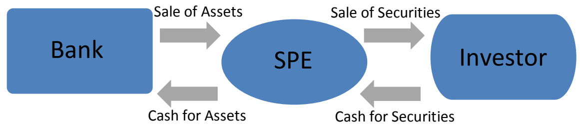
CDOs EXPLAINED

Understanding Collateralized Debt Obligations

Collateralized debt obligations ("CDOs") were first created in the late 1980's. CDOs themselves are a form of asset-backed security, meaning that the value of the CDO is derived from its claim on some pool of assets. The underlying pool of assets can be anything from boat loans, to mortgages, to credit card receivables, or even other CDOs.

The assets that will form the CDO are usually collected by an investment bank or other party, and then sold to a special purpose entity. The special purpose entity has been set up by the bank to purchase the assets, thereby removing them from the bank's balance sheet. In order to fund the purchase of assets from the bank, the special purpose entity sells securities to investors. The simple diagram to the right explains this process (**Chart 1**).

Chart 1

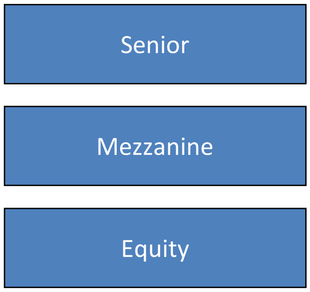


CDOs provide investors with an investment vehicle like a mutual fund, allowing them to purchase a share of a diversified underlying portfolio. Unlike a mutual fund, the securities sold to the investors depicted above are generally tranched, meaning that the securities are divided into different classes with varying claims on the cash flows produced by the underlying assets. At typical tranching scheme is shown in **Chart 2**.

Greg Kyle

Alex Russell

Chart 2



The senior tranches of the CDO carry the lowest risk, and hence the lowest possibility for return. The equity tranche is the highest risk portion of the CDO, it is the first position to bear any losses occurring in the underlying asset pool, and receives income only after all other tranches of the security have been satisfied. The cash flows generated by the underlying assets are like a waterfall; payments are prioritized first to highest tranches, and anything remaining is paid out to tranches that appear progressively lower in the hierarchy. If cash flows should prove insufficient, the lower tranches may not be paid at all. This subordination structure allows investors to choose the level of exposure that fits their needs. For example, loss sensitive institutions that normally prefer AAA rated debt will invest in the safer (but lower yielding) senior tranches. In this way, the credit risk of the underlying securities is unbundled and sold piece by piece to investors according to their preferences.

The assets that the special purpose entity holds can either be actively or passively managed by the CDO manager, depending on the motivation behind creating the CDO, and the investors who purchased it.

Cash Flow CDOs

A cash flow CDO is one in which the cash flows generated by the underlying assets of the CDO are sufficient to cover all of the payments made to investors in each tranche. This is most similar to a regular asset-backed security, in that the pool of underlying assets is selected to meet the liabilities owed to investors. These types of CDOs are the most common, but there are also market value CDOs, in which the pool of underlying assets is actively managed, in an attempt to generate additional returns via the profitable sale and purchase of securities.

Motivations for CDO issuance can be divided into two categories, balance sheet and arbitrage. A balance sheet CDO is the most like typical securitization (and is almost always a cash flow CDO); the primary reason for issuing the CDO is to remove assets from the bank's balance sheet. While allegations surfaced during the aftermath of the Credit Crisis in 2008 that banks had used CDOs as a 'dumping ground' for 'toxic' assets, a desire to remove assets from the balance sheet does not carry with it necessarily sinister connotations. By selling assets a bank frees up capital with which it can undertake new investments, allowing it to better fulfill the capital allocating function the industry is supposed to.

Arbitrage CDOs

An arbitrage CDO is one in which the CDO issuer seeks to profit from the spread between the yield on the assets underlying the CDO and the yields paid out to investors in the CDO. For example, if the total yield required by investors in the CDO is only 10%, but the underlying assets are capable of yielding a 15% return, then the issuer of the CDO can capture a profit of 5% simply by creating (and sometimes managing) the CDO. These are most frequently market value CDOs, but they can be structured as cash flow CDOs as well.

Synthetic CDOs

A third type of CDO is called a synthetic CDO, which usually falls under the arbitrage CDO category. Unlike both cash flow and market value CDO structures, the synthetic CDO does not actually have to own any underlying assets at all.

To understand how this might work it helps to take a step back and examine what purpose a CDO serves. In its most basic format a CDO provides investors with a way to achieve exposure to a diversified group of assets, at a specified level of risk. What is important to investors is that they are able to purchase a claim on the specific risk and return characteristics that the cash flows from a tranche within the CDO will produce. It often times does not matter to the investor whether or not the CDO actually owns the underlying assets, but rather that the CDO can pay out cash flows to them as if it did own them. From the perspective of the CDO issuer, there is an easier way to do this than owning the underlying assets.

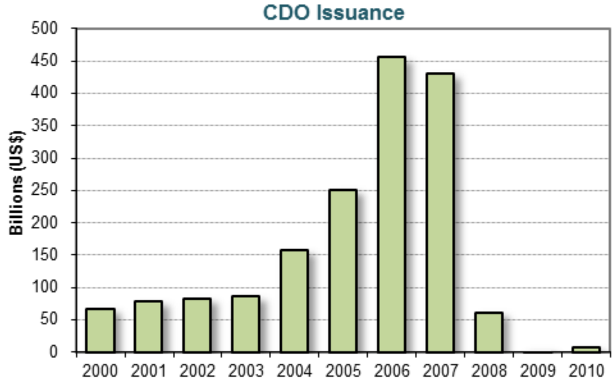
Collecting a pool of assets for inclusion in a CDO can be difficult. Just like trying to replicate an index, there are often practical limits to finding and buying each individual security. This problem is exasperated when there is a certain type of collateral that is highly in demand, making it difficult to locate. In this case, there is a ready demand for CDOs backed by a certain type of collateral, and the limit on issuing these CDOs (and earning the fees for issuing and/or managing them) is finding the collateral.

Credit Default Swaps ("CDS") or Total Return Swaps ("TRS") can be used to gain exposure to the underlying assets, without actually owning them. To dramatically simplify, the cash flow stream to the writer of a CDS or TRS is the same as the cash flow stream realized by the owner of the underlying asset. So, rather than buying assets, the special purpose entity simply sells CDS protection, and then sells the cash flows from the CDS contracts onto investors, just like a regular CDO.

This enables investors to get the exposure they want, without running into the scarcity limit created by highly demanded collateral. Of course, it also meant that the CDOs became vastly more complex, as they now relied on the capacity of the CDS counterparty to ensure that payments were met. Additionally, the presence of CDS contracts meant that numerous CDOs could reference the exact same underlying asset, meaning that if that asset were to default, it would have an outsized impact on the CDO marketplace.

Chart 3 shows the issuance of CDOs from 2000 to 2010, specifically the rise in issuance through 2007, followed by the subsequent collapse brought on by the credit crisis. Because CDOs were a relatively opaque asset class, investor demand fell rapidly during the credit crisis, as all but the safest and simplest assets were viewed with skepticism.

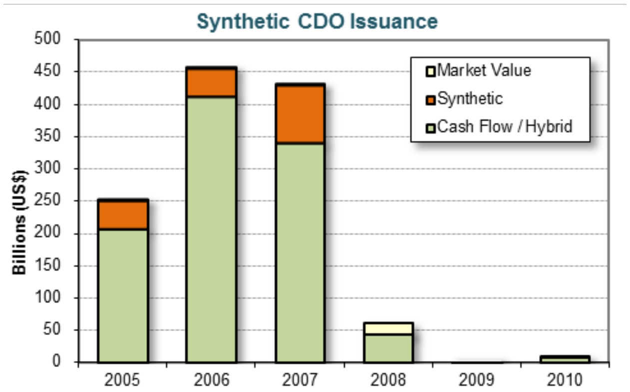
Chart 3



Source: SIFMA

Data relating to the type of CDO issued is also provided by SIFMA beginning in 2005, but unfortunately the break down makes it difficult to see the rising importance of synthetic CDOs within the marketplace. SFIMA captures both Cash Flow and Hybrid CDOs into a single category; Hybrid CDOs being those that use a mixture of cash assets and CDS contracts to support their tranches. As seen below in **Chart 4**, synthetic CDOs represented about 21% of issuance in 2007, at a minimum (since we cannot properly analyze the Hybrid category).

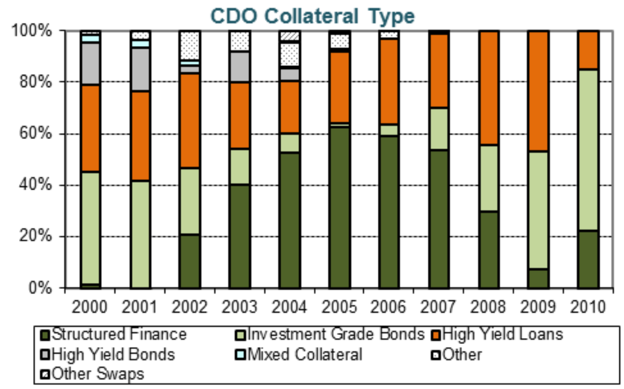
Chart 4



Source: SIFMA

The impact of CDS and other securitized assets on the CDO market can be more clearly seen in **Chart 5**. The collateral that backed the CDOs shifted over time from primarily a mixture of high yield loans and investment grade bonds, to high yield loans and structured finance.

Chart 5



Source: SIFMA

Forecasting the performance of CDOs can be complicated because of the presence of different forms of collateral, the possibility that the underlying asset pool will change, and the increased use of already pooled and securitized assets as collateral. Investors considering the purchase of a CDO tranche would be best served by seeking advice from an informed advisor before they do so.

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Bates Group, LLC | 5005 SW Meadows Road, Suite 300 | Lake Oswego OR 97035 | Tel: 503.670.7772

http://BatesResearchGroup.com | research@BatesGroupLLC.com

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