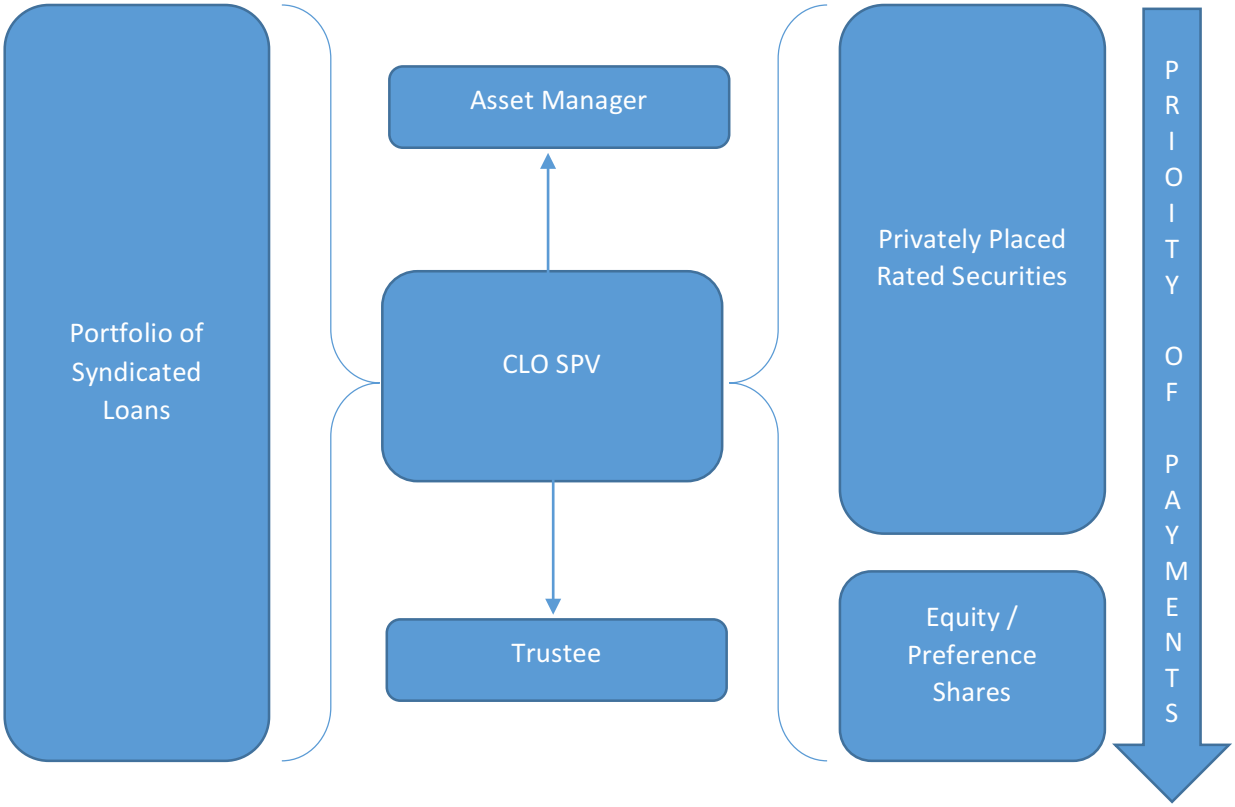
A Collateralized Loan Obligation, or CLO, is a special purpose vehicle (SPV) that acquires a portfolio of diversified syndicated leveraged loans through private placement of rated debt and equity securities, providing investors with differentiating risk and reward profiles *(Collateralized loan obligations: Accounting, tax, regulatory – Deloitte).* The special-purpose vehicle is financed with several tranches of debt (typically a 'AAA' rated tranche, a 'AA' tranche, a 'BBB' tranche, and a mezzanine tranche) that have rights to the collateral and payment stream, in descending order. In addition, there is an equity tranche, but the equity tranche usually is not rated.

A leveraged loan is a commercial financing provided by a group of creditors. Such loans generally consist of revolving credit and/or term loan facilities and are traded in the open market.

CLO structures are designed to provide –

- credit enhancement through portfolio overcollateralization
- priorities of payments to ensure higher-rated securities receive available
- funds prior to subordinated securities
- a reinvestment period in which available principal proceeds are used
- to acquire additional portfolio assets
- mechanisms to protect investors from portfolio deterioration

Exhibit 2: Typical CLO Structure

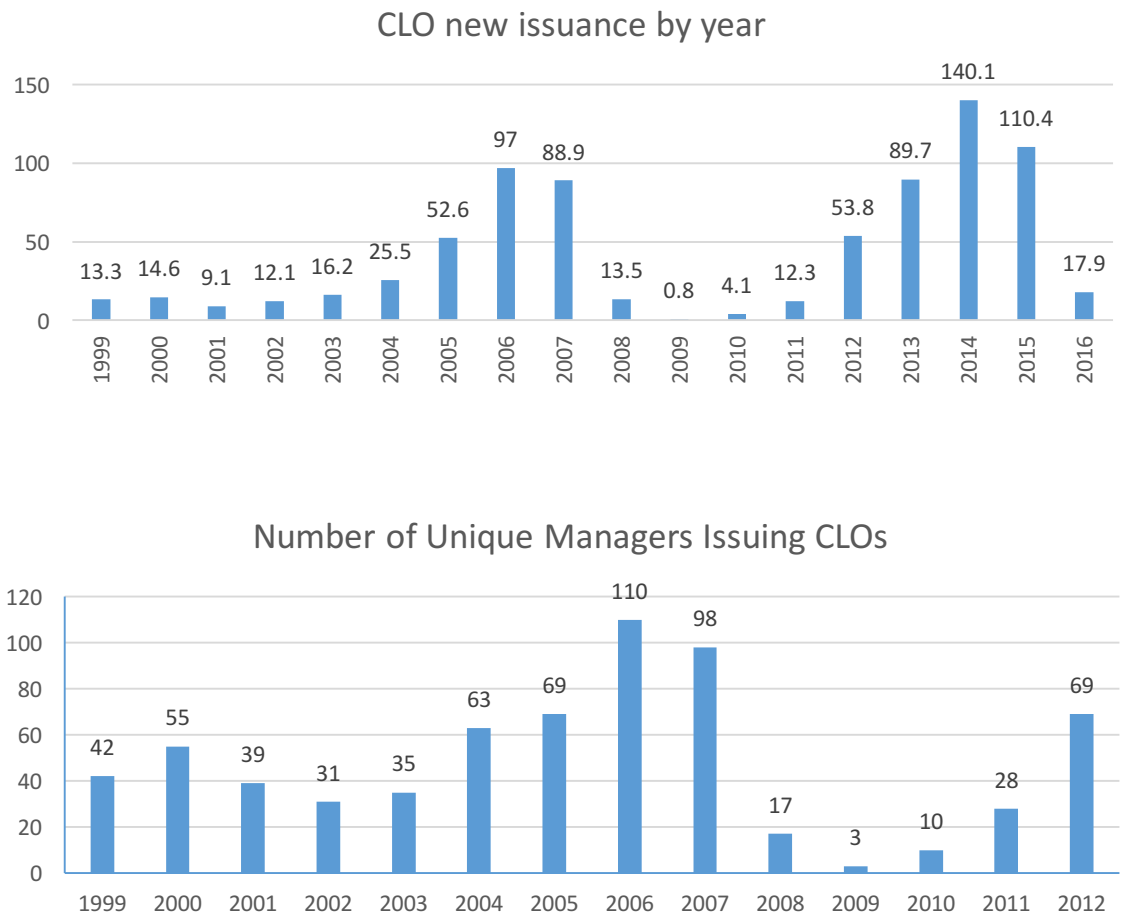


A. History of the CLO Market

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.

Although a few big bank balance sheet CLOs were issued in the late 1990s, the market remained relatively small for about a decade. In the early 2000s, institutional investors started seeking out higher yielding alternative investments because of the increased interest rate risk caused by the historically low interest rates at the time. The corporate debt default rates were starting to decrease after spiking in 2002 to just over 8%. The floating rate nature, seniority and security in the capital structure made exposure to leveraged loans appealing. CLOs severed as an easy and good option for domestic and foreign investors alike to gain exposure to the US leveraged loan market without having he administrative burden of settling leveraged loans directly.

Exhibit 3: Growth of the CLO Market



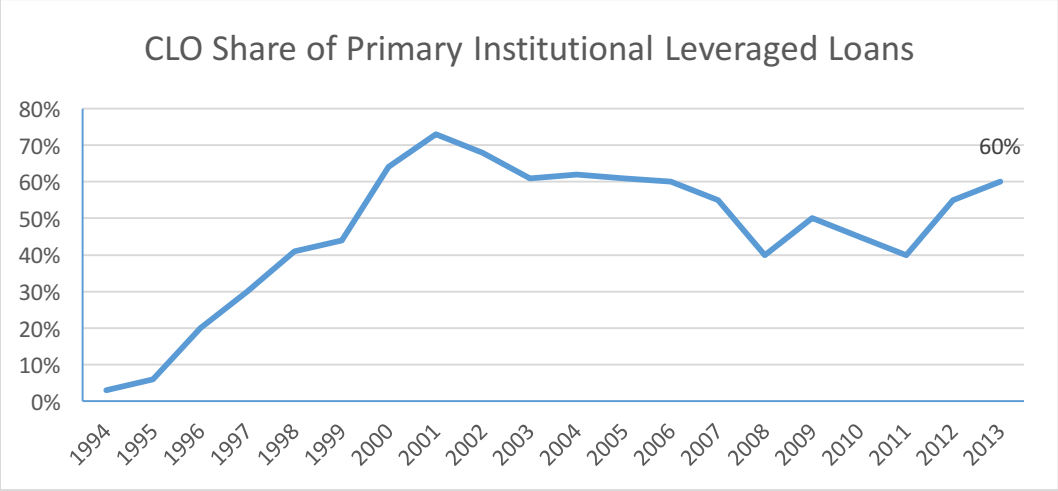
Source: "A case for CLOs" June 2013 – Shenkman Investor Note, CLOi, Creditflux.com

CLO issuance reached a peak in 2006 when $97 billion of deals were bought to the market. The strong trend continued into 2007, with another $89 billion subscribed by investors. By 2008, however, the weakness in sub-prime collateral led to a global Credit Crisis, which dramatically affected investor interest in all structured products, including CLOs. The 2008 CLO issuance was only $13.5 billion, c.14% of 2006 levels. The Credit Crisis also caused the default of leveraged loans to increase, and the default rates of such loans reached almost 10% in 2009.

By the late 2010, the effects of the Credit Crisis started to diminish and default rates began to decline again. Investors, although cautious of re-entering the structured product market as many of their CDO portfolios suffered huge losses, carried out increased due-diligence of such products and analyzed their historical performance pre and during the Credit Crisis. CLO investors quickly realized that using leveraged loans as collateral and the structure of a CLO of a CLO differed substantially from other types of CDOs. Fears of double-digit default rates and major "Events of Default" in the CLO structure were overblown. Moreover, vast majority of actively managed cash flow arbitrage CLOs, once perceived the riskiest of CLO types, remained intact as they were backed by a real pool of leveraged loans.

At year-end 2012, S&P estimated over $280 billion in 670 transactions of CLOs were outstanding net of transactions that have been called *(S&P's US CLO Transaction Count & Assets under management by Collateral Manager as of Dec 2012 – Robert J Radziul)*. As of May 2013, there are 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 *(A case for CLOs June 2013 – Shenkman Investor Note)*.

Exhibit 4: CLO Primary Market



Source: "A case for CLOs" June 2013 – Shenkman Investor Note

B. Concept and Importance of CLOs

To understand the rationale behind the creation of CLOs, we have to discuss the impact of these instruments on three key parties involved:

i. Businesses/Corporates taking out original loans from banks
ii. Banks giving out aforementioned loans and selling them to investors
iii. Business lenders/Investors buying such structured products

i. Business/Corporates taking out original loans from banks

Corporates borrow money from banks to conduct their business and to invest in projects. These loans are generally collateralized and are monitored by the banks. The cost of borrowing the said money for the corporates, the interest rate, depends on the creditworthiness of the businesses and the collateral posted. Another important aspect of the cost of borrowing is the availability of funds for borrowing. CLOs create an increased supply of investor money for the corporates to borrow. Moreover, they help make the previously illiquid corporate loans much more liquid as they become tradable on several exchanges. This increased liquidity and supply of investor money for the corporates directly impacts the cost of borrowing for them.

ii. Banks giving out aforementioned loans and selling them to investors

Banks lend to corporates to create long term assets from their short term liabilities of bank deposits and other instruments. The difference in durations of these institutions' assets and liabilities and the management of the credit/counterparty risks have become a major concern for the banks, more so in the current age of increased regulatory requirements which in turn affects profitability by requiring additional equity. These institutions have long explored different mechanisms to manage these risks on and off books. CLOs enable banks to sell portions of large portfolios of commercial loans (or in some cases, the associated credit risks) directly into international financial markets, and offer banks a means of achieving a variety of goals such as but not limited to –

- Transfer of credit risk to third parties
- Off balance sheet accounting treatment
- Increased liquidity of bilateral and/or syndicated loans
- Access to efficient funding source for lending or other activities, generally with a longer duration than deposits
- Overall reduction in regulatory capital requirements and increased profitability

Banks use CLOs to immediately sell loans to external investors/lenders so as to facilitate the lending of money to business clients and earn fees with little to no risk to themselves.

iii. Business lenders/investors buying such structured products

CLOs provide an exposure to the, otherwise inaccessible, leveraged and corporate loan markets to retail investors. These instruments protect the investors from interest rate risks while providing them an increased return than other form of fixed income products. Historically speaking the performance of the underlying assets for these securities has been exceptional with double digit default rates seen only once since their inception – in the Credit Crisis of 2008, even then these securities out performed others by a huge margin. This increased performance of these securities is achieved by combining multiple loans but not transmitting the loan payments equally to the CLO owners. Instead, the owners are divided into different classes, called "tranches", with each class entitled to more of the interest payments than the next, but with them being ahead in line in absorbing any losses amongst the loan group due to the failure of the businesses to repay. Normally a leveraged loan would have a fixed interest rate, but potentially only a certain lender would feel that the risk of loss is worth the interest that is charged. By pooling multiple loans and dividing them into tranches, in effect multiple loans are created, with relatively safe ones being paid lower interest rates (designed to appeal to conservative investors), and higher risk ones appealing to higher risk investors (by offering a higher interest rate).

Therefore, the whole point of issuing CLOs is to lower the cost of money to businesses by increasing the supply of lenders (attracting both conservative and risk taking lenders). They also serve to minimize the risk profiles of banks and making their assets more liquid in nature.

CLOs were created because the same "tranching" structure was invented and proven to work for home mortgages in the early 1980s. Very early on, pools of residential home mortgages were turned into different tranches of bonds to appeal to various forms of investors. Corporations with good credit ratings were already able to borrow cheaply with bonds, but those that couldn't had to borrow from banks at higher costs. The CLO created a means by which companies with weaker credit ratings could borrow from institutions other than banks, lowering the overall cost of money to them.

Thus, the CLO served all three major parties involved in the transaction and by reducing the cost of borrowing, helped boost the economy as well. Problems arose when the increased demand of such securities by investors in mid 2000s and the ability of banks to transfer counterparty risks to third parties led them to conduct decreased due diligence on the credit worthiness of the borrowers. Moreover, structural complications in certain securities and increased leveraging imploded during the Credit Crisis.

C. Market Participants and Roles

CLO industry consists of a variety of market participants collaborating together to make it successful. Some of these participants and their respective roles are detailed below.

i. The Placement Agent

It is a commercial or investment bank that has been mandated by the issuer or the CLO manager to structure and place the CLO's underlying securities and other assets. The placement agent acts as a liaison between other important parties and leads the marketing, pricing and closing-date activities. It may or may not also provide the warehouse facilities depending on the capital requirements of the banking entity.

ii. The Collateral Manager

The collateral manager or the asset manager is responsible for the acquisition and management of the underlying assets of the CLO. The asset manager has to operate within the constraints specified by the CLO's collateral eligibility criteria, the concentration limits and overcollateralization and other tests throughout the life of the CLO.

iii. The Trustee

The Trustee is a representative of the investors and performs the necessary fiduciary duties for them. He/she is the custodian of the CLO's assets and cash flows and transfers the available funds into investor accounts on due dates in accordance to the cash waterfall, if any. The trustee also monitors the collateral managers' management of the fund assets and ensures that all the eligibility criteria are fulfilled when transfer of the said assets is sanctioned by the collateral manager. The trustee has certain voting rights during the lifecycle of the CLO.

iv. The Collateral Administrator

The Collateral Administrator acts on behalf of the trustee to perform the bookkeeping of the underlying assets of the CLO. The collateral administrator is required to produce monthly and quarterly reports for the investors and the trustee detailing the performance of the underlying pool of assets and its compliance to the pre-determined eligibility criteria.

v. The Investors

Investors, as the name suggests, invests in the different tranches of a CLO. Each investor might have a different reason to subscribe to a particular tranche based on their risk aversion and the spreads they

might seek. Typically, the senior tranche or the investment grade notes are held by banking entities and institutional investors such as commercial banks, insurance companies, pension funds, mutual funds etc. Investors in the mezzanine notes and in the equity tranche are generally spread seeking risk taking funds such as hedge funds, private equity funds etc.

vi. The Credit Rating Agencies

The Credit Rating Agencies (Standard and Poor's, Moody's and Fitch) assign ratings to the underlying assets of a CLO. These ratings are based on the credit rating of the obligor and his or her ability to pay back their debts. The credit rating agencies also provide rating to the different tranches of a CLO transaction. These ratings are based on certain tests performed by these agencies and different agencies might have different process to rate these transactions. The rating agencies also monitor the health of these notes during the life of the transaction and publish associated upgrading or downgrading, if any. These agencies monitor the fund's ability to repay its investors in a timely manner and typically any impact on the underlying asset pool also impacts the credit rating of the CLO transactions.

vii. The Attorneys

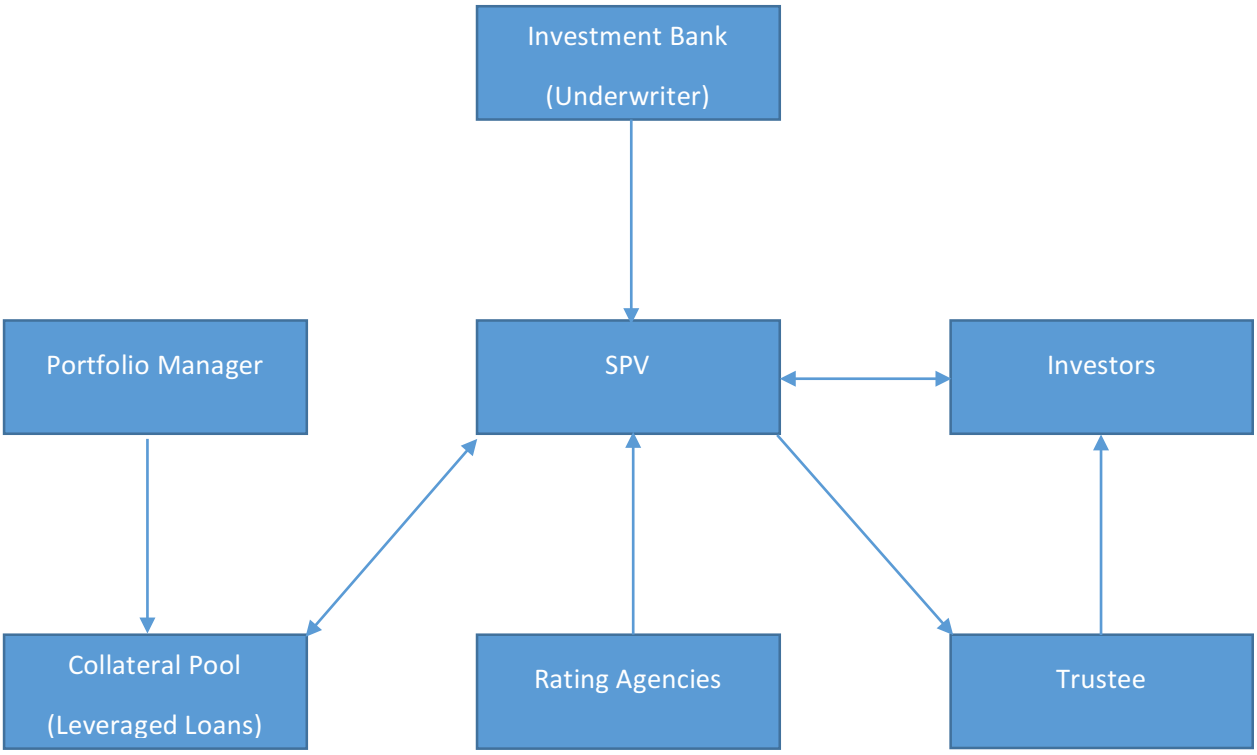
As with all other financial transactions, attorneys are important players in the CLO industry. Due to the large number of market participants involved and the importance of the structure and its compliance, attorneys have their work cut out in a transaction. Different parties employ different counsels to represent them and guard their interests such as the collateral manager and the trustee. The CLO fund also employs its own counsel to help it draft the articles of incorporation, bylaws and motions/minutes of a CLO funds' board of directors' meeting.

viii. The Accountants

The accountant provides the accounting services and passing on such information to the associated parties during the life of the CLO.

(Collateralized loan obligations: Accounting, tax, regulatory – Deloitte)

Exhibit 5: Parties involved in a Typical CLO Transaction



D. Key Terms of a CLO

i. Warehouse

The process by which the portfolio manager begins to accumulate assets (buy loans) for a cash CLO. This generally begins once the contract between the manager and underwriter is signed and can last from some weeks to a few months. This is a period of high risk for the portfolio managers as the risk is all appropriated by them. Due to substantial regulatory capital requirement during the warehousing period, many deals today are done without a warehouse.

ii. Ramp-Up Period

By the time of pricing of the transaction, the portfolio manager might have only acquired 50-75% of the proposed portfolio. The ramp-up occurs after closing wherein the portfolio manager acquires the rest of the portfolio.

iii. Effective Date

The date by which the PM must acquire 100% of the portfolio; CLO compliance tests & covenants apply.

iv. 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.

v. Weighted Average Rating Factor (WARF)

A weighted measurement of every asset in the portfolio of a CLO which serves to provide a uniform method of comparing the ratings of different portfolios. A higher WARF score is indicative of lower quality of underlying assets and therefore a higher risk profile. The WARF rating scale is presented below:

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 & lower**	10000

vi. PD, EAD and EL Modelling

PD is the Probability of Default, EAD is the Exposure at Default and EL is the Expected Loss. These three terms are inter-related by the formula below:

$$EL = PD \times EAD$$

These terms are calculated and/or determined for different tranches of a CLO transaction through various stress tests and fed into a Monte Carlo simulation to determine the corresponding ratings of the same. This is a popular ratings approach used by S&P and Fitch. Each have their own models and methods of determination of the key terms but most of the times the ratings given are quite similar in nature.

vii. 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.

For instance, $$\text{Class C O/C} = \frac{\text{Total Par of Performing Collateral}}{\text{Par of Class A + Class B + Class C}}$$

viii. Interest Coverage (I/C) Test

The Interest Coverage Ratio is equivalent to ADSCR, i.e. the ratio to determine if the collateral pool generates enough cash interest to service the outstanding debt on the particular class of the security. Interest Coverage Ratio for each class is calculated similar to the O/C test, by dividing the total interest generated by the collateral by the interest required to pay the expenses and service each class of debt above it.

E. Lifecycle of a CLO

Although there are many types of CLOs with varying types of lifecycles, the typical lifecycle of an average CLO can be summarized in the following four main stages:

i. Marketing and Asset Accumulation (0-6 months)

This is the beginning phase wherein the portfolio manager and the underwriter agree upon the underlying structural elements and assumptions of the transaction. Investor appetite is assessed by talking to a few initial investors. The Portfolio Manager also begins to talk to banks and other financial institutions to identify and even buy potential leveraged loans for the underlying portfolio. The CLO is then priced (setting a final price for all tranches) and closed about a month later, during which time the Portfolio Manager purchases majority of the underlying loan assets of the portfolio.

The early months of the transaction generally follows the timeline described below during this phase of the transaction:

- One month: Documentation of the deal, warehouse (if used), Offering Memorandum, and Investment Management Agreement
- One/two months: Marketing of the debt and equity tranches
- Pricing date: Once funding for all tranches has been arranged, a pricing date is established to determine the spread. The spread is determined on the basis of the investor interest and over or under subscription by the said investors. Typically, 50% of the underlying portfolio has been purchased by the pricing date.
- Closing date: Closing generally occurs 2-3 weeks after the pricing date. At the closing date the entire deal funds and liabilities start to accrue. Approximately 75% of the underlying portfolio has been successfully acquired by the PM.
- Effective date: The PM needs to have acquired 100% of the portfolio by the closing date. Rating Agencies also give final ratings to all tranches by this date. The effective date is generally not more than 4 months after the closing date.

ii. Non – Call Period

Equity investors can choose to call and close the CLO completely at a later stage. However, most CLO have a pre-determined non-call period wherein the equity investors cannot exercise their right. This is essential as it assures non-equity investors that the CLO will be around for at least a few years.

iii. Reinvestment Period

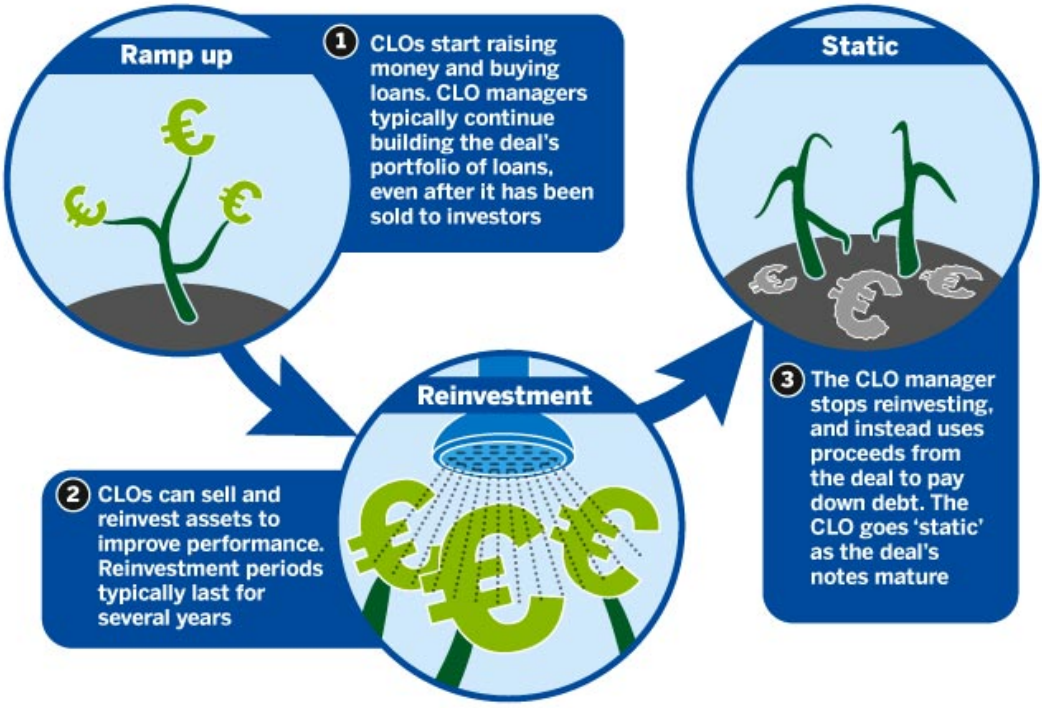
Due to repayment of principal of certain underlying loans, there might be a cash surplus. There are two alternatives for the same. The Portfolio Manager can either pass down these funds to the tranche holders of the security or reinvest the same into new leveraged loans that might fulfill pre-determined

covenants and checks. The re-investment period is stated during the structuring of the transaction and the Portfolio Manager cannot reinvest funds outside of this period. Recent vintage transactions have had a four-year reinvestment period.

iv. Wind – Down

As discussed before, at the end of repayment period all principal repayments from the underlying pool of assets must be passed on to the CLO tranche holders starting from AAA tranche holders. However, as the 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.

Exhibit 6: Lifecycle of a CLO (source: *Financial Times Article: The Great CLO Deleveraging, May 23, 2012*)



F. Different types of CLOs

i. Static versus Managed CLOs

As the word suggests, Static CLOs have a static pool of assets that are not actively managed by the CLO manager. Once the underlying assets in the Static CLOs are paid off, the amounts are passed on to the paper holders of the CLO and the pool of the underlying assets subsequently decreases.

Managed CLOs on the other hand have their underlying assets actively managed by the CLO managers. Upon the reimbursement or amortization of a few underlying assets other similar assets that adhere to predefined rules and conditions are bought to replace them. The level of management of the underlying may also differ from one CLO structure to another. Some CLOs only permit replacement of the underlying loans only if the existing assets are fully repaid whereas others allow the CLO manager to replace non-performing assets in the underlying portfolio.

The managed CLOs have therefore a dynamic collateral pool and the makeup of the pool may differ overtime. The new regulations have restricted the active management of the underlying asset pools by the CLO manager to make them less risky and to provide investors a constant and pre-determined associated risks with the portfolio.

ii. Balance Sheet versus Arbitrage CLOs

Balance Sheet CLOs are the purest form of CLOs which were initially created to reduce the bank's regulatory capital risks by securitizing the certain assets and removing them, and the associated risks, from the bank's balance sheet. In newer CLO structures, this is harder to achieve as the issuer is required to retain certain risk in the portfolio. Nevertheless, it is a popular way for banks to manage their regulatory risk capital requirements.

Arbitrage CLOs are mainly created to take advantage of the additional incomes generated by the pool of assets over the interest paid on the different notes of the CLO. This is quite popular when the investor appetite for CLOs or alternative investments is high and therefore the cost of financing the underlying pool of loans is reduced.

iii. Cash Flow versus Market Value CLOs

Cash Flow CLOs are securities where the underlying pool of assets is assessed on the par value. Since the par value is not dependent on market movements, the value of the underlying collateral remains fairly constant unless there are some redemptions.

Market Value CLOs on the other hand are securities whose underlying pool of collaterized loans are assessed at the market value of such assets. The transaction is thus subjected to mark-to-market and the price volatility depends on the market volatility.

Although the Market Value CLOs are able to better assess the value of the securities if liquidation is carried out, the correct assessment of the market value of the underlying is often difficult as most of the collateral posted is fairly illiquid in nature.

iv. Cash versus Synthetic CLOs

Cash CLOs buy real assets (actual leveraged loans as underlying collateral). The aforementioned loans are removed from the balance sheet of the seller and are transferred to the balance sheet of the SPV or the buyer.

In a Synthetic CLO structure, the original owner of the loans buys the credit protection from the SPV and pays a pre determined fees to the party. In case of default, the SPV needs to reimburse the owner of the loans of the amount owed. In this transaction, the loans are still held by the original owner and are not transferred, only the credit risk is transferred to the investors of the transaction. The counterparty risk of the investors defaulting in case of default of original loans is mitigated through the establishment of a reserve or cash holding account by the custodian or the trustee.

Historically most CLOs were cash transaction and no or very few synthetic CLOs have been printed since the Credit Crisis.

v. American versus European CLOs

Looking back at the performance of CLOs during the financial crisis period of 2008, the European CLOs performed much better than their American counterparts. This better performance has been attributed to the performance of the underlying collateral. The American CLOs had a greater percentage of non secured and second lien loans in their portfolio. They also had a higher percentage of corporate bonds and other securities. European CLOs generally have better underlying collateral as their it is primarily composed of senior secured corporate loans with a much higher diversity score than in the US. Structurally there wasn't much difference between the two securities but the different performance was due to the differential collateral selection and performance.

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

G. Risk Factors associated with CLOs

CLOs have a variety of associated risk factor which can be broadly categorized into:

i. Structural Risks
ii. Collateral Risks
iii. Macroeconomic and Political Risks

It is important to note that each tranche of a CLO transaction may be subjected to different risk factors in varying degrees.

i. Structural Risks

The structural risks are specifically applicable to structured products such as CLOs. They include risks associated to the structuring of the security, which includes leverage tests, non-call period, compliance tests etc. The reliability and effectiveness of the third parties involved in such a transaction, namely trustee, custodian, lawyers, accountants and rating agencies, also constitute an important part of the risk.

The relative illiquidity of a CLO transaction also contributes to this risk. As many CLO investors consider these investments to be buy-and-hold types, the markets for these securities is relatively thinner than other financial products. In recent times, a small secondary market for CLO transactions has appeared but the market is still in its nascent stages.

Although these Structural Risks constitute the most important and prominent risks of a CLO, they are the most predictable and accountable ones as well. CLO structures are governed by predetermined rules and the specific documents related to them are made available to the investors prior to the purchase. In many cases, early investors are asked to contribute towards determining the structure of a CLO transaction.

ii. Collateral Risks

They are the counterparty risks associated with investing in the CLO transactions. This category of risk arises from investing in securities backed by sub-investment grade and/or leveraged loans. They are driven by credit specific events such as default, recovery, downgrade, speed of prepayments etc. Collateral risks can also arise from the credit risk of the CLO manager and his ability to avoid or manage defaults and maintain high payments from the underlying pool to satisfy the payments to the investors of the CLO paper.

Collateral risks obviously vary in different degrees for different tranches of the CLO. For instance, equity tranche, because it is located at the bottom of the cash waterfall, is immediately affected by a default whereas the AAA tranche is barely affected. Like Structural Risks, Collateral Risks can be anticipated and are usually modelled in when pricing of tranches occurs.

iii. Macroeconomic and Political Risks

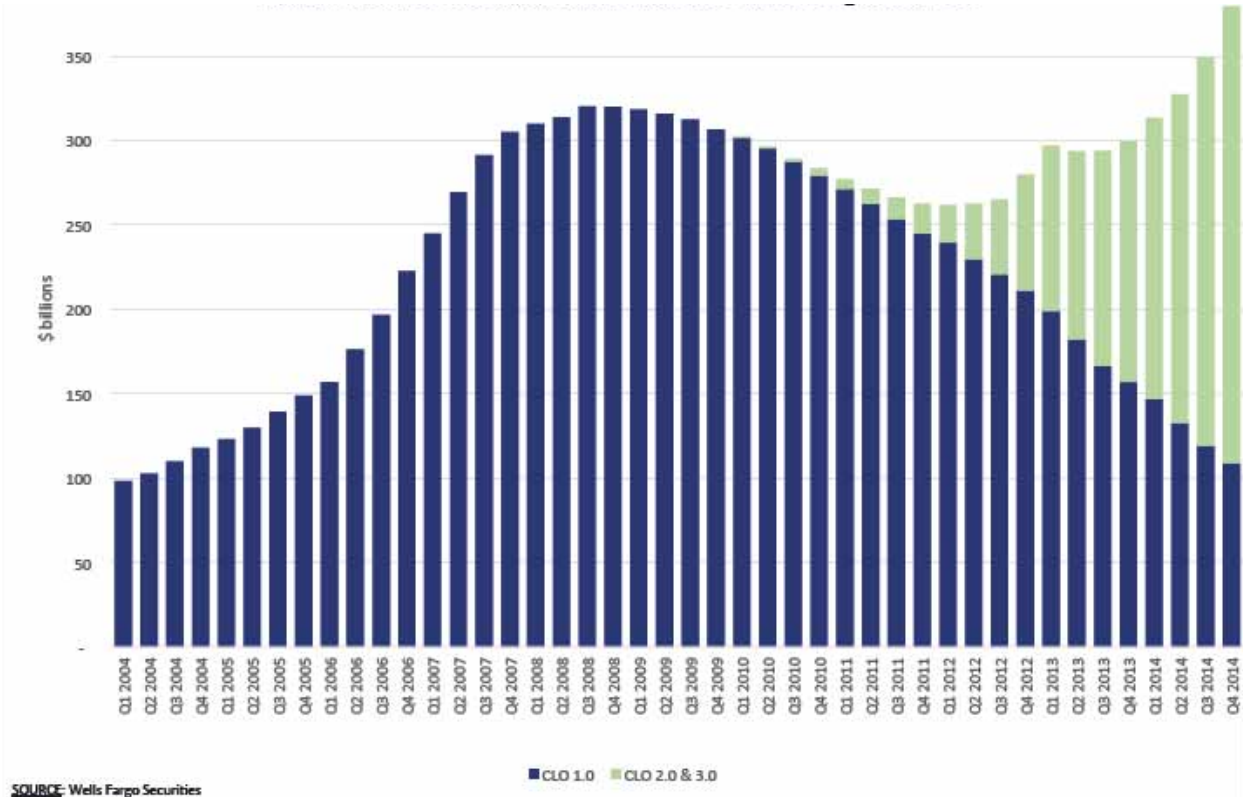
CLO transactions are financial instruments and like other financial instruments are affected by the larger Macroeconomic and Political events that can impact the pricing and liquidity of such instruments. These risks generally include broad risks such as federal spending cuts, the performance of the economy, and monetary policy changes. These risks are fairly miniscule for CLO transactions especially for CLOs modelled after cash flows wherein the collateral is not marked to market. But still these risks are unpredictable and hard to model in the transaction.

III. CLO 1.0 vs CLO 2.0

During the great financial crisis of 2008, the Collateralized Debt Obligations including securities such as Mortgage Backed Securities and Collateralized Loan Obligations underperformed and investors (mainly institutional investors such as pension funds and sovereign funds etc.) who subscribed to top tranches of these products suffered big losses. This led to the development of a new structure which was deemed safer for the investors providing better risk assessment and improved risk-return profiles. Thereby, CLOs structured before the financial crisis have been termed as CLO 1.0 and the CLOs structured after 2008 and complying with these new structures are labelled CLO 2.0.

Exhibit 6 below shows the US CLO liabilities outstanding for CLO 1.0, CLO 2.0 & CLO 3.0. The graph aptly indicates the increasing proportion of new CLO structured liabilities owing to increased issuance of CLO 2.0 and CLO 3.0.

Exhibit 7: US CLO liabilities outstanding from 2004 through 2014 (source: *Wells Fargo Securities*)



A. Overview

The CLO market had completely dried up for a couple of years after the financial crisis. Since the introduction of the new structural features which gave better credit protection to the senior tranche holders of the aforementioned securities, there was a resurgence in the CLO market especially in the US CLO market. Exhibit 7 below indicates the new CLO issuances in USD and EUR in the post crisis period. Exhibit 8 shows the most recent priced CLOs and their sizes.

Exhibit 8: CLO new issuance by year (source: *CLO-i*)

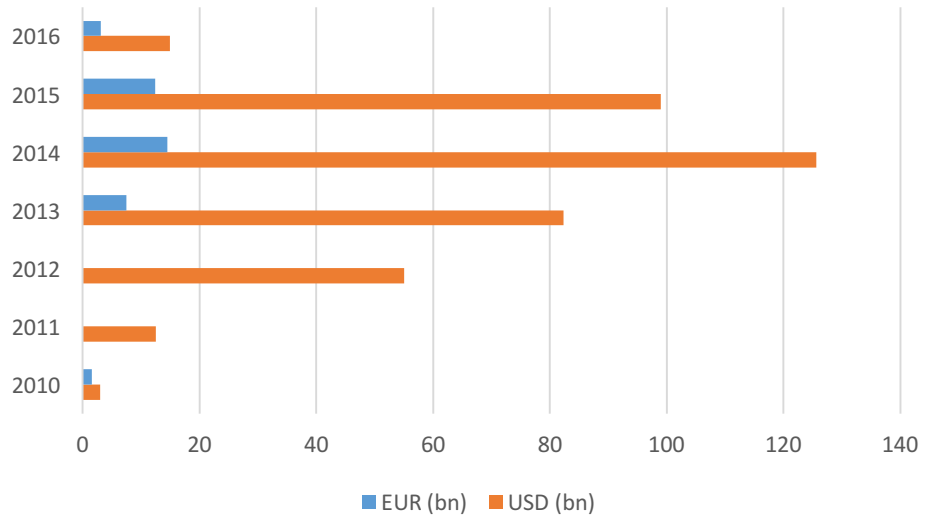


Exhibit 9: Recent CLO issuance as of 11 May 2016 (source: *CLO-i*)

CLO	CLO TYPE	PRICING DATE	MANAGER	ARRANGER	SIZE(M)
Cedar Funding 5	CLO	05 May 2016	Aegon Usa Investment Management	Jefferies	397.15
Carlyle GMS CLO 2016-2	CLO	27 Apr 2016	Carlyle Group	Citigroup	499.00
Race Point X	CLO	27 Apr 2016	Sankaty Advisors	Citigroup	401.85
HPS Loan Management 9-2016	CLO	27 Apr 2016	Highbridge Principal Strategies	Citigroup	502.55
Palmer Square Loan Funding 2016-2	CLO	26 Apr 2016	Palmer Square Capital Management	JP Morgan	200.78
Dryden 42 Senior Loan Fund	CLO	22 Apr 2016	Prudential IM (Pramerica)	BNP Paribas	401.75
OCP CLO 2016-11	CLO	22 Apr 2016	Onex Credit Partners	Citigroup	501.60
AMMC CLO 18	CLO	20 Apr 2016	American Money Management	Jefferies	406.15
Regatta VI Funding	CLO	15 Apr 2016	Napier Park Global Capital	Morgan Stanley	411.00
BlueMountain CLO 2016-1	CLO	13 Apr 2016	BlueMountain Capital Management	JP Morgan	424.00

This resurgence of the CLO market is mainly attributed to the several changes in the CLO structures post the financial crisis. Some of these important structural changes are discussed in more detail below.

B. Major Differences between CLO 1.0 and CLO 2.0

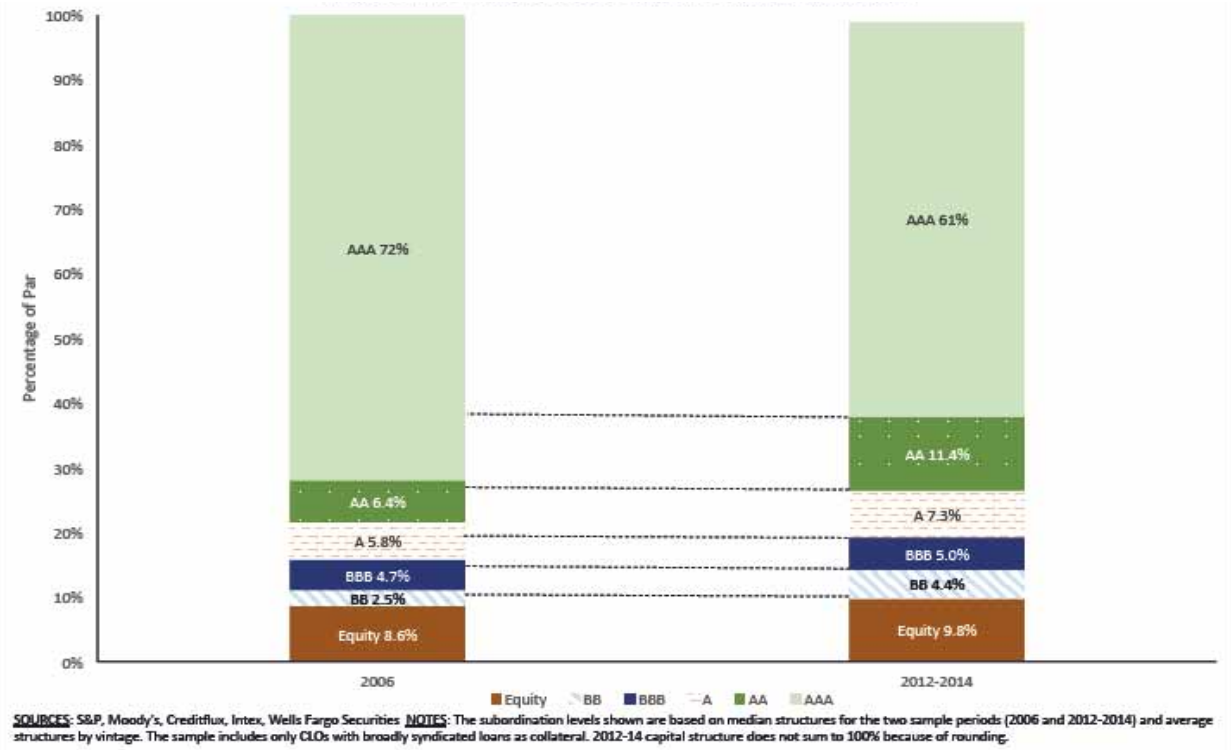
As discussed before, the CLO 2.0 with their new structures provide a better protection to the investors in the senior tranches. Some of these important distinguishing characteristics in the new vintage CLO 2.0 and CLO 3.0 structures are listed below.

i. Overcollateralization and Credit Enhancement of Senior Tranches

One of the ways to achieve better protection for investors is through enhanced subordination, that is the senior or AAA tranche sizes as a percentage of the collateral are much smaller than before. This implies that the CLO securities can sustain greater number of defaults of the underlying collateral before affecting the senior tranches when compared to equivalent pre-crisis CLOs.

Exhibit 9 shows the median capital structure of CLOs issued in 2006 and in the 2012-2014 period. The AAA tranche of the CLO 2.0s is nearly 11% less than that of their pre-crisis counterparts or alternatively, the post-crisis CLO structures' AAA tranches have c.11% more subordination than the CLO 1.0 structures. There has been an effective one tranche shift in the structure – AA Tranche of CLO 2.0 structure would have been the AAA tranche of CLO 1.0 structures and so on. This provides a greater amount of protection to not just the top tranches but to all subsequent tranches. The increased equity slice and widened BB tranche compensates for this shift.

Exhibit 10: Pre-Crisis vs. Post-Crisis Capital Structures



SOURCES: S&P, Moody's, Creditflux, Intex, Wells Fargo Securities NOTES: The subordination levels shown are based on median structures for the two sample periods (2006 and 2012-2014) and average structures by vintage. The sample includes only CLOs with broadly syndicated loans as collateral. 2012-14 capital structure does not sum to 100% because of rounding.

Another way to interpretation of this tranche shift in the new structure is obtained through studying the enhanced credit support for the investors of each tranche and by analyzing their respective credit supports. Exhibit 10 indicates the credit supports for each tranche and clearly shows that a lower tranche in the new post-crisis structure enjoys the same credit enhancement as a higher tranche from the pre-crisis structure CLOs.

Exhibit 11: Asset Credit Support Subordination (% of Credit Support Based on CLO Assets)

	2006 Vintage	2012-2014 Vintages
AAA	25.0%	36.1%
AA	18.6%	24.8%
A	12.8%	17.5%
BBB	8.1%	12.5%
BB	5.6%	8.1%

Source: S&P, Moody's, Creditflux, Intex, Wells Fargo Securities

ii. Restrictions on Eligible Collateral

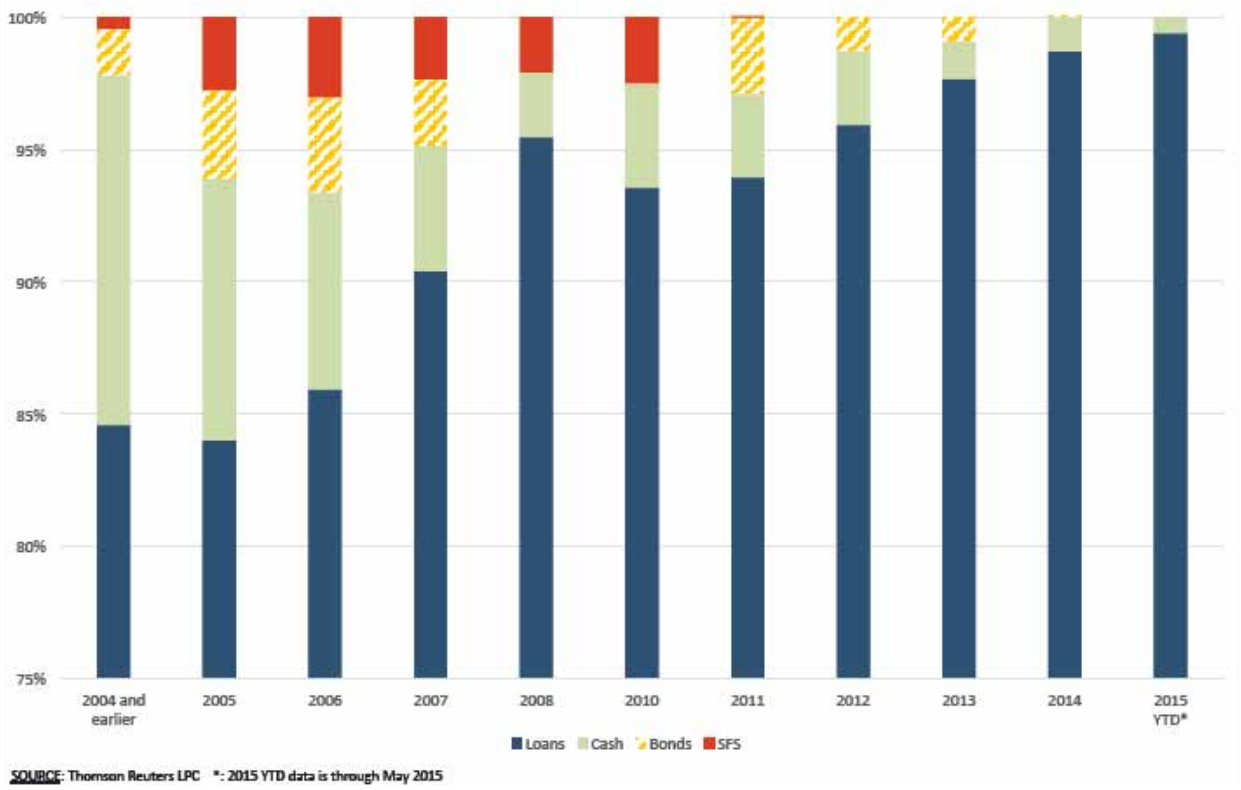
Another noteworthy change in the post-crisis CLO products is their choice of underlying collateral. Post the financial crisis a lot of emphasis has been laid on providing guidelines to the CLO managers to define the eligible collateral for CLO securities. The percentage of senior secured leveraged loans in the underlying collateral has increased since the financial crisis whereas investments in high yield bonds and senior tranches of other securities has reduced substantially. The more recent Volckerized CLO 3.0 structures do not permit any inclusion of HY Bonds or resecuritization of securities.

Another important restriction that has been put into place has been regarding the geography. An increasing number of CLO securities have underlying collateral specific to the place of issue of the securities, for instance, the US CLOs have almost all of its underlying leveraged loans as collateral written in the US. This is a big shift from the CLO collateral of pre crisis CLO 1.0.

Restriction of the eligible collateral was put in place to help safeguard the investors' interest in these securities but on the contrary this practice has led to the CLO managers holding on to some riskier syndicated loans to remain fully invested due to the unavailability of collateral conforming to the eligibility criteria put in place. There has been greater need now than ever to monitor the underlying collateral and its riskiness on an ongoing basis and has created an agent problem wherein the investor interest and the CLO manager interest is not aligned. This discrepancy has been recognized and has been tried to be mitigated when discussing the CLO 3.0 structures but with limited success.

Exhibit 11 below showcases the change in the underlying collateral for pre and post crisis CLO transactions. As discussed, the shift in underlying collateral from bonds and securities to syndicated and/or leveraged loans can be clearly seen. In 2014 and 2015, that is after the introduction of CLO 3.0 structures, a complete disappearance of bonds and the resecuritization practice is glaringly clear.

Exhibit 12: Average Composition of CLO Collateral by Vintage



iii. Reinvestment Periods

As discussed before when describing the lifecycle of a CLO transaction, almost all CLOs have an initial ramp-up period where a pool of underlying collateral is developed by selecting and purchasing of leveraged loans, bonds and securities by the collateral manager. During the subsequent life of the CLO, there is amortization of notes occur wherein proceeds from the maturity of underlying assets is passed on to the note-holders. In static CLOs, ramp-up period and amortization periods are the only two periods. However, in more common actively managed CLOs, there is also a reinvestment period during which the CLO manager is allowed to select and buy other collateral to replace matured securities in the underlying portfolio of assets. This reinvestment is usually defined beforehand and eligibility criteria for the new securities is put in place. However once the new securities satisfy the eligibility criteria, the reinvestments are up to the CLO manager's discretion. The CLOs could be lightly managed where only some non performing assets are replaced or could be actively managed where CLO managers can replace collateral with more frequency to search for better risk reward profiles.

Longer reinvestment periods are usually perceived as riskier for the investors as it exposes them to interest rate risk due to the unpredictability of duration and weighted average interest rate of the underlying collateral. Investors also take on the poor investment decision risk of the CLO manager for a longer period. That said, reinvestment periods have been deemed necessary by the investors as it gives an option to the CLO managers to weed out non performing assets and gives them flexibility in choosing the assets and increase the risk reward profile of the collateral pool.

As Exhibit 12 indicates, the reinvestment periods in pre-crisis CLO 1.0 used to be c.6 - 7 years as compared to only 3 - 4 years for post crisis CLO 2.0. Therefore, investors in CLO 2.0 and CLO 3.0 are exposed to lesser reinvestment risk as compared to during the pre-crisis period.

iv. Non-Call Periods

Almost all CLOs have a built in provision that allows the equity tranche investors to call back the outstanding notes at a later date before the actual maturity of the CLO notes. This is done mainly when market volatility and conditions make it non-worthwhile for the equity tranche holders to take on the given amount of risk for the projected IRRs. Senior tranche holders are also satisfied with this provision as they are able to claim their note principals at face value or a pre-agreed value thereby mitigating any risk. The CLO manager is usually the unhappiest person due to this provision as he loses precious time and resources he has spent to build up a collateral pool to only see it being used to pay back notes that have been called early.

The non-call period is the time period after the issuance of the CLOs wherein the equity tranche holders cannot call back the notes distributed to the higher tranche holders irrespective of how bad the conditions might become. Usually a longer non-call period is detrimental to the note and equity holders as it removes the optionality and exposes them to greater market risk. The senior tranche holders might get exposed to greater market risk too as non-liquidation of the CLO due to the non-call period might wipe out the equity tranche completely and start affecting their tranches as well.

Exhibit 12 clearly indicates that the CLO 1.0 had a longer non-call period of c.5 years at the time of issuance whereas the CLO 2.0 have a much shorter 2-3 years of non-call period. In fact, the newer Volckerized CLO 3.0 have a non call period of only 1.5 years. Therefore, the newer post crisis CLO structures have a shorter non-call period thereby providing a greater amount of security to the note-holders of the CLOs.

v. Restrictions on CLO Note Cancellations to Improve O/C

The O/C tests or Over-Collateralization tests are one of the most important triggers in determining an Event of Default or an EoD. The senior tranche holders' interests are thought to be safeguarded as long as the O/C test is passed that is the par value of the collateral posted as underlying divided by the par value of the notes outstanding is above a predetermined number, often 105%. In case of sever market conditions and/or write-downs such as the depreciation of the face values of loans during the financial crisis, the O/C test may fail and might trigger the EoD resulting in the liquidation of underlying collateral by the Trustee and passing on the funds to the note-holders.

The O/C test was supposed to help protect the note-holders and to help maintain a minimum amount of underlying collateral above and beyond the outstanding liabilities or notes. But during the wake of the financial crisis, some CLO managers bought back some of the junior and/or mezzanine tranches of the CLOs at huge discounts to reduce their outstanding liabilities and thereby passing the O/C tests. The junior and mezzanine tranche holders were happy to sell their notes at a discount because they were happy to receive something as opposed to the prospective nothing due to the adverse market

conditions. The senior tranche holders no longer experience the Event of Default as the CLOs pass the O/C tests and thereby preventing the trustee from liquidating the assets to pay down the liabilities. But the senior tranche holders are in fact in a direr situation after this as a part of the collateral is used to buy back the mezzanine and junior tranches and they bear the whole risk of the default of the collateral and therefore the notes.

In the newer structures post crisis, this use of existing collateral to buy back notes to satisfy the O/C tests has been banned. The trustee can sell some collateral to pay down the senior tranche holders to satisfy the O/C tests but cannot pay the junior or mezzanine note holders before paying the senior tranche holders. Effectively, the cash waterfall is more stringently enforced in the CLO 2.0 and CLO 3.0. The same has been indicated clearly in the Exhibit 12.

vi. Tranche refinancing

Due to decreased market appetite and low liquidity, the leveraged loans market completely dried up after the financial crisis. This in turn led to increased difficulty to refinance the leveraged loans that were due to expire immediately after the financial crisis that is from 2009 to 2012. Many borrowers tried to refinance their liabilities through the high yield bond market with little to no success. This led to the development of Amend & Extend transaction. Amend & Extend or A&E transactions enabled borrowers to refinance part of their existing debt through negotiating and gaining the approval of at least 50% of the lenders to extend the payout date of their liabilities. These liabilities are restructured to provide a higher interest rate and a fee to retain the existing credit arrangements with a longer maturity. These arrangements are extremely helpful to both borrowers and lenders alike as they save both counterparties considerable amount of money, effort and time.

These arrangements created huge complications for the CLO 1.0 structures. These renegotiating of liabilities to get a longer maturity led to the weighted average duration of the underlying collateral pool to be much longer than it was previously anticipated. This in turn created a mismatch in the payment terms of the note-holders and the payout of the collateral pool. Since the A&E transactions created a lot of controversy around their treatment by the CLO managers, the newer CLO structures post crisis have explicit rules to effectively tackle these type of extended loans which was lacking in the pre-crisis CLO 1.0.

vii. Pricing and Excess Spreads

We have talked about how the CLO 2.0 and CLO 3.0 structured post the financial crisis is safer and carry lesser risks. This doesn't translate to the pricing of these notes. The excess spread over the LIBOR for CLO 2.0 is much more than the corresponding excess spreads for CLO 1.0. As Exhibit 12 indicates, the weighted average cost of funds for CLO 1.0 was 120 to 155 basis points below that of the CLO 2.0.

This is mainly due to build back investors' appetite in the CLO securities and the high coupons are given to note-holders to promote their trust in these instruments. Therefore, going forward the newer CLO structures have been made safer for investors and are offering them better returns than the pre-crisis CLO 1.0. That said, in the recent years, particularly in the low interest rate environments, the increased

availability of cheaper loans to individuals and institutions alike have made the collateral pool of such CLO securities much cheaper. This coupled with the increased demand of CLO tranches among investors, mainly institutional investors, have led to tighter spreads of newer CLO transactions.

The demand for higher coupons in the CLO 2.0 and 3.0 structures to ensure investors against possible defaults by reducing the duration of the securities has led to a lower excess spreads in these transactions despite a higher weighted average cost of funds. The same is illustrated in the Exhibit 12 below.

Exhibit 13: Structural Features and Investor Protections in Pre and Post Crisis CLO Transactions

	CLO 1.0	CLO 2.0	CLO 3.0
a) Credit Support for Senior Tranche(s)	Low	High	Higher
b) Collateral Restrictions			
a. CLO Bucket	5-10%	0%	0%
b. HY Bond Bucket	5-10%	5-10%	0%
c) Reinvestment Period	5-7 Years	3-4 Years	3-4 Years
d) Non-Call Period	3-5 Years	2 Years	1.5 Years
e) Note Cancellations to Improve O/C	n/a	No	No
f) Tranche Refinancing	No	After Non-Call Period	After Non-Call Period
g) Pricing and Excess Spreads			
a. Excess Spreads	Higher	Lower	Lower
b. Coupons	Lower	Higher	Higher
c. Weighted average cost of funds	50-70 bps	170-225 bps	170-225 bps

Source: D. Preston and J. McNeilis, "The Investor's Guide to CLO Senior Notes," Wells Fargo Securities (April 15, 2015)

In addition to the structural tweaks listed above in the recent CLO transactions, which ensured more stability and safety of these securities and building investors' confidence and appetite for such securities, some other important structural elements were introduced that distinguished CLO 2.0 and CLO 3.0 from their pre-crisis counterparts. Such differences are enumerated in more detail in the next few pages.

C. Re Pricings

A new feature that has been introduced in many recent CLO 2.0 structures is the Re-Pricing clause. A number of CLO 2.0 transactions are approaching the end of their non-call periods and in the low interest rate environment of today, there is an increased demand by equity holders and CLO managers to refinance the CLO securities as the spreads of the underlying loan collateral has tightened. The re-pricing tool is a more efficient way to achieve this refinancing and is more cost and time effective.

Re-Pricing, as the name indicates, is the readjustment of the spreads of the CLO tranches at the end of the non-call periods to correctly translate the tighter spreads of the underlying collateral. The re-pricing clause is often triggered by the equity tranche holders or the CLO managers and is offered as an alternative to the refinancing of the CLO securities. In a refinancing deal, often new terms are discussed and agreed with between the CLO Manager and the tranche holders or the investors of a particular tranche getting refinanced. To protect the interest of the investors of tranches not part of the refinancing deal, the new refinancing contract has to abide by the following few rules and conditions:

i. The spread on the refinancing debt cannot exceed that of the refinanced notes
ii. Limited recourse and non-petition provisions should be included in the refinancing agreements
iii. The newly agreed payment structure should abide by the existing waterfall structure of the transaction
iv. The refinancing holders shouldn't get any preferential treatment when deciding their voting rights. In fact, the voting rights of the refinancing holders should be the same as that of the existing holders
v. An approval from the rating agencies is required stating that no downgrading of the existing tranches will occur as a result of the refinancing
vi. A tax option needs to be provided for existing and new debt

Refinancing only results in the readjustment of the spread over the LIBOR or equivalent benchmark and can save considerable amount and money that would have been otherwise spent in finding and marketing the new offering to prospective note-holders, getting tax counsel and getting the various tranches rated by the rating agencies. If structured properly, the re-priced transactions are not termed as a new offering thereby limiting the requirement of preparation and dissemination of new offering materials.

Under recent CLO structures, the re-pricing clause is triggered by the majority equity holders. Often the AAA tranche is exempt from any re-pricings but it is possible to re-price these tranches as well if agreed beforehand. A notice for re-pricing is provided at least a month or two in advance so that the note-holders can take a decision on whether they would prefer their notes to be re-priced or to be called back. Such non-consenting note-holders would be paid back their principal in full along with any accrued interest and the notes would be sold to consenting note-holders or into the market by a re-pricing market intermediary. Rating agencies do not need to provide confirmations in these re-pricing scenarios but they are still notified if and when such a clause is triggered by the equity holders of the securities.

Re-Pricing clauses have obvious benefits to the equity tranche holders and CLO managers as they provide a cheaper and faster way to refinance the CLO issuers' notes. The debt-holders might also prefer the transactions to re-priced as it is a faster and cheaper alternative to redeploying their capital in new transactions with increased due diligence requirements. Moreover, in today's low interest rate environment the redemption of the notes once the non-call period is over is inevitable. That said, some debt holders are skeptical of increased risks of re-pricing of securities upon the earliest signs of decreased collateral spreads. Therefore, a number of guidelines or conditions have been set in place accompanying the re-pricing clause in the latest CLO indentures:

A. Proof needs to be provided by the CLO Manager that the underlying collateral spreads have tightened by more than a certain predefined threshold before the triggering of the re-pricing
B. A pre-agreed one-time payment needs to be given to note-holders of a particular tranche of security if the re-pricing of the said tranche occurs. This sum can be calculated to be below the cost that might have been otherwise incurred by the CLO Manager to call back the notes and refinance the transaction
C. A pre-defined minimum percentage of current note-holders need to agree to re-pricing before the clause can be enforced by the equity tranche holders

CLO managers and equity holders argue that since the re-pricings occur after the non-call period has ended, the above restrictions shouldn't necessarily apply.

Another noteworthy point is the tax savings that can be incurred by debt-holders if they agree to re-pricings thereby reinforcing the argument to re-price instead of refinancing transactions.

D. Cov-Lite Loans

Cov-Lite loans, or covenant light loans, are loans issued with little or no maintenance covenants. Cov-Lite loans are generally deemed to be riskier than their counterparts – leveraged loans with established and strong maintenance covenants. This established fact has, however, recently been debated upon heavily with both parties listing arguments in their favor. People who agree with the established proposition that cov-lite loans are indeed riskier say that since there is a lack of maintenance covenants in the issued loan, there is little control of the debtor on the loan provided and he or she stands to lose more if not all his or her initial loan amount. People on the other side counter that since cov-lite loans are provided by banks to people with good credit scores and history as opposed to loans with strong maintenance covenants, they are less likely to default in times of stress. Moreover, they say, credit scores and history of the borrower should be used to assess the risk of default of the loan than the number of covenants associated with it. Indeed, empirical data indicates that cov-lite loans in the past have performed better than their counterparts and the principal recovery rate of defaulted loans is at par with them as well. Pro cov-lite loans group also make the argument that the increased flexibility provided by the lack of covenants allow the borrower to maneuverer themselves in times of distress thereby making themselves able to pay back their borrowings with greater ease than in the case when the maintenance covenants force the borrowers' hands and his or her business starts getting dictated by lender.

During the pre-crisis period, the percentage of cov-lite leveraged loans in the total leveraged loans pool was c.15-20%. This was mainly because of the increased demand for such loans by corporates and institutions allowing banks to dictate their terms when issuing such loans. In 2010-2011 period, there was a surplus of cash that could be lent out as opposed to the number of borrowers. The borrowers could, therefore, start dictate terms when borrowing from banks and a surge in the issuance of cov-lite loans started. Today c.50-60% of the total leveraged loan market is composed of cov-lite loans. The cov-lite loan issuances in the pre-crisis period were made only to a select few, ones with exceptional credit-worthiness and stellar credit history. In the low interest rate environment of today and increase of spread seeking capital, more and more cov-lite issuances are being made to less credit worthy clientele. Therefore, the argument of the pro cov-lite loan group as discussed in the previous paragraph wherein they said that it is more beneficial to issue cov-lite loans to clients with high credit worthiness than to issue loans with large number of restrictive maintenance covenants to clients with a weaker and unproven credit history, gets defeated. That said, there is still an increased amount of due diligence carried out by banks when issuing cov-lite loans than when issuing loans with restrictive maintenance covenants.

This movement in the leveraged loan market has been reflected in the CLO Structures as well. The pre-crisis CLO managers had almost no or less than 15% of cov-lite loans in their underlying collateral pool. 15% was also the percentage of cov-lite loans in the general leveraged loans pool, therefore this number was a good proxy to be used for the CLO collateral pool composition as well. In the post crisis CLO 2.0 period, the decreased availability of maintenance covenants rich loans has diminished and CLO managers have started to include more cov-lite loans in their underlying pool composition with some CLO collateral pools containing as much as 70% cov-lite loans. A recent CLO transaction was structured with 100% cov-lite loans as collateral pool making it the first of its kind transaction. The CLO managers have started to lay more focus on the credit quality of the borrowers of the underlying loans than on the presence or

absence of maintenance covenants arguing that such a practice is short-sighted as pointed out by the failure of such loans during the financial crisis.

The recent increase in the issuance of cov-lite loans have led to the transformation of the CLO 2.0 structures and indentures where CLO managers have adapted to the market conditions and loans availability by modifying the definition of cov-lite loans. Some recent CLO indentures indicate that the restrictions on the loans to be included in the underlying collateral pool is no longer based on the presence or absence of maintenance covenants but on the basis of the hierarchy of the said loans in the debt structure of the corporate or the borrowing entity. The included loans have to be pari passu with the senior loans of the institution and there should be cross default clauses and triggering of maintenance covenants of other loans in the loan structure of the borrowing entity should trigger a default or a call for the said loan as well. These definitions are used to define the newer eligible collateral loans for the CLO 2.0 transactions as opposed to CLO 1.0 transactions where the cov-lite loans with little or no maintenance covenants were excluded from the collateral pool. The structures have increased the basket of cov-lite loans in the CLO 2.0 and have introduced a clause that allows the CLO Manager to buy more cov-lite loans if the majority of controlling class of note-holders agree to it.

Of the rating agencies, only S&P has expressed its concerns over the inclusion of cov-lite loans in the recent CLO transactions. S&P does a severe haircut for the recovery rate of cov-lite loans and therefore makes it unviable for a number of CLO managers to get their transactions rich in cov-lite loans to be rated by S&P. Therefore, the percentage of recent CLO transactions to be rated by Moody's or Fitch has increased although S&P still maintains a lion's share of rating in the CLO market.

The performance of these cov-lite rich CLO transactions is yet to be seen but it does show the adaptability of the CLO structures to the underlying leveraged loan market. Since this surge in the issuance of cov-lite loans is not sustainable and this cov-lite loan bubble is bound to burst at some point, we might be able to observe another dramatic shift in the the CLO structures which would resonate with this change. But for now, CLO 2.0 have seemingly adapted well to cover the low interest rate environment induced cov-lite loans in the structures.

E. Risk Retention

A number of CLOs structured pre-crisis were believed to follow an 'Originate to Distribute' strategy (OtD Strategy) wherein the CLO managers or other issuers issued or collected loans with the sole purpose of structuring them in various tranches and distributing them to investors. They hoped to gain from the difference in the spreads between those of the underlying loans and that of the different notes. This defeated the original purpose of the CLO transactions, that is, structuring of the illiquid loans into more liquid CLO Securities to raise capital and allow investors to invest their money in lucrative deals with better spreads than other securities in the market with similar risks. The financial crisis of 2008 saw the widespread failure of such securities and exposed the weak loan underwriting standards associated with the widespread issuances of such notes. A major reason for the existence of such loose underwriting standards was identified to be the lack of risk retention by the loan issuing or sponsor body, that is, the issuer or the original lender retained no risks associated with the underlying loans and distributed all the tranches to third party investors. The high demand for such securities made it possible for the CLO managers to find investors to invest in the riskiest equity tranche or the tranche of the first loss at relatively tight spreads. Post the crisis period and the identification of this OtD strategy regulators and investors alike asked the issuers and lenders to keep their own 'skin in the game' implying that the issuing or lending parties should retain a predetermined stake and associated risks in the transaction for the life of the security. This is also known as risk retention requirements.

This is perhaps one of the most important structural differences between the CLO 1.0 and CLO 2.0 and for that matter CLO 3.0. There were no such risk retention requirements in CLOs of older vintage (CLO 1.0 and early CLO 2.0). Post 2011, with first introduction of such rules, CLOs have always had a risk retention clause in their indentures but the percentage risk retention differs greatly. The risk retention rules in the United States and in Europe have been proposed and re-proposed multiple times since the financial crisis. This constant change in the rules pertaining to risk retention results in constant changes in the structures of CLO transactions. Some early CLO 2.0 transactions have become non-compliant with the EU Risk Retention Regime since the EU revised its earlier proposed risk retention rules in May 2013 for implementation from January 2014. United States, on the other hand, started to take a closer look at its own risk retention laws in late 2012 and came up with their own set of risk retention guidelines for qualifying CLO transaction in May 2013. The US' and the EU's risk retention regimes, unfortunately, do not overlap with each other making it very difficult for CLO managers to structure securities qualifying for investments by investors from both sides of the Atlantic.

i. EU Risk Retention Regime

Witnessing the market turmoil in the financial markets caused by the sub-par performance of the Asset Backed Securities (ABS) during the financial crisis, the financial world had to pay a closer look at the structuring of such deals. Large, unexpected losses accompanied by big write-offs in the underlying collateral of such securities led the industry participants especially the regulatory authorities to believe in the overly relaxed loan underwriting standards. The Basel Committee on Banking Supervision (BCBS) was thereby mandated by the G20 in April 2009 to study the risk management of securitizations and analyze the due diligence and quantitative retention requirements. The European Commission (EC) responded by implementing the Article 122a in the Banking Consolidation Directive – CRD II Legislative

Package. One of the main takeaways from this new legislation piece was that as of 1 January 2011, the European Banks can only be exposed to the risks of investing in ABS if the original issuer, lender or sponsor has retained a net economic interest of at least 5 percent. This minimum retention is popularly termed as the risk retention requirement. The legislation also asked the Committee of European Banking Supervisors (CEBS) (precursor of the EBA) to propose guidelines for the convergence of the supervisory practices in relation to the first directive. Europe is currently in the process of implementing Basel III proposals in the form of CRD IV Legislative Directives and the CRR. The CRR or the Capital Retention Requirement Act in the CRD IV directive repeats almost verbatim the initial risk retention requirements established in CRD II and provides a set of guidelines for its regulatory bodies to follow to check the implementation of the aforementioned legislations.

The CRR applies to securities that will be structured from the date of implementation of the aforementioned legislation and transactions that were compliant to the published legislation at the time of their structuring in the past remain compliant to the CRR even post its implementation. This is noteworthy as this starkly differs from the US Risk Retention Regime where the new legislation applies to past, present and future transactions with an added risk that any such new law in future would directly impact the transactions structured today.

ii. The US Risk Retention Regime

The Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Department of Housing and Urban Development, Federal Housing Finance Agency, Office of the Comptroller f the Currency, and Securities and Exchange Commission (collectively, the 'Agencies') on August 28 2013 re-proposed rules for implementing the requirements of Section 941 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the 'Dodd Frank Act'). The key takeaway of these modified rules as entailed in the Dodd-Frank Act is that the agencies are required to prescribe regulations that:

a. Require securitizers to retain at least 5 percent credit risk of any securitized assets (risk retention requirement)
b. Prohibit the securitizer to hedge or transferring all or part of the credit risk required to be retained.

This retention requirement is implemented to promote an active scrutiny and monitoring of the underlying asset pool by the securitizer thereby aligning the interest of the securitizer with the interest of the investors thereby eliminating the agency problem.

Unlike the EU Risk Retention rules, the US Risk Retention rules apply to not only transactions to be structured from here on with but also to past transactions that were structured without complying to these unpublished rules then. This entails a buyback of some notes from the equity tranche investors to make the security compliant with the changes proposed by the Dodd-Frank Act. That said, a grace period of 2 years has been provided to make the securities compliant with the new risk retention rules of the US.

iii. The major difference in the US and EU Risk Retention Rules

As described earlier, there is very little overlap in the US and EU Risk Retention Regimes. Although both legislations – the Capital Risk Retention Act in CRD IV in Europe and the Modified Proposals of the Section 941 of the Dodd Frank Act of 2010, ask for a minimum 5 percent risk retention, there is no mention of how this risk retention will be calculated and there is a lot of concern over a like for like measurement of the aforementioned risks in Europe and in the United States. But we will assume that even if the assessment of the credit risk is similar in the EU and in the US, we arrive at one of the most important difference between the two legislations – the definition of the 'risk retainer'.

Both the US' Modified Rules and EU's Risk Retention Directive asks the issuing body to retain a fixed, pre-determined percentage of risk before asking third party investors to invest in the security to align the investor interest with that of the issuing body.

As discussed above, according the EU's CRR Act, the risk is to be retained by the original lender or issuer and not by the CLO Manager who might only be buying and structuring the underlying loans and then market to third party investors. Therefore, if a bank has mandated a CLO Manager to structure and sell their exposure to leveraged loans on their balance sheet, the banks are expected to retain a chunk of the credit risk in the form of the equity tranche. In case of a synthetic CLO transaction, the banks cannot, for instance, buy the CDS on the tranche of the first loss in the CLO Structure. This is made to ensure that the original lender still undertakes the necessary due diligence steps and doesn't adopt loose underwriting practices when issuing the original loans. That said, it makes it very difficult to decide who the issuing party or the original lender is when loans from more than one lenders are sourced to be structured into a CLO Transaction. Recently, a Special Purpose Vehicle (SPV) formed by the consortium of lenders of the original loan portfolio invests and holds the equity tranche of the CLO Transaction.

The US' Modified Proposals of the Dodd Frank Act on the other hand asks the securitizer, or in other words the CLO Manager, to retain a minimum amount of credit risk when issuing an ABS. This is done to align the interests of the CLO Manager with that of the investors. The risk retention by the CLO Manager would ensure close monitoring and checks by him or her on the underlying collateral pool on an ongoing basis. A number of CLO managers have protested against this practice as they say their primary business is to buy, structure and sell the loans from a consortium of lenders (mainly banking entities) and they do not generally hold capital to invest in the aforementioned securities. The function of the CLO Manager is to keep a check on the underlying pool and reporting any delinquencies or defaults to the investors. This function needs to be fulfilled on an ongoing basis until the end of the life of the securities and the notes. Going by the logic of the US Regulators, if and when the equity tranche gets eroded due to the first losses incurred by the CLO Security, the CLO Manager role should be effectively over as there would be no further incentive to monitor the collateral pool.

Another noteworthy difference between the two risk regimes is the applicability of the legislations on the CLO Structures. In EU, the new legislation doesn't require CLO transactions structured pre-financial crisis to be modified and restructured to comply with the new guidelines whereas this is not the case in the US where the older transactions need to be called back in part or as a whole and have to be made to comply with the new Modified Proposals of the Dodd Frank Act to become eligible for investments from US institutions.

Exhibit 13 below shows the slight overlap, if any, that exists between the Modified Proposals of the US and the CRR Act of the EU regarding the qualifying of the CLO Securities for investors on both sides of the Atlantic.

Exhibit 14: Overlap between Modified Proposals of the US and the CRR of Europe

Potential Retention Providers	Eligible in the US?	Eligible in Europe? (from January 1, 2014)
CLO Manager as Sponsor	Yes	Only some EU regulated CLO managers that meet the definition of 'Sponsor'
Affiliate of CLO Manager	Only 'majority-owned affiliates'	No
Original Lender	Yes (Lead Arranger under the Alternative Option)	Yes, if the definition of the 'original lender' is satisfied
Other Sponsor	No	Yes, if the definition of 'originator' or 'sponsor' is satisfied

Source: D. Festa, N. Robinson & B. Youn, "CLO1.0 vs CLO 2.0 – Part III of a series" Milbank, Tweed, Hadley & McCloy LLP (November 22, 2013)

iv. Methods of Risk Retention

Under the EU CRR Act and under the original proposals of the Dodd Frank Act, the risk retention providers could satisfy the risk retention requirements through vertical risk retention, horizontal risk retention or a combination of both in an L-shaped risk retention structure. Under the Modified Proposals of the Dodd Frank Act, the agencies consolidated these options into a combined risk retention option that would permit any of the above described risk retention factors such that the combined entity should be at least 5 percent of the fair value of all assets posted as collateral. The horizontal, residual tranche can also be satisfied by the establishment of a reserve account into which cash equivalent to the 5 percent requirement is posted.

The Modified Proposals also list out an important detail that has been defined quite troublesome by several CLO managers of today. The Agencies state that the holder of the horizontal, residual tranches shouldn't be able to receive the payments on this tranche's fair value at a faster rate than the other note-holders. This is quite difficult since this implies that the equity tranche holders cannot receive any excess spreads until the end of the reinvestment period thereby depriving them of the upside of holding the riskiest tranche for a very long period. This has resulted in the inability of the CLO Manager to successfully place the equity tranche to the third party investors and the horizontal tranche has become one of the most common methods of risk retention. There is ongoing debate regarding the same between the CLO managers and the Agencies.

F. Example of a pre and post crisis CLO transaction

In this example we will see two CLOs issued by the same CLO Manager KKR Financial in 2005 and 2013 and look at the different structures of the same. The structural differences discussed in the paper so far are glaringly obvious in the transactions.

KKR Financial CLO 2005 – 2

Securities Offered	Principal Amount	Moody's Rating
Class A-1 Notes	$545,000,000	Aaa
Class A-2 Notes	$150,000,000	Aaa
Class B Notes	$57,000,000	Aa2
Class C Notes	$64,000,000	A2
Class D Notes	$64,000,000	Baa2
Class E Notes	$30,000,000	Ba2
Class F Notes	$10,000,000	B2
Subordinated Notes	$98,500,000	N/A

Aaa tranche is 68.24% of the total principal amount.

Underlying Collateral composed of:

- Senior Secured Loans
- Second Lien Leveraged Loans
- Senior Secured Bonds
- Senior Tranches of other CLOs

Diversity Score: 30

Weighted Average Rating Factor (WARF): 2350

Weighted Average Spread (WAS): 2.15%

Weighted Average Coupon (WAC): 3.65%

Weighted Average Recovery Rate (WARR): 44%

Weighted Average Life (WAL): 9.0 Years

KKR holds 5% of the Subordinated Notes.

KKR Financial CLO 2013 – 2

Securities Offered	Principal Amount	Moody's Rating
Class A-1A Notes	$100,000,000	Aaa
Class A-1B Notes	$10,000,000	Aaa
Class A-1C Notes	$115,000,000	Aaa
Class A-2A Notes	$38,000,000	Aa2
Class A-2B Notes	$10,000,000	Aa2
Class B Notes	$18,500,000	A2
Class C Notes	$25,750,000	Baa3
Class D Notes	$22,000,000	Ba3
Subordinated Notes	$29,750,000	N/A

Aaa tranche is 60% of the total principal amount.

Underlying Collateral composed of:

- Senior Secured Loans
- Second Lien Leveraged Loans

Diversity Score: 50

Weighted Average Rating Factor (WARF): 2850

Weighted Average Spread (WAS): 3.70%

Weighted Average Coupon (WAC): 6.50%

Weighted Average Recovery Rate (WARR): 47%

Weighted Average Life (WAL): 8.0 Years

KKR holds 100% of the Subordinated Notes.

Source: KKR Financial CLO 2005-2 Prospectus, Moody's Rating Report – KKR Financial CLO 2013-2

G. Performance of CLO 2.0 as compared to CLO 1.0

Owing to the recent issuances of the CLO 2.0 securities, it has been difficult to analyze the performance of these transactions as compared to the

The recent CLO Tracker Files released by Fitch and other Rating Agencies in January 2015 includes five CLO 2.0 transactions with a collective asset pool of EUR1.8 billion. The tracker data files have indicated that the CLO 2.0 have fared better than CLO 1.0 on a whole.

i. The CLO 2.0 have on average had, on average, higher weighted average recovery rates than seasoned CLO 1.0 transactions
ii. The CLO 2.0 transaction have lower 'CCC' buckets than their CLO 1.0 counterparts. The 'CCC' buckets for CLO 2.0 are only 2.08% as opposed to 8.7% of that of CLO 1.0
iii. The borrower pool of CLO 2.0 has also been observed to be more granular than that of CLO 1.0. On average, the CLO 2.0 transactions have 77 obligors as compared to the average 62 for CLO 1.0 transactions. This is not the best metric of measurement though as the CLO 1.0 transactions are much older and have been delivering and paying down their notes as opposed to CLO 2.0 70% of which are still in their reinvestment periods.
iv. The average senior tranche cushion and the corresponding junior tranche cushion has vastly improved as well.
v. The OC test performance of these CLOs have also seen a marked improvement from the CLO 1.0 transaction.

Most of the above listed improvements as illustrated in the Fitch CLO Tracking Data report of January 2015 are a direct result of the cleaner and simpler structure of the CLO 2.0 transactions. A lot of emphasis has been laid on making these transactions easier to be understood by the average investor and thereby improving their structure and making them easier to pass various reliability tests such as the Over Collateralization tests. The requirements by the regulatory frameworks of CRD IV and Dodd Frank Act to have a bigger cushion for the senior tranche has made the 'AAA' tranche safer to invest in albeit with lower returns.

IV. CLO 3.0 – Volcker's Impact on CLOs

The Office of Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation and the Securities and Exchange Commission (collectively known as 'Agencies'), on December 10, 2013, adopted the final set of Volcker's Rules. These rules have had a profound effect on US Collateralized Loan Obligation Marketplace (CLO) by prohibiting 'banking entities' from retaining or acquiring an 'ownership interest' in a 'covered fund.'

Eligible 'Banking Entities' include all bank holding companies, foreign banks with US Branches and agencies, insured depository institutions (e.g. Money Market Funds) and as well as their affiliates, franchises or subsidiaries.

'Ownership Interest' has been defined very broadly by the 'Agencies'. According to the current definition even investors in the debt tranche can qualify as having an 'ownership interest' in the fund. It is do because in the definition of 'ownership interest' in accordance to as defined by Volcker's Rule, any investor that can influence or has the right to participate in the selection or removal of an investment manager, investment advisor or commodity trading advisor of the 'covered fund' is said to have an 'ownership interest' in the fund irrespective of whether the said person or institution holds any equity in the fund or not. Since in a typical CLO transaction, a majority of note-holders or holders of the controlling class of the security which is usually the top two tranches of the transaction have the right to remove the CLO Manager for cause. As a result, holder of each of these senior debt tranches is said to have an 'ownership interest' in the transaction.

'Covered Fund' are CLO transactions but with full recourse to the issuing authority. Therefore, all CLOs that are 'investment companies' (or SPVs issuing notes) but for the exceptions set out in Section 3(c)(1) or 3(c)(7) of the Investment Company Act of 1940, are defined as 'covered funds' according to the Volcker's Rule.

Section 3(c)(1) of the Investment Company Act of 1940 states that a fund not owned by more than 100 shareholders is exempt from being called a 'covered fund' and is defined as a 'private fund.'

Section 3(c)(7) of the Investment Company Act of 1940 states that a fund will not be termed as a 'covered fund' if it is wholly owned by 'qualified purchasers.'

These two exceptions in the Investment Company Act of 1940 are frequently used by Hedge Funds to qualify themselves as 'private funds' instead of 'public funds' thereby escaping greater scrutiny and regulations.

Owing to the Volcker's Rule, a 'banking entity' cannot invest more than 3 percent of its Tier 1 Capital to gain 'ownership interest' in 'covered funds.' Therefore, such an institution would have to count its investment in such a fund towards that 3 percent limit or divest its interest. This is a huge blow to the CLO Marketplace where, historically speaking, banking institutions have been one of the biggest investors in the senior most tranches of these CLO Securities holding more than 75 percent of the 'AAA' CLO tranches available in the market.

A. Volcker Exempt CLO Structures

CLO managers have tried and tested various routes to exempt their transactions from the 'covered funds' definitions of the Volcker's Rule as they do not want to lose their biggest investors in the form of the banking entities. There is rigorous lobbying taking place by these institutions to convince the regulators and 'agencies' to amend its regulations to make it fairer for the CLO marketplace. Some of the more popular methods to seek exemption from the Volcker's Rule are listed below. These CLO structures are collectively referred to as CLO 3.0 popularly.

i. Using Section 3(c)(7) exemption of the Investment Company Act of 1940

This is currently the most favored and easiest option available to the CLO managers. The CLO managers are placing the tranches of the securities privately and only to 'qualified purchasers' and certain employees of the CLO Manager. Since the 'qualified purchaser' gets a bigger say and therefore greater bargaining power in the CLO Transaction, he or she is able to drive the spreads much tighter than what it would be if the transaction had been placed into the market.

ii. Loan Securitization exemption

In order to provide some relief to the CLO Industry, the 'Agencies' agreed to exempt loan securitizations from the definition of 'covered fund.' In order to qualify as a loan securitization, the underlying assets of the ABS have to be solely comprised of loans. The definition of loans generally excludes securities. CLO managers, before the introduction of Volcker's Rule, invested a part of the proceeds from selling notes into securities subject to certain concentration limits, including in senior secured bonds and high-yield bonds. These CLO transactions would no longer qualify under the Volcker's Rule exemptions.

A simple solution is that the CLO Manager stops investing in such high yield bonds and other securities and makes up his or her portfolio entirely of loans. This is not economically beneficial to the CLO Manager however, since the high yield securities provided a much higher excess spread to the equity investor (including the CLO Manager who has been required to retain a portion of the equity tranche under the Dodd Frank Act of 2010). This has created a mismatch in the spreads between the fixed interest rates notes and the variable interest rates underlying assets of these transactions. Therefore, the CLO managers are faced with an impossible choice of either alienating their banking entities investors by not complying with the Volcker's Rule's restrictions or driving away their equity tranche investors by promising them lower spreads than before. It has led CLO managers to seek higher spreads elsewhere, in securities that still qualify as loans under the definition provided by Volcker's Rule. Lately, a number of CLO managers are investing in second-lien loans in pursuit of higher spreads. This is counter intuitive as the less risky senior secured bonds are getting replaced by much riskier second-lien loans in CLO transactions.

Some CLO managers have employed a mixed strategy. They have used a 'springing securities basket' in the CLO documentation to allow for a later inclusion of securities if they adhere to the Volcker's Rule's exemption in the future. These securities are pure loan securitization otherwise and have a bigger bucket

of second lien loans than present in the pre-Volcker's Rule CLO transaction. This approach while giving flexibility to the CLO managers to take advantage of any rule changes that might happen as a result of the ongoing lobbying with the 'Agencies' regarding the documentation of CLO transactions, doesn't promise a higher return to the equity investor who is investing in its riskiest tranche today.

iii. Exemption under Rule 3a-7 of the Investment Company Act

If the CLO Manager is able to structure his or her transaction such that it is compliant with the Rule 3a-7 under the Investment Company Act of 1940, the transaction is exempt from being termed as a 'covered fund.' For these transactions to be compliant with the said rule, they have to fulfill, among others, the following salient features:

a. The securities issued by the issuer have to be rated by at least one rating agency and have to fall in one of the top four rating classes
b. The acquisition and disposal of the underlying assets on an ongoing basis is not done primarily to take advantage of the market value fluctuations of the said assets
c. A trustee, not affiliated with the issuer, maintains a separate account wherein the cash-flows from the issuers' underlying assets are deposited periodically

These listed rules, some CLO managers believe are easy to follow and would not impact the economies of the CLO Transactions in any way. Most CLO managers do not acquire and dispose assets to capture market value fluctuations but to remove deteriorating assets from their portfolio owing to delinquencies or defaults. Therefore, portfolios comprising of high quality assets that would qualify in the top four rating tranches and adhering to the other listed norms will not qualify as a 'covered fund' under the Rule 3a-7 of the Investment Company Act making life much easier for CLO managers. That said, a CLO Manager trying to gain compliance with the Rule 3a-7 needs to have solids policies and procedures in place to ensure sound trading practices and perform checks so as to adhere by the strict guidelines at all times or risk losing his or her license.

iv. Wholly-Owned Subsidiary Exemption

If a CLO is a 'wholly owned subsidiary' of a banking entity, it doesn't qualify as a 'covered fund' under the Volcker's Rule. There can be an exception to the above rule wherein an unaffiliated third party may hold up to 0.5 percent of the CLO's equity under special circumstances. This rule looks simple but is extremely difficult to fulfill as the banking entity would have the CLO on its balance sheet as it is assuming risk of the lowest tranche and is unable to diversify the same during the life of the CLO. Moreover, it is forbidden to hedge or buy insurance on the banking entity's exposure to this risky tranche.

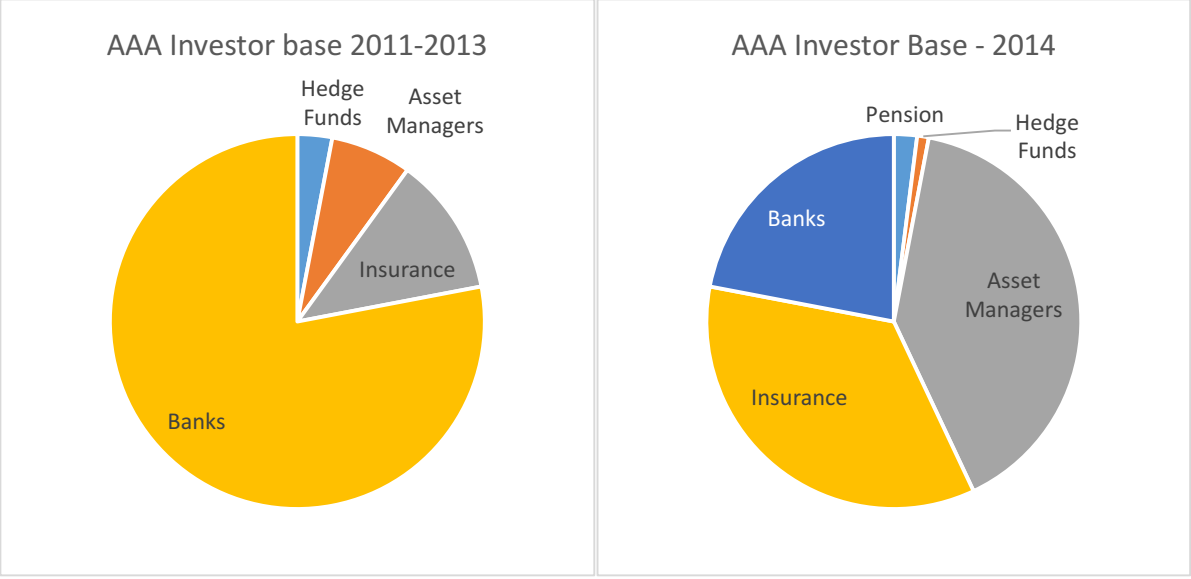
B. The Impact of Volcker's Rule

Volcker's Rule has come as a rude surprise to the CLO market participants, who expected the regulators and the 'agencies' to be more lenient with these transactions as they had taken a huge beating post the financial crisis. The number of CLO transactions in the recent years had only just started to climb up post the massive slump in 2009 and 2010. The Volcker's rules restrictions coupled with the capital restrictions that have burdened the 'banking entities' recently has taken a huge toll on the CLO Industry. The fact that the Volcker's Rule affects not only the new transactions but all CLO deals that have been completed before and are still held by the defined 'banking entities', has resulted in a sharp decline in the prices of the top tranches of CLO 2.0 closed in 2012 and 2013.

Some market observers, though, are confident that the 'agencies' would notice the negative impact of the Volcker's Rules on the CLO Industry and the structures of the Volcker's compliant CLO 3.0. Most CLO 3.0, especially pure loan securitization structures are riskier than the corresponding CLO 2.0 transactions. That said, a number of CLO managers today are issuing CLOs based on one of the exemption rules listed above with Rule 3a-7 being the most popular among the CLO managers. These new-age Volcker compliant CLOs are collectively termed as CLO 3.0.

An important impact of the Volcker's Rule has been the change in the investor base for the AAA tranche. Banks have now taken a backseat while investing in the senior most tranche and increased spreads have managed to attract other institutional clients such as asset managers and insurance funds. Exhibit 15 below shows the same in more detail.

Exhibit 14: Overlap between Modified Proposals of the US and the CRR of Europe



Unfortunately, since the CLO 3.0 are extremely new and almost all of them are in their reinvestment periods, it is impossible to ascertain the structural stability and performance of these transactions.

Conclusions

The Collateralized Loan Obligations (CLOs) are asset backed securities with a collateral mainly formed of loans and other securities that issue notes to investors fro different tranches. The tranches are made in a decreasing order of risk such that the top tranches don't absorb any losses of the defaults of the underlying tranches are eroded away (cash waterfall). These transactions are mainly used by banking entities to diversify the risks associated with the leveraged loans on their balance sheets and better manage their capital. Since these transactions are relatively safe and provide a higher spread than other securities in the market, different tranches of these securities are able to attract different investors – banking entities invest in the top tranches to get less risky assets on their balance sheets, institutional funds invest in junior tranches to get good spreads with limited associated risks and hedge funds mainly invest in the equity tranches. CLOs are also a great way to provide liquidity to the otherwise illiquid corporate and individual loan market. Hence it is a market that is much needed and is supported by the governments for the development and growth of their economies.

First set up in their truest form in 1990s, CLOs have had a turbulent past. The old vintage CLOs of pre-crisis era gave a lot of freedom to CLO managers that allowed them to modify the CLO structures to make it more suitable for investors. In search of spreads, unfortunately, some CLO managers introduced complications that when coupled with severe market conditions of 2008 resulted in the underperformance of many such CLO transactions.

The banking entities have historically been one of the biggest participants in the CLO Industry using these securities to diversify or acquire risks on their balance sheets. It is because of this exposure of the banking entities to these securities and its implied impact on the public, the regulators and agencies have been keeping a watchful eye on the structure of these securities. They have been continuously proposing new rules and guidelines to modify these securities. The CLOs of newer vintage have displayed their adaptability to conform with these rules. The CLO managers have issued several CLO 2.0 conforming to these new guidelines in 2011 and 2012. The CLO Market has therefore seen a resurgence since as the investors are able to invest in more secure and stable CLO 2.0 transactions for wider spreads as compared to their CLO 1.0 counterparts. The regulations have bore fruit as is evident by Rating Agencies' reports on the CLO 2.0 performances.

Much more recently, US Agencies have proposed the Volcker's Rules that have disrupted the CLO Industry yet again, especially in the United States. Volcker's Rules have made it extremely difficult for banking entities to invest in CLO 1.0 or CLO 2.0 structures as they have limited the banking capital that can be attributed to investment in covered funds – a definition that encompasses almost all CLO 1.0 and CLO 2.0 structures. There are several ways that have been explored by which CLOs can be structured to prevent qualifying as a covered fund thereby being exempt from Volcker's Rule. Although such structuring generally increases the risks more often than reducing it leading to lobbying regarding the same by the market participants. But for now, such new age, new vintage CLOs of 2015 and 2016 are termed as CLO 3.0.

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