

**A Structured Approach to Payment Date Accounting for  
Collateralized Bond Obligations (CBOs)**

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# A Structured Approach to Payment Date Accounting for CBOs

## Objective

The objective of this manual is to explain a typical structure of a CBO and to describe the services Chicago Advisory Group (“CAG”) can offer you. Understanding of the CBO structure and the independent accountant’s role will allow to approach CBO payment date accounting more effectively. This manual is not designed to provide an in-depth understanding of CBOs or securitization transactions. There are many publications and programs available in the market that are geared to provide an in-depth knowledge on these complex topics.

## A. What Are CBOs

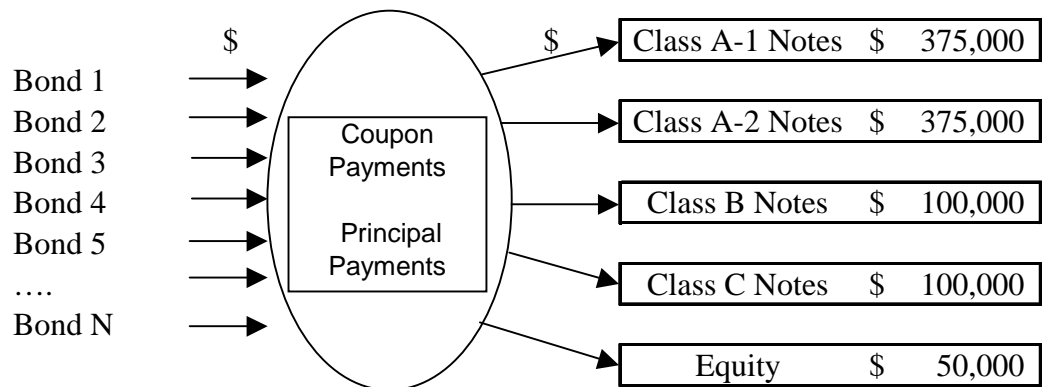
A CBO is a product of securitization. It is an asset-backed security that is collateralized by a pool of debt obligations comprised of the following:

- Below-investment-grade corporate bonds
- Emerging markets bond issues
- Corporate loans advanced by banks.

## B. CBO Structure and Stages

Many CBOs consist of several classes of notes or tranches, each of which has a different payment priority depending on its seniority. A CBO may have the following structure:

Figure 1: Example



**Collateral: \$ 1,200,000**

**Notes: \$ 1,000,000**

- Senior tranche (Class A-1 and A-2 in Figure 1)
- Several levels of subordinate or junior tranches (Class B and C in Figure 1)
- Equity component (to provide prepayment and credit protection to other tranches). This tranche has a residual claim on cash flows and is paid the excess of interest received from the collateral over the amount paid to senior and subordinate tranches.

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The senior tranches will typically comprise a larger portion of the entire deal (approximately 75%) and will have a floating rate (i.e. LIBOR + specified spread). The subordinate tranches will carry a fixed rate.

The CBO life cycle consists of three primary stages:

1. Ramp-up phase where the collateral manager is forming a portfolio financed from the sale of CBO notes to investors.
2. Reinvestment phase where cash flows from prepayments, bond calls, and default recoveries are reinvested in other securities.
3. Winding down phase where senior and junior note holders receive principal.

### C. Use of Swaps and Other Derivatives

Swaps are used to hedge the interest rate risk inherent in CBOs. Typically, Class A notes pay interest based on the floating rate such as LIBOR. If the CBO collateral pays a fixed interest, there is a cash flow mismatch or an interest rate exposure. For example, if the weighted average coupon received on the collateral items is 6.5% annually and the CBO Class A notes pay at LIBOR<sup>1</sup> and the period's LIBOR rises to 7%, there is a loss of 50 basis for the period (negative spread). To neutralize this risk, the CBO collateral manager<sup>2</sup> will enter in an interest rate swap in which the CBO will agree to pay a fixed rate of 6.5% and receive LIBOR. This strategy effectively eliminates the risk of rising interest rates. On the downside, if LIBOR drops to below 6.5% (for example to 3%), the swap will incur a loss (3.5% \* swap notional) for the period. Even though this downside risk always exists, most indentures will require portfolio manager to use swaps to hedge the interest rate exposure. Under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, the described swap may qualify for a cash flow hedge with gains and losses reported in Other Comprehensive Income (OCI), assuming no hedge ineffectiveness.

What one will also see with swaps used in CBOs is that many of them will be amortizing swaps meaning that the swap notional will reduce over time. This feature is included in anticipation of the expected paydowns of principal of the class of notes being hedged.

Another type of derivative instrument that may be used to hedge the interest rate risk is an interest rate cap. An interest rate cap is nothing more than a call option on the interest rate that comes in the money if the interest rates rise. For example, if the cap strike rate is 5% and the interest rates rise to 6.5%, the cap holder will receive 1.5% (6.5%-5%) times the notional of the cap contract. If the interest rates remain at 5% or drop below 5%, the call option (i.e. cap) will not be exercised because it is out of the money. The advantage of using interest rate caps is hedging the exposure to rising interest rates and at the same time benefiting from declining interest rates (i.e. Class A notes holders will be paid lower interest payment based on floating LIBOR). The disadvantage of using

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<sup>1</sup> Normally there would be a spread added to LIBOR depending on credit rating

<sup>2</sup> May also be referred to as portfolio manager, advisor, or manager

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interest rate caps is that they have a cost. The interest rate cap holder pays a periodic premium.

### **D. Credit Enhancements**

The credit rating of a CBO is very important as it determines the interest rates on different CBO tranches and their attractiveness to potential investors (note holders). The lower the credit rating of a CBO, the higher the interest rates will be on various CBO tranches to compensate investors for higher risk. Higher interest rate will, in turn, compress the interest rate margin received by the collateral manager.

The CBO credit rating is directly related to the credit rating of the issuer. As such to increase the credit rating or prevent it from possible downgrading, the issuer may use what is known as credit enhancements. Sometimes, rating agencies will specify the exact amount of credit enhancement necessary for an issue to have a specific rating.

There are two broad categories of credit enhancements: 1) internal credit enhancements and 2) external credit enhancements. External credit enhancements are financial guarantees from third parties that support the performance of the bond; they provide “first loss protection,” in that they protect against losses before internal credit enhancements are used. Examples of external credit enhancements include the following:

- Bond insurance
- Letter of credit
- Corporate guarantee.

Internal credit enhancements do not rely on third-party guarantee. Some examples of internal credit enhancements include the following:

- Overcollateralization—amount by which underlying collateral exceeds the amount of underlying notes. In Figure 1 above, the collateral amount exceeds the aggregate principal note balance by \$200,000 (i.e. 120% overcollateralization)
- Cash reserve funds—come from note issuance proceeds.

### **E. Key Ratios/Scores**

Some of the more important ratios/scores when working with CBOs include

1. Overcollateralization ratio<sup>3</sup>
2. Interest coverage ratio
3. Weighted average rating score
4. Weighted average coupon
5. Moody’s diversity score

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<sup>3</sup> Overcollateralization and interest coverage ratios are commonly referred to as coverage tests.

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In their simplest form, the following are the formulas for the above ratios/scores:

*Overcollateralization ratio (OC)* = (Aggregate principal amount of underlying collateral – Defaults + Principal proceeds + Defaulted recovery amount) / (Aggregate principal balance of notes). Low OC ratio indicates that the notes may not be adequately collateralized; therefore, higher OC ratio is desired.

*Interest coverage ratio (IC)* = (Interest received on underlying collateral – Certain amounts (expenses) payable) / (Scheduled interest on notes). Low IC ratio indicates that the underlying collateral may not be providing sufficient interest receipts to support the interest payments on CBO notes; therefore, higher IC ratio is desired.

*Weighted average rating score.* Each security that comprises the underlying collateral has a rating. Moody's, S&P, and Fitch assign factors to each rating with larger factors assigned to lower ratings. Appendix A includes an example of Moody's rating factors. The score is simply the weighted (by collateral principal) average of rating factors of the CBO collateral items. Higher score is less desired as it indicates that the underlying collateral is of lower rating.

*Weighted average coupon.* The score is simply the weighted (by collateral principal) average of interest rate of the CBO collateral items. Higher coupon rate is obviously desired.

*Moody's diversity score.* The Moody's diversity score measures the industry diversification of collateral items. The higher the score, the higher the industry diversification. Higher diversification is preferred as there will be less of an impact on the CBO if a specific industry experiences economic difficulties. The score is relatively complex to calculate. Reference to indenture is encouraged as it contains the formula along with the required diversity equivalent units table. Higher score is desired as it means better diversification.

The calculated ratios/scores are compared to indenture trigger ratios/scores (minimums or maximums depending on the ratio/score). The CBO collateral manager and trustee closely monitor all ratios/scores periodically to ensure compliance with indenture.

In addition to the above ratios/scores, the amount of defaults is very important. As collateral defaults occur, the cash flow generating power of the CBO structure is reduced. Additionally, defaults have a direct impact on some of the above ratio. When calculating the above ratios, and any other ratios, reference to indenture is required to ensure compliance and correct treatment of the defaulted collateral items.

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## F. Independent Accountant's Role

Most indentures require independent accountants to review payment date reports that contain various calculations and key information about the CBO (see Our Services on page 7). These reports<sup>4</sup> normally include the following information:

- Note principal balance before and after payment date and as a percentage of original balance
- Note interest amounts and principal paydowns, if any
- Various key ratios/scores
- Management/advisory/collateral management fees, trustee fees, legal fees, rating fees, etc.
- Swap/cap payments and credit enhancement fees, if any
- Priority of payments for the above amounts.

It is the best practice to recalculate all amounts and ratios contained in the report as the final report ultimately goes to various parties. Some of the parties include note holders, swap counterparties, rating agencies, trustees, and collateral managers. When recalculating the amounts and ratios contained in the payment date report, it is important to refer to indenture and other relevant agreements.

For example, when recalculating note interest expense and various ratios, it is advised to refer to the CBO indenture, which is the document that spells out all rules and requirements. When recalculating management fees (i.e. fees paid to the collateral manager for managing the underlying collateral), one has to refer to the underlying collateral manager agreement that describes how the fees should be calculated. When recalculating management fees, it is possible to find mistakes. This is one of the opportunities we use to improve our client service. At times, the net increase in management fees, after recalculation, may exceed the cost of our services to the client.

When recalculating the swap/cap payments, one should refer to the underlying swap/cap agreement. There have been circumstances in the past when the swap payments were incorrectly calculated in the invoice from the counterparty. The implication of this mistake is that the involved parties may not get their proper share in the priority of payments (referred to as the waterfall schedule). Therefore, it is important to agree all important components that go into calculation of the swap payment to the swap agreement.

Many of the ratios/scores that we recalculate such as coverage tests, diversity scores, and rating scores may directly impact the priority of payments. For example, failing coverage tests may accelerate (trigger) the paydown of senior notes such as Class A notes. Therefore, we ensure that priority of payments is in strict compliance with the indenture and communicate the implications of failing certain ratios to the client.

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<sup>4</sup> The reports may be referred to as Note Valuation Report, Note Holder Report, Information Report, or Payment Date Report.

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A more subtle yet very important area is the purchase of additional collateral items when certain ratios, such as coverage tests, are failing. In general, the indenture requires to pay down the notes when coverage tests are failing. In cases where the collateral items are still permitted to be purchased (as the case may be during the reinvestment period), the collateral purchase should improve (not deteriorate) the ratios after the resulting purchase. The collateral manager and the trustee normally run what is referred to as “what if analysis,” which simulates what will happen to ratios after a specific purchase is made.

### G. Typical Reports

The common types of reports used in payment date accounting for CBOs are the reports maintained by the collateral manager and the trustee:

Collateral Manager Reports	Trustee <sup>5</sup> Reports
Position Report (report listing all collateral items)	Trustee Report (also referred to as monthly report). This report contains all information required to be maintained and monitored.
Covenant Report (report detailing covenant results). This report details various ratios/scores and determines which tests are failing when compared to indenture trigger ratios/scores.	Waterfall Schedule (determines the priority of payments on the payment date – who gets what)
Various detail reports such as rating reports, interest rate reports, maturity reports, industry reports, etc. These reports contain similar information contained in the Trustee Report.	Information Report, Payment Date Report, Note Valuation Report, Note Holder Report. Even though all of these reports have different names, they all contain information that is required to be included by the indenture in connection with each payment date. These are the reports we give our ‘opinion’ <sup>6</sup> on.

### H. Indenture Is the Primary Reference Document

The CBO indenture contains all the rules and definitions. As such, the indenture should be followed strictly when performing work on CBOs. In a typical indenture, one can find the guidance relating to priority of payments, ratio calculation methodology, collateral eligibility criteria, and other key requirements.

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<sup>5</sup> Each CBO has a trustee who is an independent party established to oversee the CBO collateral and ensure compliance with the Indenture for the benefit of note holders.

<sup>6</sup> CAG typically performs the agreed-upon procedures on these reports.

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## **Our Services**

Chicago Advisory Group, LLC can provide an independent opinion (agreed-upon procedures report) on CBO payment date reports. In his professional career, Vadim Ovchinnikov, Managing Director, had experience with over 30 CBO payment date reporting assignments. Please contact us at (312) 924-3421 or [info@chicagoag.com](mailto:info@chicagoag.com) for more information on how we can assist you.

# **A Structured Approach to Payment Date Accounting for CBOs**

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## **References:**

- Knowledge from CBO work for clients
- Various CBO indentures
- *Fixed Income Analysis for Chartered Financial Analyst Program*, Fabozzi

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## Appendix A – Moody's Rating Factors

Rating	Factor
Aaa	1
Aa1	10
Aa2	20
Aa3	40
A1	70
A2	120
A3	180
Baa1	260
Baa2	360
Baa3	610
Ba1	940
Ba2	1350
Ba3	1780
B1	2220
B2	2720
B3	3490
Caa1	4770
Caa2	6500
Caa3	8070
Ca	10000