CHAPTER FOURTEEN

Credit Derivatives

One of the most popular topics in the derivatives and risk management circle these days is credit derivatives. This latest financial innovation may have tremendous impact on how banks and financial institutions operate in the future.

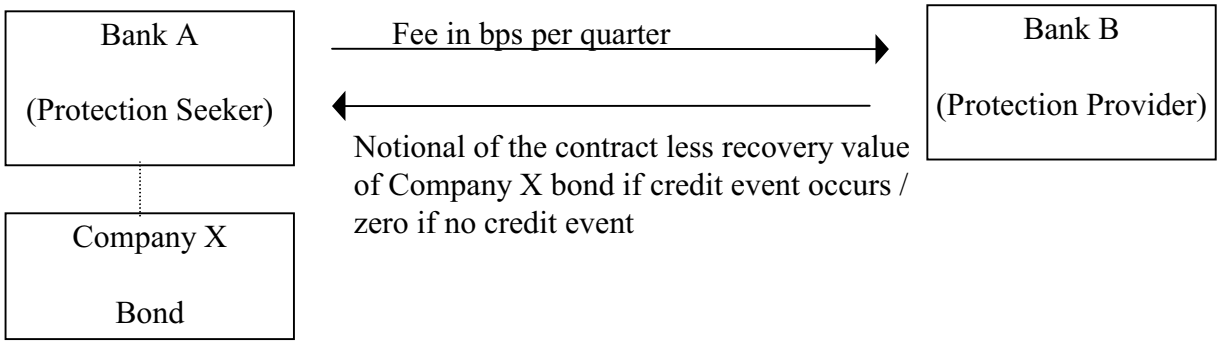
The most important characteristic of derivatives is its ability of "bundling" or "unbundling" risk and return. For example, buying an index futures contract means participating in the ups or downs of all the underlying stocks in the index. On the other hand, a pool of mortgage loans can be "unbundled" into several different tranches of mortgage-backed securities or collateral mortgage obligations (CMO) and sold to different types of investors who have different risk and return requirements. Credit derivatives are under the concept of "unbundling".

The return on any financial instrument depends on the risk level of the financial instrument. Many financial instruments have more than one type of risk. For example, a corporate bond has its credit, interest rate and liquidity risk components, and may even have additional tax and legal risk components. An investor may find that a particular corporate bond is suitable for his risk/return requirement except for the credit risk. In the past, he might just forget about buying that bond because there was no way for him to get rid of the credit risk component of this investment. With credit derivatives, he can now buy this bond and "unbundle" away the specific credit risk of the subject company.

There are three common forms of credit derivatives, namely, credit default swap, credit linked note and total return swap.

Credit default swap

The simplest form of credit derivatives is credit default swap (or default option) in which Bank A (the protection seeker) pays a fee (usually in basis points) to Bank B (the protection provider) to protect the financial loss arising from the default or other credit event of the Company X bond (the reference asset). Bank B is usually a much stronger company than Company X, otherwise it makes no sense for Bank A to seek protection from Bank B.

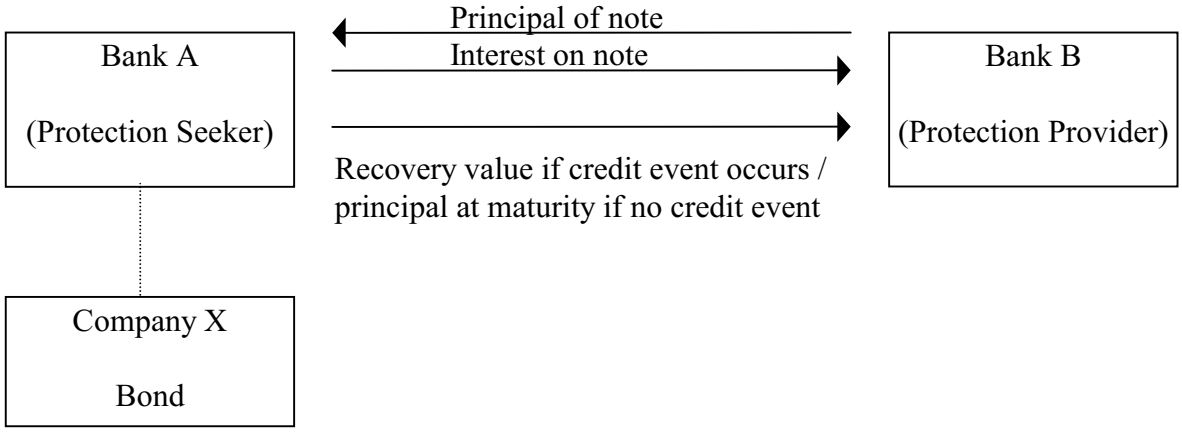


Under the terms of the contract, if a defined credit event or default occurs during the term of the contract, Bank B will pay Bank A the notional of the contract less any recovery value of the reference asset (usually 90 days) after the defined event.

This arrangement is like an insurance policy, a guarantee or a letter of credit. But the key point is that the credit risk of this bond has been "unbundled" away from the bond. For example, under the credit default option contract, Bank A pays Bank B 12 basis points on a $10 million notional per quarter for five years. If a credit event occurs during the period, and the market price of the reference asset is 75 three months after the event, Bank A will get $2.5 million (the face value of $10 million minus the recovery value of $7.5 million) from Bank B.

Credit linked note

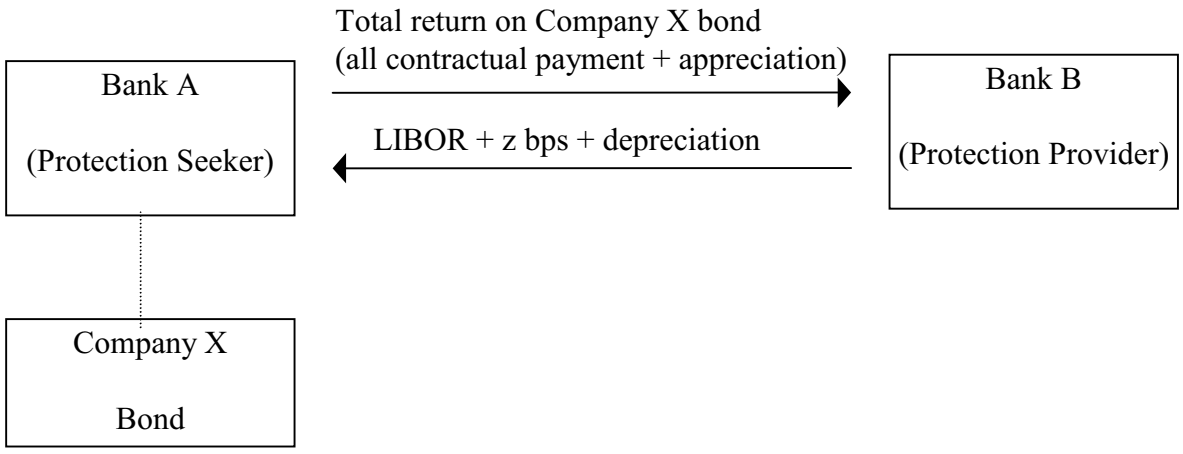
Bank A can also sell something called "credit linked note" to protect the loss arising from the default or credit event of the Company X bond. In the arrangement of a credit linked note, Bank A issues a note linked to the subject bond (the reference asset), and the note pays a specified fixed or floating interest rate just like other notes. Bank B buys the note at par. If no default or defined credit event occurs during the term of the note, the note will mature at par. However, if a defined credit event occurs, the note will be redeemed for the recovery value of the reference asset (usually 90 days after the credit event). For example, Bank B purchased a $10 million credit linked note from Bank A and Company X's credit rating declined from BBB to BB during the term of the note and this rating decline is defined as a credit event. The subject bond's market value is 65 three months after the rating decline. The note will be redeemed for the recovery value of $6.5 million. Therefore, Bank A's gain of $3.5 million from the credit linked note transaction will offset the loss of $3.5 million due to its holding of a $10 million Company X bond.



Total return swap

In a total return swap arrangement, Bank A (the protection seeker) agrees to pay Bank B (the protection provider) all contractual payments plus any ***appreciation*** in market value of the subject bond (the total return on the reference asset), and Bank B agrees

to pay Bank A LIBOR plus specified basis points, say z bps, as well as any ***depreciation*** in market value of the reference asset during the term of the swap.



Application of credit derivatives

You may ask why Bank A wants to enter into these credit derivatives arrangements such as total return swap. It can simply invest in the inter-bank market or other markets to obtain the same return of LIBOR plus z basis points which Bank B would pay.

This analysis may be correct from a pure yield or return point of view. But banks have other things to consider. Bank A is concerned that Company X's credit standing may deteriorate in the long run, but it still wants to keep a good relationship with Company X. Therefore, it continues to supply Company X's financing needs. Credit derivatives allow Bank A to continue to have a good relationship with Company X without taking on the credit risk it does not want to take. (Bank A does not have to tell Company X that it has purchased a credit default option or sold a credit linked note relating to Company X.)

Another common application of credit derivatives is to reduce credit concentration on certain counterparties. For example, Bank A may want to reduce its exposure to Company X for certain loans or lines of credit which have already been on Bank A's book by entering into a credit derivative contract with a third party.

One important characteristic of credit derivatives is that Bank A, the protection seeker in the above examples, does not necessarily have to hold the bond of Company X (the reference asset) in order for it to participate in these arrangements. In fact, Bank A does not even have to have any relationship with Company X. Bank A simply speculates that an adverse credit event will occur to Company X and trades credit derivatives using the bond of Company X as a reference asset. Credit derivatives represent a new class of investment for professional investors.

Regulatory implication

Regulators need to ensure that banks have proper risk management tools which include expertise, systems and controls in place for their credit derivatives operations. Similar to other financial derivatives, banks need to manage related market risk, credit risk, liquidity risk, operational risk, legal risk and regulatory risk of credit derivatives.

On the other hand, credit derivatives bring up a new topic for regulators relating to the capital adequacy requirement regime. For credit default swaps, the protection seeker to a large extent reduces the original credit exposure. However, in the process, it acquires a new counterparty risk - the credit risk of the protection provider. How this improved credit exposure situation be treated in terms of capital adequacy ratio (CAR) is a sensitive issue for regulators. For credit linked notes and total return swaps, banks get rid of some of the original credit risk but also acquire new price risk and counterparty risk. These are also CAR-related issues regulators have to deal with.

Potential Impact of Credit Derivatives to the Banking Industry

To banks, credit derivatives are not just another financial innovation. They may alter the traditional way banks and financial institutions conduct their banking businesses. As we all know, at least two thirds (some even say 90 percent) of risks in banking activities relate to credit, and credit risk is extremely difficult to quantify and manage. Credit derivatives provide bankers with a genuine tool to deal with credit issues. For example, a bank can reduce its property exposure using credit derivatives if management thinks that the property exposure of the bank is too high.

Credit derivatives are in a way like mortgage banking business in the US where mortgage originators package pools of mortgage loans, unbundle them into pieces, and sell them to different types of investors in the secondary market. Mortgage originators collect the origination fees, keep the servicing right of these loans and earn a servicing spread. Similarly, credit derivatives unbundle the credit risk from a financial instrument. They give banks more options to diversify their portfolios, alter their asset/liability management strategies, maneuver their regulatory capital structures, etc. The mortgage banking business was an innovation in the 80s and later became an industry in the US. Equally innovative, credit derivatives are poised for further growth. Several years down the road, it will not be surprising to see a bank selling some or even most of its credit exposures in its asset portfolio and managing mainly the price risk component of these assets. It probably makes sense for some banks to adopt this strategy because it is easier to manage price risk than credit risk. Although this strategy reduces the yield of these assets, it can increase the volume of lending activities to compensate for the yield reduction. This is because this strategy may free up some of the bank's regulatory capital relating to credit risk.