Collaterlized Debt Obligations (CDOs)

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CDO Backed by Diversified Portfolio

1. Investment-grade and high-yield bonds
2. Bank loans
3. Distressed debt
4. Residential and commercial mortgages
Structure of a CDO

1. Collateral manager – responsible for managing debt portfolio
2. Collateral assets
3. Tranches
   1. Senior
   2. Mezzanine
   3. Equity (owned by the sponsor)
Structure of a CDO – Continued

1. Rating
   1. Senior: A or better
   2. Mezzanine: BBB to B
   3. Equity: unrated

2. Restrictions are placed on collateral manager and certain tests must be satisfied to maintain credit rating

3. Payments first directed to Senior tranche, then Mezzanine tranche, and finally residual to Equity
Required payments to CDO tranches come from

1. interest on collateral
2. maturing principal
3. sale of collateral (if necessary)

Typical structure

1. Floating rate on senior tranche
2. Fixed on mezzanine
3. Remainder to equity

Motivation

1. Arbitrage transaction
2. Balance sheet transaction
Example of Arbitrage Transaction

1. Collateral
   1. $100M
   2. 10-year, fixed-rate bonds
   3. pay 11%

2. Interest rate swap
   1. pay fixed rate of 8%
   2. receive LIBOR

3. Tranches
   1. Senior: $80M, CR = LIBOR + 70bps
   2. Mezzanine: $10M, CR = 9%
   3. Equity: $10M, CR = residual less fees

4. Fees = $.634M per year
Arbitrage Transaction – Continued

\[
\text{Fees} \\
6.34\% \\
2.3\% \\
(11 - 8.7) \\
2.0\% \\
11\% \\
25.06\% \\
(2.3 \times 80 + 2 \times 10 + 11 \times 10)/10 - 6.34 \\
(0.023 \times 80 + 0.02 \times 10 + 0.11 \times 10 - 0.0634 \times 10)/10
\]
Early Termination

1. Failure to comply with covenants
2. Failure to make interest and principal payments to senior tranche
3. Bankruptcy of issuing entity
Cash Flows

1 Three periods
   1 Ramp-up
   2 Reinvestment
   3 Final

2 Distribution of income
   1 First, fees to trustee, administrators, collateral manager
   2 Senior tranche
   3 Mezzanine if coverage tests are satisfied
   4 Equity tranche

3 Distribution of principal
   1 during reinvestment period, principal is reinvested unless there is shortfall in interest to senior tranches
   2 during final period, principal goes first to senior, then mezzanine, and finally equity
Cash Flows – Continued

1. Quality tests
   1. minimum diversity score
   2. minimum average rating
   3. maturity restrictions

2. Coverage tests
   1. Par value – percentage of collateral par value to tranche’s par value
   2. interest rate coverage – measures ability to make interest payments to senior tranches