

> CDO Primer

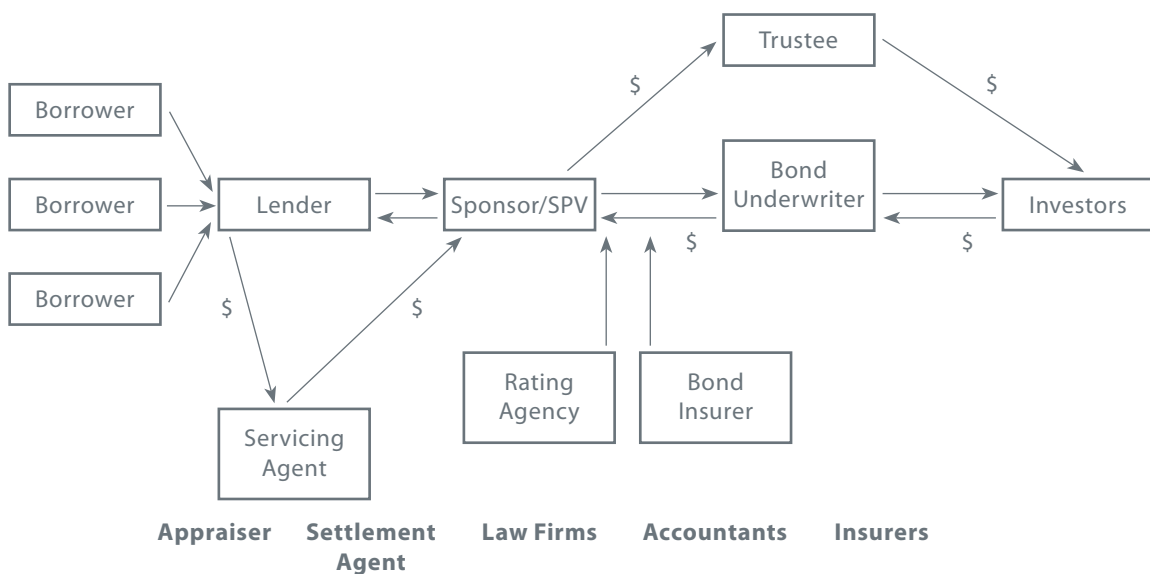
What is a CDO?

A CDO (Collateralized Debt Obligation) is a security backed by an interest in pools of assets. The assets can be loans (CLO, Collateralized Loan Obligation); mortgages (CMO, Collateralized Mortgage Obligation); bonds (CBO, Collateralized Bond Obligation).

Assets are held by a sponsor (bank, broker, investment manager) who has set up a SPV (Special Purpose Vehicle) to hold all of the collateral backing the securities. Expenses associated with managing the collateral are deducted from yields paid to investors.

CDO's are issued in Tranches: Senior, Subordinate and mezzanine/equity which have differing levels of payment preference and expected yields. Sponsors may retain the equity tranche. Tranches may have different credit ratings based upon quality of collateral, speed of prepayment and probability of actual payment.

CDO Structure



Types of CDOs

1. **Static versus Managed CDOs.** Static CDOs maintain the same pool of collateral throughout the life of the security. As the collateral is paid off the value of the pool goes to zero. Managed CDOs have a portfolio manager appointed who will buy and sell assets in and out of the pool. The makeup of the pool may be very different over time.
2. **Cash Flow versus Market Value CDOs.** Cash Flow CDOs, like CMO's, pay principal and interest to investors from the specific cash flows generated from the pool. If there is a shortfall in revenue, investors are paid based upon the seniority of the tranches they hold. Market Value CDOs pay investors from both the cash flow of the pool as well as the money generated by the purchase and sale of assets in the pool. Market Value CDOs are usually a form of managed CDO.
3. **Balance Sheet versus Arbitrage CDOs.** Balance Sheet CDOs are created by banks and other financial institutions for the purpose of securitizing certain assets and removing them from the balance sheet to reduce regulatory capital requirements. Arbitrage CDOs are designed by financial institutions to take advantage of the arbitrage relationship between holding the loans and the securities created from them. Some of this difference relates to the rating difference which can occur between investment grade and junk securities.
4. **Cash versus Synthetic CDOs.** Cash CDOs as described above are backed by real assets or collateral. Synthetic CDOs are a form of a swap agreement where payments are triggered by a change in the quality (rating) of the collateral. This is usually managed by buying and selling Credit Default Swaps

Ratings of CDOs

Most CDOs are rated by one or more of the industry rating agencies when they are issued. Moody's, S&P or Fitch will assign a rating based upon the quality of the collateral when the securities are first issued. In addition they rate each Tranche separately based upon its seniority and the probability of payment.

- The rating agencies are supposed to track the CDOs monthly. This is a problem:
- They rarely receive information in a timely manner
- Many assets in the pools are illiquid and hard to price
- There is no single standard for reporting prices
- Some Agencies outsource this function and it is fraught with errors and corrections
- Corrections to data is often received after the previous month has been released

Subprime Debt

Subprime debt is a form of CDO where the assets making up the pool consist of retail mortgages where the borrowers are significantly higher credit risks than most standard loans. These loans generally:

- Do not conform to Fannie Mae or Freddie Mac lending standards
- Have a higher loan to equity ratio than normal
- Borrowers have poorer credit histories than normal
- Default histories on the individual tranches is higher than usual
- May be second mortgages where the borrower has defaulted despite continuing to pay the first mortgage
- Have unusual structures such as: IOs, Pay Option ARMs or 100% loan to equity

Some Alarming Statistics

According to the Office of the Comptroller of the Currency:

- **34% of 2006 mortgages were subprime** or Alt A (non-GSE/private label), and \$276 billion (46%) of them were qualified with little or no documentation of income.
- **43% of first time home buyers in 2005 used 100% financing**
- **20% of all 2005 loans have negative equity**, including those with the lowest teaser rates
- **Only 13% of Californians in 2006 could afford to buy an average priced home**, with 20% down and 30 year financing
- 37% of 2006 California refinances were with Pay Option ARMs
- 70% of first quarter San Francisco area mortgages are either IOs or Pay Option ARMs
- 66% of IOs and 75% of Pay Option ARMs in 2005 were qualified under less than full **documentation** underwriting programs
- **75% of Pay Option ARM borrowers are making only the minimum payment**
- Pay Option ARMs are going into foreclosure after an average of 10 months
- A report to the MBA found that 60% of stated income loans were inflated by more than 50% while 90% were inflated more than 5%
- Over \$1 trillion ARMs will likely reset to a higher rate by year end 2008