An Introduction to CDO
Overview

- Global CDO issuance: past, present

Source: JP Morgan
What is CDO?

- CDO is the abbreviation of Collateralized debt obligation. It’s a bond backed by various types of asset classes, which contained only corporate loans, bank loans when it started to trade in 1997.

- As the chart indicates on the previous page, CDOs are rapidly expanding / evolving with increasingly wide range of assets (trust preferreds, leveraged loans, ABS, RMBS, CMBS, CDO tranches themselves, EDS, CCO, equity indices, or almost any non-consumer obligation)

- CDOs are not simply an asset class but now becoming more of a structure with which to house and repackage risk

- Innovations in assets and structures have created ability for customization, offering greater investment opportunities – but with varying risk characteristics. In this case, we always focus on the safest tranche of CDO, the triple-A or triple-A+ tranche
CDO market elements

- Underlying assets
- Purpose
- Tranche structure
- Credit structure

The combination of these elements generates various types of CDOs, the most popular two are called:
- Cash Flow CDO
- Synthetic CDO
# CDO market participants

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<th>Players in CDO market</th>
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<td>Investment Banks</td>
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<td>Commercial Banks</td>
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<td>Trustees</td>
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A Typical Structure of CDO

Underlying Assets:
- Investment Grade Bonds
- High Yield Bonds, Loans
- Credit Default Swap (CDS)
  - ABS
  - CMBS
  - RMBS

Sponsor: Commercial Banks
Investment Banks

SPV: Investment banks
Insurance Companies

Trustees/ CP
Investors

Payments

Triple-A Tranche

All the tranches below protect the tranche above

Single-A Tranche
Triple-B Tranche
Double-B Tranche
Equity

Credit Protection on Reference Entities

Swap Premiums

Premium Payments

Cash or Synthetic Exposure

Premium Payments

Losses
A Typical Structure of CDO

Manager

Portfolio of Below Investment Grade Corporate Loans and Bonds

CDO Fund SPV

AAA Tranche

AA Tranche

A Tranche

BBB-BB Tranche

Equity Tranche

Tranche 1
1st 5% of loss
Yield = 35%

Tranche 2
2nd 10% of loss
Yield = 15%

Tranche 3
3rd 10% of loss
Yield = 7.5%

Tranche 4
Residual loss
Yield = 6%
CDO: Cash Flow vs. Synthetic (I)

- **Cash flow CDO**
  - The SPV holds the underlying assets
  - Heavy documentation work
  - No universal standard agreement on credit event

- **Synthetic CDO**
  - The SPV holds a portfolio of Credit Default Swap (CDS), i.e. synthetically exposing to the underlying assets of the CDS
  - Tranche investors have a chance to expose to some asset classes which are difficult to purchase directly
  - CDS credit events are standardized by ISDA

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**Real holding vs. Synthetic holding**

- **Referring**
- **Portfolio CDS**
- **Transferring from Sponsor to SPV**
- **Paying Premium**
- **Providing protection**
- **SPV/Tranche Holders**
- **Sponsor**

**Underlying assets as those of Cash flow CDO**

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CDO: Cash Flow vs. Synthetic (II)

- Market composition based on the underlying assets
  - Cash flow CDOs are still quite a large part of the market
  - Synthetic CDO technology is one of the most flexible methods of achieving this customization, it has been blooming since 2002 as the standardized credit events defined by ISDA

![Graph showing years 2003, 2004, and first half of 2005 for Cash Flow CDO and Synthetic CDO with billions on the y-axis.]

![Pie chart showing asset composition: ABS/MBS/CDOs 8%, Emerging Market 6%, Investment Grade Debt 30%, High yield Loans 24%, High yield Bonds 23%, Other 9%, and Emerging Market 6%.]
Outlook for CDO market

- Liquidity and transparency in tranche markets has increased, and the investor base has broadened.

- We expect tranche products to expand, as investors are combining leverage with customized directional view strategies.

- Markets converge as cash managers enter the synthetic space. We expect more public, and more externally managed, transactions.