CREDIT DEFAULT SWAPS AND THEIR APPLICATION

Dr Ewelina Sokołowska, Dr Justyna Łapińska

Nicolaus Copernicus University Torun, Faculty of Economic Sciences and Management, ul. Gagarina 11, 87-100 Toruń, e-mail: justlap@uni.torun.pl

Abstract

The market of credit derivatives has experienced enormous growth in recent years. One of the instruments, which play dominant role on the market are Credit Default Swaps. This paper examines the role of Credit Defaults Swaps on this marker and describes their possible application in separating and transferring credit risk.

Key words

Credit Default Swap, Credit Derivatives, risk management, credit risk

1 Introduction

Credit Default Swap is like other credit derivatives an interesting innovation on the financial market. Until recently, credit remained one of the major components of business risk for which no tailored risk-management products existed. Credit derivatives have completed the process by allowing the independent management of default or credit spread risk. These instruments enable to separate the ownership and management of credit risk from other qualitative and quantitative aspects of ownership of financial assets. Fixed income derivatives introduced the ability to manage duration, convexity, and callability independently of security positions. By separating specific aspects of credit risk from other kinds of risk, credit derivatives allow even the most illiquid credit exposures to be transferred from portfolios that have, but don't want the risk to those that want but don't have that risk, even when the underlying asset itself could not have been transferred in the same way. These features of credit derivatives have helped them to attract many investors. There is a powerful rationale for the existence of a rapidly growing market for credit derivatives. The market of credit derivatives market is expected to reach the value of $ 33 trillion after enormous growth in recent years. One of the most popular instruments on credit derivatives market is Credit Default Swap. This instrument account for almost one third of the whole credit derivatives market. The evolution of CDS from the time it was first introduced by JP Morgan's Blythe Masters in 1995 has been exceptional. The CDS over the counter derivative market has grown from $ 900 billion in 2000 to $45 trillion in 2007, almost twice the size of the US equities markets. CDS has emerged over the last few years as an important tool to manage credit risk and has allowed banks to offset risk from their lending and bond portfolios. The main goal of the article is to present the credit derivatives market and to highlight the role of Credit Default Swap for the hedging purposes. As new risks emerge in today's complex global trade environment, the risk mitigation tool-set continues to expand. Credit Default Swap is one of the more significant risk distribution methods to emerge in recent years for trade transactions.

2 Definition and types of credit derivatives

Credit derivative is a financial instrument, whose price and value derives from the creditworthiness of the obligations of a third party, which is isolated and traded. Credit derivatives, in their simplest form, are bilateral contracts between a buyer and seller, under which the seller sells protection against certain pre-agreed events occurring in relation to a third party (usually a corporate or sovereign) known as a reference entity[1]. A CD contract facilitates the transfer and repackaging of credit risk. CDs unbundle credit risk from the debt, essentially separating ownership of an asset from ownership of the risk[2]. They are contracts based on a credit asset, where the asset itself is not transferred through the creation of the CD.

There are many types of credit derivatives and possibilities of grouping them into different categories. One of main classifications of credit derivatives is typing them into 2 groups[3]:

-single-name credit derivatives,
-multi-name credit derivatives.

Single name instruments are the most common type of credit derivatives. They are also called "vanilla" instruments. Single-name instruments are credit derivatives where the reference entity is a single name. The most popular single name-instrument is credit default swap (CDS). Other examples of vanilla forms include: asset swaps, total return swaps, spread and bond options.

Multi name-instruments are contracts where the reference entity is more than one name as in portfolio or basket credit default swaps or credit default swap indices. A basket credit default swap is a CDS where the credit event is the default of some combination of the credits in a specified basket of credits. In the particular case of an n'th-to-default basket it is the n'th credit in the basket of reference credits whose default triggers payments.

Credit derivatives can be also fundamentally divided into two categories of products: funded credit derivatives and unfunded credit derivatives. An unfunded credit derivative is a bilateral contract between two counterparties, where each party is responsible for making its payments under the contract itself without recourse to other assets. In a funded credit derivative, the credit derivative will be embedded into a bond, and bondholders will be responsible for the payment of any cash or physical settlement amounts. According to this classifications fundes products are[4]:

1. Credit linked note (CLN)
2. Synthetic Collateralised Debt Obligation (CDO)
3. Constant Proportion Debt Obligation (CPDO)
4. Synthetic Constant Proportion Portfolio Insurance (Synthetic CPPI)

Unfunded credit derivative products include the following products[5]:

1. Single name Credit Default Swap (CDS)
2. Total Return Swap
3. First to Default Credit Default Swap
4. Portfolio Credit Default Swap
5. Secured Loan Credit Default Swap

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[1] PLC Finance Practice Note: Credit Derivatives by Edmund Parker.

[2] See B. Specht, "Credit Default Swaps: An Overview" (September 2002), www.gtnews.com//article/4716.pdf?CFID=963179&CFTOKEN=79684177.

[3] A.N. Bomfim, Understanding Credit Derivatives and Related Instruments, Elsevier Academic Press, New York, 2005, p. 6.

[4] http://en.wikipedia.org/wiki/Credit_derivative

[5] ibidem

6. Credit Default Swap on Asset Backed Securities
7. Credit default swaption (CDS)
8. Recovery lock transaction
9. Credit Spread Option
10. CDS index products
11. Constant Maturid Credit Default Swap (CMCDS)

The most highly structured credit derivatives transactions can be assembled by combining four main building blocks. There are four main types of CDs:

1. Credit Default Swaps
2. Credit Options
3. Total Return Swaps
4. Credit-linked Notes

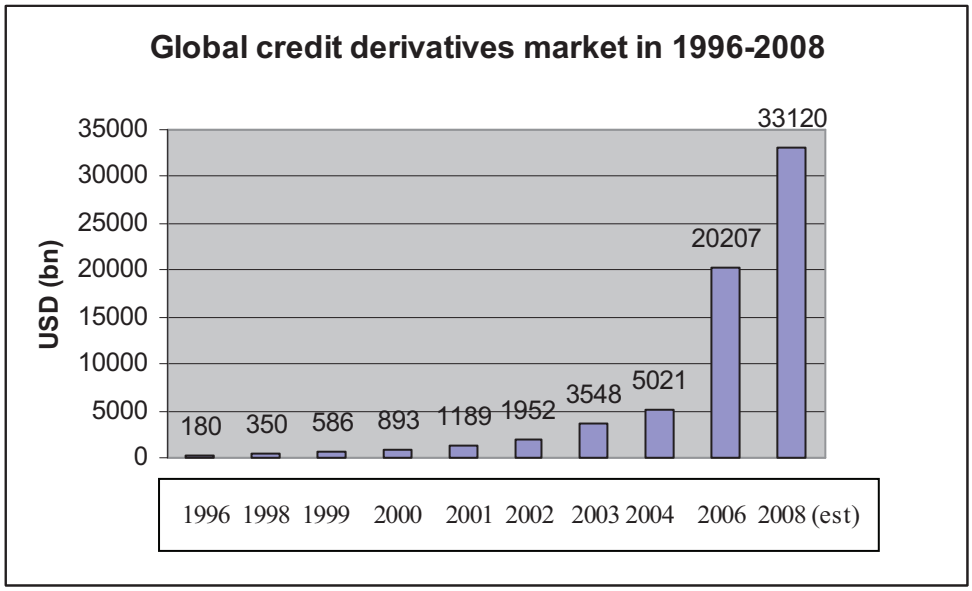
The credit default swap is a contract where the protection buyer pays a periodic fee in exchange for a contingent payment by the protection seller upon the occurrence of a credit event. Credit options are instruments where the purchaser of a credit option grants the buyer the right (but not the obligation) to sell a specified floating rate reference asset to the seller at a pre-specified price (the strike price). The buyer of the option pays a fee for this right. A total return swap is a swap involving the total return out of a credit asset in exchange for a predetermined return. The total return from a credit asset is determined from various factors, such as interest rate movements and exchange rate fluctuations. The protection seller guarantees a prefixed return to the originator who gives the entire collections from the credit asset to the protection seller. A credit-linked note is a securitized form of a credit derivative. In these instruments, a protection buyer issues notes to investors. The notes may appear like a normal bond with regular coupon payments. The difference is that, upon a credit event, the investor suffers the loss in the form of foregone interest, reduced interest, or delayed payments. The losses generally would impact the principal repayment of the note.

3 Evolution and size of credit derivatives market

Credit derivatives market is one of the most important parts of the over-the-counter and simultaneously banking market. Globally, the credit derivatives market has grown spectacularly in recent years but it has yet to reach matured derivative markets in terms of liquidity, transparency and standardisation. According to British Bankers Association data the growth of the global credit derivatives market is expected to continue in 2008 and the size of the market will be 33 trillion USD. Probably the greatest motivation behind such a growth has been due to the gap between commercial banks and other financial institutions such as insurance companies, mutual funds and other non-banking financial institutions so far as conventional bank loan market is concerned. What is important, not only the size of the market has continued to grow, but also the diversity of the products. The expansion of index trades, tranched index trades and equity-linked products-to highlight but a few-have created an unprecedented variety of traded products in the credit derivatives market[6]. Despite the phenomenal growth, the market is relatively small in comparison to over-all derivatives market. The main participants in the credit derivatives market are large commercial and investment banks, insurers and re-insurers and hedge funds. Other participants include securities houses, corporates, mutual funds, and pension funds. Figure 1. presents the value of the credit derivatives market in 1996-2008.

Figure 1. Global credit derivatives market

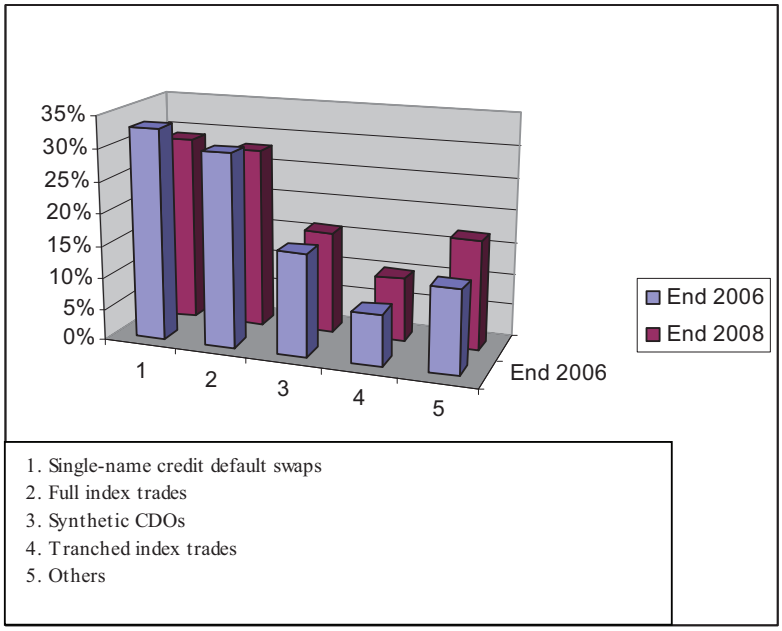
[6] British Bankers Association-Credit Derivatives Report 2006



Source: created by authors according to British Bankers Association data

The most common products traded on credit derivatives market include Credit Default Swaps, credit-linked notes ("CLNs"), OTC deposits, and synthetic collateralized debt obligations ("synthetic CDOs"). The share of single name credit derivatives swaps represents a substantial section of the market and is predicted to account for 29% of the market in 2008. The second largest product representing the market are full index trades, which are going to account for 28% of the market. Other significant instruments on the market are synthetic CDOs and Tranched index trades. Figure 2. represents credit derivatives products according to their share in the market.

Figure 2. Credit derivatives products



Source: created by authors according to British Bankers Association data

4 Credit Default Swaps construction and their application

According to the International Swaps and Derivatives Association the Credit Default Swaps market exploded over the past decade to more than $45 trillion in middle of 2007. This value is twice the size of the U.S. stock market and far exceeds the $7.1 trillion mortgage market and $4.4 trillion U.S. treasuries market[7]. The market in credit derivative is largely identified synonymously with Credit Default Products, and the most widely traded instrument in this category is Credit Default Swap (CDS). Credit Default Swap is the most common type of credit-derivative, and has become the cornerstone product of the credit derivatives market. The CDS market was originally formed to provide banks with the means to transfer credit exposure and free up regulatory capital. As the credit default swaps market became more standardized and gained credibility, particularly following smooth credit event settlements in high profile cases such as WorldCom and Enron, more investors entered the market.

Credit Default Swap is a bilateral agreement between two parties designed to transfer credit exposure of fixed income products. The buyer of credit default swap receives credit protection, whereas the seller of the swap guarantees the credit worthiness of the product. In this transaction, the risk of default is transferred from the holder of the fixed-income security to the seller of the swap. The contract provides insurance against a default of particular company or sovereign entity. The default of the company or sovereign entity is known as credit event. The buyer of the credit instrument makes periodic payments to the seller of the insurance. In return this entity obtains the right to sell an instrument issued by the reference entity for the face value, if the credit event occurs. Credit Default Swaps typically apply to municipal bonds, corporate debt and mortgage securities and are sold by banks, hedge funds and others. A very important term is CDS spread, which is the rate payment made per year in monthly, quarterly, or in other periods. Credit Default Swaps are based on standard ISDA contract documentation, frequently involve standardized contract sizes, and the case of the most liquid underlying sovereign credits and a limited number of blue-chip corporate credits, enjoy an active broker market with dealers quoting two-way pricing for standard contract sizes. A CDS may be compared with a guarantee or credit insurance policy to the extent that the protection seller receives an up-front fee for agreeing to compensate the protection buyer in a future date. The contract under CDS depends upon the default event and the cash flow transaction is triggered only when the default occurs and not otherwise. This not only helps market participants to seek protection but also motivates them to buy and sell positions for reasons of speculation and arbitrage, without having the direct exposure to the underlying security.

Credit Default Swaps generally allow for the following types of default events:

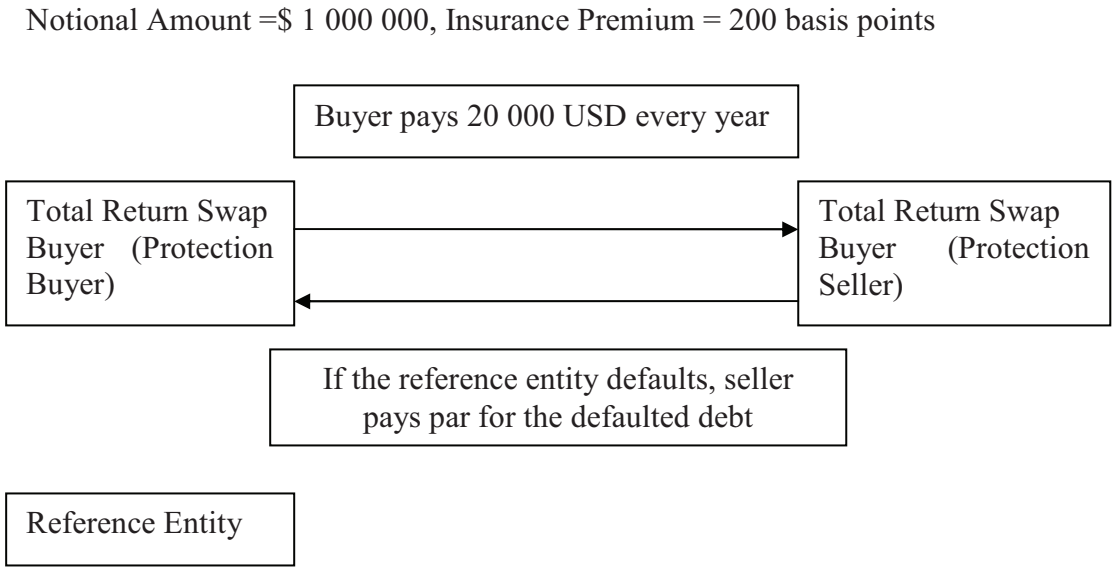
1. Bankruptcy (for non-sovereign entities) or Moratorium (for sovereign entities only),
2. Failure to meet due payment obligations (after giving effect to the Grace Period, if any, and only if the failure to pay is above the payment requirement specified at inception),
3. Repudiation,
4. Restructuring of debt,
5. Obligation Acceleration or Obligation Default. Obligations are generally defined as borrowed money. The spectrum of Obligations goes from one specific bond or loan to payment or repayment of money, depending on whether the counterparties want to mirror the risks of direct ownership of an asset or rather transfer macro exposure to the Reference entity.

[7] http://www.time.com

Example of the Credit Default Swap

Suppose that the CDS spread for the 2-year contract on credit with a principal of 1 million USD is 200 basis points. This means that the buyer pays 20 000 USD per year, and has the right to sell the basic instrument worth 1 million for the face value in the event of the default occurance. The notional quantity represents the amount of insurance coverage. Credit Default Swap spread or credit default swap premium is the term for insurance premium, which is quoted as a fraction of the notional amount. Typically, CDS premium is paid quarterly so in our example, the protection seller agrees to pay 5 000 USD per quarter for 1 million USD credit protection. Figure 1 illustrates the example of the Credit Default Swap.

Figure 1. Example of the Credit Default Swap



Source: created by authors

The credit default swap market is generally divided into three sectors: corporates, bank credits and emerging market sovereigns and can reference a single credit or multiple credit. Credit default swap have become the engine that drives the credit derivatives market. The growth of the Credit Default Swaps market is due largely to the flexibility of these instruments. They ensure the ability to customize exposure to corporate credit. In addition to hedging event risk, the potential benefits of CDS include:

- short positioning vehicle that does not require an initial cash outlay,
- access to maturity exposures not available in the cash market,
- access to credit risk not available in the cash market due to a limited supply of the underlying bonds ,
- investments in foreign credits avoiding currency risk,
- the ability to exit credit positions when the liquidity is slow.

The performance of Credit Default Swaps depends on changes in credit spreads. This sensitivity makes them an effective hedging tool that can assume exposure to changes in credit spreads as well as default risk. Credit Default Swaps also have given rise to new arbitrage opportunities.

5 Conclusion

Credit Default Swaps are an efficient risk-management market tool. The event risk embedded in bonds and other credit assets was very difficult to reduce until the evolution of Credit Default Swaps market. Last decade has show that credit default swaps have become not only a tool that effectively hedges event risk, but can also become a flexible portfolio management tool. Credit Default Swaps are efficient because they help unbundle the risks associated with debt and add liquidity to the capital markets. There are other benefits associated with credit derivatives. First, they increase the liquidity of the market. These instruments give investors the ability to trade risks, that were previously not tradable. This problem was connected with the lack of liquidity of specific instruments. The second benefit is the decrease of transaction costs. Because of the growing demand for credit derivatives and increasing liquidity, the costs for these instruments are lower than few years ago. These instruments enable investors and companies to trade and manage credit risk, and provide payoff to the investor that depends upon the underlying default risk associated with any financial instrument, especially bank loans. It is very important to have knowledge about these instruments. It is worth to remember that, they can be dangerous if used for speculating purposes.

References

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Summary

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CREDIT DEFAULT SWAPS AND THEIR APPLICATION

The Credit Default Swap (CDS) market is a large and fast-growing market that allows investors to trade credit risk. In recent years, the credit derivatives market has grown explosively and credit derivatives have become popular tools for hedging credit risk of financial institutions. Although the credit default swap market has existed for a number of years, their use by main stream investors such as hedge funds and total return asset managers has exploded in the past few years. The main goal of the paper was to introduce Credit Default Swap and possibilities of their application among investors operating on the market.

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