

4. Credit Risk Transfer Mechanisms

FRM Part 1: Foundations of Risk Management

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1 Credit Risk Transfer Mechanisms

The primary risk for many commercial banks is credit risk (i.e. risk arising from the probability an obligor will default). To manage credit risk, banks now have multiple financial instruments they can use to help mitigate or transfer credit risk.

The following is a quick reference for some of the primary concepts used in this section:

1. *Asset-backed security (ABS)* - a structured product back by loans and receivables created using the securitization process
2. *Commercial paper* - a short-term, unsecured loan issued by a corporate entity
 - this differs from a corporate bond in that it a corporate bond typically has a much longer maturation date
3. *Asset-backed commercial paper (ABCP)* - commercial paper used by a special purpose vehicle (SPV) to finance a pool of longer-term receivables
4. *Collateralized debt obligation (CDO)* - a structured product back by a pool of *debt* instruments
 - the key here is that it's a case of an ABS, just the underlying assets are all debt and the CDO is created via securitization
 - CDOs have tranches where the most junior tranche offers the highest interest rate but is typically more risky and get paid last while the most senior is paid first, is the safest, but pays the lowest interest rate

Some advantages to CDOs include:

- (+) increased profit potential since banks can source loans and then repackage them into product, using the proceeds of selling these products to source more loans
- (+) there is a direct risk transfer to a third-party which removes the loans from the balance sheet
- (+) another way of providing loan access

Some disadvantages to CDOs include:

5. (-) encourages increased risk taking since we can simply source loans and then transfer the risk
6. (-) incentivizes loan volume over loan quality
7. (-) can result in highly complex products
8. *CDO Squared* - an investment vehicle issued by an SPV using the securitization process that is backed by tranches of a CDO
 - basically it's a CDO where the asset backing it is another CDO someone likely couldn't get rid of
9. *Commercial mortgage-back security* - a structured product backed by a pool of commercial mortgage loans created using the securitization process
 - again, this is another case of an ABS but where the assets backing it are just commercial mortgage loans

10. *Credit default swaps (CDS)* - a credit derivative where the buyer pays a fee to the seller of the CDS; the buyer makes regular payments to the seller and in the case of a credit event (e.g. a default), the seller will pay the buyer

- it helps me to think about this as simply betting against an obligor paying their loans

Some advantages of CDS include:

- (+) allegedly spurs innovation by allowing access to capital while buyers are conceptually protected from credit risk
- (+) enhanced cash flow potential; sellers create a stream of payments that can generate significant cash flow that helps offset default risk

Some disadvantages of CDS include:

- (-) they have historically weak regulation
- (-) they can provide a false sense of security since conceptually they *shouldn't* incur certain types of risk

11. *Credit derivative* - a vehicle to transfer credit risk from one party to another (e.g. CDS, CDO, CLN, etc.)

12. *Credit loan obligation (CLO)* - a structured product backed by a pool of *commercial bank loans*

- another ABS but all the assets backing it are commercial bank loans only
- since these are backed by commercial bank loans, they've gone through the rigorous underwriting process, as a result, they don't tend to experience defaults like CDOs did around the time of the GFC

13. *Mortgage-backed security (MBS)* - a structured product backed by a pool of residential mortgage loans via the securitization process

- note that MBS can be government backed (Fannie Mae, Fannie Mac, etc.) or private

14. *Structured investment vehicle (SIV)* - a pool of investment assets that seeks to generate a return from the *credit spread* between short-term rates and long-term structured financial products

These instruments can be used to help us create credit transfer strategies.

2 How Credit Risk Transfer can be Useful

The following include ways that banks have traditionally been able to reduce their exposures to credit risk (no derivatives):

- *purchasing insurance*
- *netting of exposures to counterparties* - examine the difference between the asset and liability values for each counterparty and then document that these exposures can be netted against each other
- *marking-to-market/margining* - periodically re-evaluating the value of a position and then transferring any net value change between the two counterparties so that net exposure is minimized
 - so if there is a change in price for some asset, the obliging counterparty can just give that difference in value to the other counterparty so the other counterparty doesn't increase the value that can be lost in case of say a default
- *requiring collateral to be posted*
- *termination/put option* - at inception, counterparties agree to a set of trigger events that if realized would require the unwinding of the position using a pre-determined methodology
 - in the case of a put, the lender can force early termination at a pre-determined price

These more traditional ways of reducing credit risk exposure will only work if the counterparties can agree on the terms. As such they might not fit their goals well and they don't isolate credit risk for redistribution to a broader class of investors (i.e. this credit risk isn't really transferred).

We can often use one (or some combination) of credit derivatives to transfer risk in ways that more traditional approaches won't allow for.

3 The Mechanics of Securitization

Securitization involves repackaging of loans and other assets into new securities that can be sold in the securities markets. The collateral for these new securities is the pool of loans and other assets. The performance of the security determines is determined by the performance of the collateral.

Before securitization, firms that originated loans held onto them in their investment portfolio. This is called the *buy-and-hold* strategy. The primary risks the firm faced were credit risk, price risk, and liquidity risk.

On the other hand, securitization is known as the *originate-to-distribute (OTD)* strategy. This reduces the originating entity's risk by

- credit risk - the originating entity doesn't own the collateral
- price risk - there is no price risk because the originating entity doesn't own the individual assets in the asset pool backing the security
- liquidity risk - the originating entity no longer holds an illiquid asset since they place them inside of the asset pool that is sold to an investor

With the OTD model, banks don't retain credit risk and they are paid a fee for sourcing the loans that feed into the securitized products rather than receiving the interest payment, the investor receives them

3.1 4 steps to securitization

1. Create a *special purpose vehicle (SPV)* to hold assets in a manner that is hard to analyze for investors
 - an SPV is an off-balance sheet legal entity that is a semi-hidden subsidiary of the issuing parent company
2. The SPV will use borrowed funds to purchase loan assets from one or several banks to create structured products
3. SPV loans will then be tranching to form risk layers
4. The SPV sells these tranching products to investors