

Helen Sokhatska (Ukraine), Iryna Morkva (Ukraine)

## Credit derivatives: prospects of usage in the formation of a new global financial order

### Abstract

The article examines the technologies of credit derivatives application in the international financial markets, especially the most common ones, credit default swaps. Both positive and negative aspects of their application to risk management have been revealed. Moreover, the grounds for their considering to be responsible for the global crisis aggravation have been identified. The prospects of CDS utilization in the development of a new global financial order have been illustrated.

**Keywords:** hedge funds, credit default swaps (CDS), swaps, new financial order.

**JEL Classification:** D53, E52, G21, G22.

### Introduction

The development of the current global economic crisis is accompanied by substantial scientific research and active government policies of most countries aimed at minimization of its negative results. Both scientists and governments did a lot from 2007 to 2009. Thus, G20 leaders decided to join their efforts in creating a new economic order with parallel development of its theoretical basis.

Formation of the new financial order involves considerable changes in the regulatory processes of innovative financial instruments and technologies, mainly the technologies of their securitization and the usage of credit derivatives, which have created a powerful segment of available liquidity, which in many aspects triggered the financial crisis.

Credit default swaps are bilateral financial contracts with payments connected with the credit event, such as nonpayment of interests, lowering of the credit rating or bankruptcy. In particular, a bank can use credit default swaps to transfer a part or the total amount of the credit risk to the third party, or vice versa, to accept additional risk. Once, Alan Greenspan, ex-chairman of the US Federal reserve system said that credit default swaps and other structured financial instruments greatly contribute to the development of a more flexible, efficient, and strong financial system.

Though, with time, a positive view on credit default swaps as an instrument permitting a transfer of credit risk, has been criticized and today CDSs are considered to be a source of difficulties, which appeared during the period of mortgage crisis on the subprime credits market.

For example, David Skeel argues that credit default swaps create a risk of systematic market failures. In his other article which analyzes the causes of the financial crisis, David Skeel pointed out that most of the emerged problems are connected with non-

transparency of the CDS markets. Close attention to CDS in the crisis period forced experts to give a thought to the issue of how often banks use CDS for risk management and whether open positions in CDS decrease system crisis.

The problem is being actively debated in mass media, most of the developed countries have created government work groups of scholars and experts, for example, State Department and International Affairs Board in the US. Articles on this issue have been published by Nobel Prize winners such as Paul Robin Krugman, Joseph Eugene Stiglitz, as well as by famous economists who predicted the crisis – Nouriel Roubini, Noel Vaillant, Noel Vaillant, and Frank Fabozzi.

In Ukraine, the problems of using CDS to lower a credit risk became a subject matter of analysis and research not very long ago. In this context, we can point out the works of L.O. Primotski, O.V. Dzubluk, and others. Nevertheless, unstudied remain the negative aspects of CDs application in the management systems of foreign financial markets which in 2008 resulted in bankruptcy of well-known banks, Lehman Brothers in particular.

**The objective of the article** is to identify the prospects and ways of further possible application of CDS as risk management instruments in the context of a new global financial order formation.

### 1. Presentation of the basic material

Emerging and application of CDS is the outcome of the American investment banks activities. However, the authorship is still being debated. Thus, the American Bankers Trust is believed to be the first to use credit derivatives instruments in 1992. However, other sources impute the authorship to the team of employees of JP Morgan Chase investment bank. They created a mechanism of risk transfer. In general, the legal aspects of that innovation were first fixed in the law known as Commodity Futures Modernization Act 2000, passed by both chambers of the US Congress.

At April 2005 Forth annual scientific conference on public relations, the US FRS chairman Alan Greenspan noted that “Mortgaged securities helped to form national and even international market of mortgaged credits and a market support of a wide range of local mortgage credits became very common. That resulted in securitization of other credit products such as car credits and card credits”.

New structured and hybrid credit products became more and more complex, and only powerful financial institutions could afford the required training of their staff and purchasing sophisticated equipment. From 1980 to 1994, 1600 banks were closed. In 1996, only 8000 banks remained in the USA (while in 1970 the number was 12,000). Banks consolidation was directly related to elimination of geographical restrictions for deploying their branches (US law “Interstate Banking and Branch Efficiency”, 1994). As a result, their branches opened not only in other US states, but in other countries, mainly in the developing ones.

1995 proved to be very important for the emerging and development of financial engineering. Wall Street JP Morgan, one of the largest investment banks, introduced an innovation into its financial activities. Ms. Blythe Masters, 34-year-old financial engineer and Cambridge graduate, created first Credit Default Swaps as derivative instruments aimed at protecting a creditor from credit defaults, and Collateralized Debt Obligations – bonds, the emission of which was used to secure mixed asset pools, another derivative financial instrument which permitted to give loans to a larger number of creditors.

It is very important that all the above operations took place beyond the banks’ ledgers, not keeping to the Brussels agreements on 8% capitalization. These innovations transformed the bank into a security firm. The new idea allowed banks to eliminate their balance risk by consolidating credits and their secondary sales as securities with simultaneous purchase of a default swap after syndication of their customers’ loans. The idea became so popular that by the end of 2007, under various estimates, the credit swaps market accounted for about \$ 45 bln.

The system operated, banks earned huge profits, synthetic debt securities were popular not only with banks, pension and hedge funds but also with other countries which used them to form their currency reserves as the investment ratings of these securities were the highest.

These technologies have widely spread in the global environment, they are extensively used by European banks from Deutsche Bank to UBS, Barclays, Royal Bank of Scotland, Societe Generale. The next step

of the powerful banks dominating in the process was creation of debt securities portfolios with their following packaging and tranche sale on the basis of default probability. This technology was termed “lengthwise and crosswise” for investors. Soon, asset backed mortgages, debt liabilities backed mortgages and even debt market were formed, grouped and sold in tranches. That was the practice that proceeded the mortgage crisis starting in the USA in 2007.

It is generally known that the USA and Germany have the world’s largest volumes of CDS contracts. These are the countries where the CDS market was formed, which significantly increased the banks’ loans liquidity. The very existence of the CDS market forms the system of indicators of liquidity and bank operations risk. CDSs permit the banks not only to provide liquidity for their loans but also manage some of parameters of their credit portfolios.

Among the banks who started a large scale application of CDS was one of the largest German banks – Deutsche Bank. Today the usage of this financial instrument is regulated by the general federal structure that oversees the financial market, including the banks – BaFIN (Bundesanstalt für Finanzdienstleistungsaufsicht/Federal Financial Supervisory Authority). However, the center of CDS operations has moved to the USA, where intra-bank CDS market is factually formed. It is represented by a number of standardized contracts: assets swaps, default swaps and options, aggregate income, credit spread swaps, etc.

Generally, the definition and content of the notion “credit default swaps” are rather complex and multifaceted. The nature of the term is disclosed by its very name, i.e. roughly translated as “insuring the risk of default on the principal of the credit in exchange for regular payments to the third party, which pledges to pay off this amount under such conditions”.

CDS is a sort of derivatives aimed at credit risk management, a bilateral contract between a buyer and seller of the credit protection. As in a typical property insurance, both parties agree that one of them (a provider of the credit defense) agrees to ensure the other for a certain time period in exchange for systematic installments (or advance payment). The essence of CDS for the credit defense seller is not a pro-fund position on the credit market but a 100% leverage. Moreover, it is related to the credit risk only: if the price of the basic liability suddenly falls because of the abrupt changes in the market quotation, this will not be considered as a credit phenomenon.

The unique character of CDS is that one can open a short-term position on it without any basic liability –

credit risk. For example, an investor believes that the firm A may appear in the default situation in the nearest 5 years. The investor buys CDS as a means of protection from its credit risk. In its turn, CDS is closely connected with a bond market.

Connections between these markets permit to develop an arbitrage strategy. If the portfolio contained the bonds of the firm A, that gave a spread in 400 basic points relative to the state treasury bonds, they can be substituted for the UST position plus the position in the credit risk purchased through CDS. They pay the same 400 points for CDS and, as a result, securities portfolio becomes more liquid.

Since the bond and CDS markets are related to each other, the growth of the firm's bankruptcy stake leads to the CDS spreads. Using CDS potentially involves big risks, though we can't surely state that credit risk buyers and sellers are irresponsible. The trade of the CDS type instruments is performed by the banks whose rating is not lower than AA, and their customers need to have a certain level of solvency. Nowadays, there are only 15 AA level banks left.

However, according to experts, some banks that descended into the lower category, still continue their operations with CDS. But since the bankruptcy of Lehman Brothers, that very actively traded CDS, a partially technical though considerable revaluation of defense provider's risk has taken place.

The interbank nature of the CDS market very quickly adapted it to the global standards and led to the lowering of barriers between national markets. According to the Fitch agency, the estimated volume of the market was \$54,6 trillion in early 2008.

The global nature of the market is provided by the participation of 200 international financial groups. Judging by the analysis of the global derivatives market, during the past 3-5 years one could witness its average growth rate of \$0,1 trillion. At the same time, Robert Grossman, Director of Fitch Rating, which recently appeared on the credit derivatives market, informed about "black holes" on that market. He highlighted several problems which characterize the European markets, mainly a low standardization level on the market that negatively affects liquidity and further process of globalization [1].

Today, CDS have many opponents. Mainly, Warren Buffett, a well-known economist, expresses his negative attitude. He argues, "Since derivatives have neither backing, nor guarantee, their final value depends of the creditability of the counteragent. Meanwhile, the counteragent assumes profits and losses long before the end of the operation without a penny in his hands. The registered sums are limited only by his or her imagination." [5].

But we think that it is hard to consider this investor's position consistent. As you know, Berkshire Hathaway, owned by Warren Buffett, noted in its October 2008 report that its position in derivatives amounted to \$4,85 bln. Besides, the firm was one of the largest investors of the Moody's rating agency in the times when it received the highest rating, mainly on mortgage securities constructed on the CDS basis.

One can easily understand Warren Buffett's arguments. In fact, the truth is not in the nature of the system, it is in its application. If the financial market continues to operate, new financial instruments are most likely to appear on it.

CDS assessment has not only a theoretical but also an analytical-calculated basis, which means that the sum of regular discount payments (premiums) must equal the discount payment in case of a default. From this level a premium on CDS is calculated. For an annual contract (assume the nominal contract level is 1):

$$CDS\ premium = p(1 - RR)/(1 + r),$$

where  $p$  is a probability of default;  $RR$  – liability value after default in % of the nominal;  $r$  – discount rate.

Let's define that the first premium payment takes place right after the contract was signed and not at the end of the period and thus it is not discounted.

The following factors determine the value of CDS:

- ◆ credit characteristics of the contract subject (default probability and expected default depth);
- ◆ contract term;
- ◆ financial endurance of the CDS seller;
- ◆ probability of the simultaneous default of a CDS seller and the contract subject;
- ◆ a type payment (money or physical).

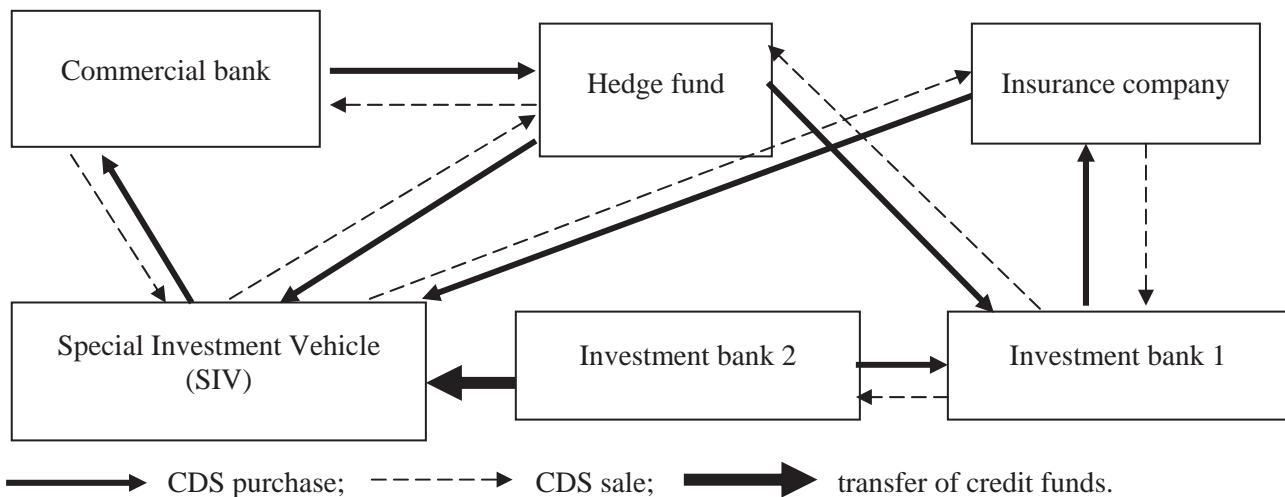


Fig. 1. CDS Scheme

The most important stage in CDS assessment is determining default probability. This amount is calculated by means of complex mathematic models based on the current and expected profit curves subject to crisis free assets spreads. The higher the spread of a certain bonds issue is, for example, profitability of the US treasury bonds, the higher is the default probability of such bonds.

Analyzing the development of the derivative financial instruments one can't but mention the problem of the current situation on the CDS market and its trends which are closely related to the function of the global banking system.

According to the International Swaps and Derivatives Association, the market of securities secured by debt liabilities (CDS) which was quickly growing for the past 10 years, resulted in considerable distortion of a financial system. CDS volumes are about twice as large as the volume of the US stock market (currently estimated in \$22 trillion), and is much bigger than the mortgage market which accounts for \$7.1 trillion, and treasury liabilities market accounting for \$4.4 trillion. This is what Harvey Miller, the chief partner of Weil, Gotshal & Manges, says, "I hate to use this comparison, but this may become just another nail in a coffin", speaking about the effect which unstable CDS market may have on the global credit crisis.

The banking sector CDSs are similar to security contracts which promise to cover losses on certain securities in case of a default. A buyer of a credit default insurance pays installments during a certain time period in exchange for the peace of mind, knowing that his losses will be compensated in case of a default. This mechanism is considered to be the same as in case of a housing insurance against fire or theft.

But this is not so. Banks and insurance companies are regulated by the government, which is not the case with the credit swaps markets. As a result,

contracts can be sold or exchanged, moving from one investor to another without any control of the operation. Nobody ensures that a buyer has enough resources to compensate losses in case of a securities default. Both parties, insurers and insured, can trade these instruments.

All this makes the procedure of assessment of insurance contracts and securities difficult for the banks that have them on their record. And finally, the moment arrives when banks are absorbed in writing off their mortgage securities. "These are the institutions which themselves or through their subdivisions invested in subcontract markets", Andrea Pinkus, a partner of Reed Smith LLP, says, "they suffer losses everywhere", and now they may face more losses on the CDS markets".

Commercial banks are the most active players on the market, where 25 biggest banks own \$13 trillion in swaps on credit defaults –they act there as both insurers and insured (according to the General currency controller and federal banking regulator, as of the end of the second quarter of 2009). According to these data, the four most active banks are JP Morgan Chase, Citybank, Bank of America and Wachovia.

Since their introduction 10 years ago, CDS were considered to be easy money for banks. Why? At that time, economy was developing fast and corporate defaults occurred very seldom, which made CDS a low-risk instrument mostly used for municipal bonds and corporate debts but not for structures securities. CDS attracted investors who believed that big corporations seldom go bankrupt in the times of economic growth.

With time, CDS market spread to the structured finances, such as bonds, secured by debt liabilities (CDO) which mortgage portfolios contained. It also spread to the over-the-counter market on which speculative investors, hedge funds and other

participants traded CDS from collateral sources, without any relation to the basic investments. "They place a stake on a good or bad luck in investing", Andrea Pinkus says, "which resembles stakes in sport. You don't take part in the game which is going on, but people all over the country place their stakes on the result." [16].

When the economic situation began to deteriorate and the lack of substandard credits started to spread onto other credit operation in the past years, CDS investors started to worry. They began to doubt that after several transactions CDS insurance owner will have necessary financial ability to pay off in case of mass defaults. "In the past 6 or 8 months liquidity of the market worsened and the number of those willing to buy structures securities decreased, which resulted in the drop of securities price", Glenn Arden says, a partner of Jones Day, who leads the firm's operations in securitization on the global market and with New York derivatives.

The situation negatively affected the insurers who had to write off a large part of their CDS portfolio value. American International Group, the world's largest insurer, recently informed about the largest losses in the company's history caused mostly by writing off \$11 bln of their CDS. Even American International Group, the largest secondary insurance market participant, resorted to write offs in the fourth quarter of 2008.

Insurance companies like MBIA ra Ambac Financial Group Inc., that specialized in one type of bonds suffered the most trying to find funds to offset possible defaults and prevent lowering of their rating with rating agencies. The very transit of these companies from traditional municipal bonds to mortgage securities caused those problems. Rate lowering of the firms specializing in one bond type could be destructive for banks and other institutions that acquired insurance defense from them to cover the issued bonds.

Nowadays, the situation is becoming aggravated by big sales volumes of these instruments, the secret character of sales and, which is more important, absence of regulation of insurance companies' business. "Primary CDS may go through 15 to 20 transactions", Harvey Miller says. So, when a default is announced, the so-called insured or hedged party does not know who is responsible for the default and whether the final player has necessary resources to compensate the default."

Prakash A Shimpi, the Chief Manager of Towers Perrin does not overestimate the risk when saying that contract legislation requires all parties to provide information and get the other party's consent before selling a CDS police to someone else. "Transactions

do not take place through a mere shake of hands", he says. But without regulation, there is no standard contract form, standard capital requirements and a uniform method of securities evaluation in such transactions. As a result, Andrea Pinkus says [16], she would not be surprised at the growing number of court suits as defaults will start. "Now we already have many protests and demand for more regulation and transparency", she says.

The collapse of CDS market potentially has more considerable impact in the USA than the crisis of standards unavailability on the market of mortgage credits. If bond insurance disappears or becomes more expensive, lenders will become more cautious in making loans and this will affect all those seeking money for repairing roads and constructing schools. "We need players in all spheres, who would be more careful as for whose credit they guarantee, and what the concrete contract liabilities are", Helen Marshall says, a partner of Mannat, Phelps & Phillips LLP [2].

Prakash A Shimpi [1] admits that the fall or even slowing down of the CDS market will impact the size and liquidity of the market. Though, he rejects the concern that municipalities and investors will remain with nothing. "Even if the USA takes the hit, there are other markets with various dynamics, and the flows of capital are global", he says.

However, many agree that potential impact may be far reaching. According to Andrea Pinkus, "The cause of the concern is their undulatory effect, or domino effect". Harvey Miller argues that substandard problems, growing unemployment, record high oil prices and problems on the CDS markets "have all the preconditions of a super storm". Some economists state that it may become another 1929-1930 crisis, though none of them is directed to the CDS. Regulators always take the lead on Wall Street. This may cost too much sometimes.

John Judids, senior editor of the New Republic magazine, reasonably noted that today economists know the principal defects of the global financial system. But they can't agree as to how to correct it. First of all, it is subject to mortgaging of securities and credit default swaps [17].

It must be noted that in October 2008, the above mentioned Alan Greenspan admitted that he was "partially" wrong when he protested against CDS regulation. "I believe that CDS have serious problems", he said at the US Congress hearings. That was said by the man who on June 30, 1998 stated that "Derivative transactions regulations, which are the subjects of private negotiations of professionals, are not necessary." [1].

On March 6, 2009, Myro Samuel Scholes, a coauthor of option evaluation model and the 1997 Nobel prize winner stated the end of derivatives market operation and the fact that they created problems for the going out of the financial crisis. He said that “The solution of this problem will either inflate or burn over-the-counter CDS market and structured commodities in the future.” International Swap Dealers Association (ISDA), a commodity derivatives group, rather gently expressed an opposite point of view, “your belief that you will be able to expand you business in such a way is misleading” [5].

In the context of development of the new financial order, many scholars, experts and regulators tend to transforming stock exchange rules onto over-the-counter CDS market, primarily setting distinct requirements of mortgage and providing information about the agreement content and making payments through clearing chambers which have a system of financial guarantees that the agreements will be kept to. However, it is not easy to do. The idea of introducing futures contracts and credit derivatives was offered long ago, but powerful investment banks

did their best not to allow it. Today, the idea has appeared to introduce regulation in this field through coordinated efforts of the G20 leaders.

### Conclusion

CDS is a powerful instrument of credit risk insurance, and it needs regulation from the government structures. As it was demonstrated above, unregulated CDS market may have catastrophic effects not only on banking sector but also to the economy as a whole, thus aggravating the crisis.

As for the Ukrainian market, we think that it is necessary to work out an intelligible legal model within the Ukrainian legislation, considering great differences between the continental and Anglo-Saxon legislations, provide a reliable infrastructure for such operations, the stock exchange structure first of all, and constant monitoring. Under such conditions CDS will successfully perform their role in reducing economic risks.

It is impossible to grasp all the prospects of future CDS application in one article, so the research must go on in this direction.

### References

1. Дзюблюк О.В. Організація грошово-кредитних відносин суспільства в умовах ринкового реформування економіки: Монографія. – Київ, 2000.
2. Примостка Л.О. Фінансові деривативи: аналітичні та облікові аспекти: Монографія. – К.: КНЕУ, 2001. – 263 с.
3. Примостка Л.О. Банківський менеджмент. Хеджування фінансових ризиків: Навчальний посібник. – К.: КНЕУ, 1998. – 108 с.
4. Сохаська О.М. Міжнародні ф'ючерсні ринки: теоретико-методологічні аспекти: Монографія. – Тернопіль: Карт-бланш, 2002. – 454 с.
5. Сохаська О.М. Ринок похідних фінансових інструментів: зарубіжний досвід та реалії України // Економічний часопис. – 1998. – №11-12. – С.17-23.
6. BIS Annual Report 2005 // Bank for International Settlements. 2006. – p. 12.
7. Charles Davi // Why Credit Default Swaps? 2009. – p. 16
8. Colin Barr. The truth about credit default swaps. Fortune. March 2009.
9. David Skeel // Icarus in the Boardroom: The Fundamental Flaws in Corporate America and Where They Came From, 2005. – p. 417.
10. Dodd R. Consequences of Liberalizing Derivatives Markets. Financial Policy Forum. Derivative Study Center, Washington, 2005. – p. 9.
11. Jannet Morissey. Credit default swaps: The next crisis. Time. May 2008.
12. Jannet Tavakoli // Credit Derivatives & Synthetic Structures: A Guide to instruments and Applications, 2008. – p. 48.
13. John Mooren // Credit Derivatives: Structures, technology and prospects, 2007. – p. 460.
14. Johnson S. N. Perspectives on risks to the global economy. Global Markets Institute at Goldman Sachs, NY. 2007. – pp. 5, 9.
15. Joseph Eugene Stiglitz // Making Globalization Work. 2006. – p. 482.
16. Laurie Goodman, Frank Fabozzi // Subprime Mortgage Credit Derivatives, 2008. – p. 74.
17. Noel Vaillant A Beginner's Guide to Credit Derivatives, 2008. – p. 32.
18. Nouriel Roubini // Bailouts or Bail-ins? Responding to Financial Crises in Emerging Economies, 2008. – p. 381.
19. Paul Robin Krugman // The Return of Depression Economics and the Crisis of 2008, – p. 315.
20. Philip J. Shonbucher // Credit Derivatives Pricing Models, 2008. – p. 85.
21. The McGraw – Hill companies Standard & Poor's. Credit default swaps (CDS), 2008. – p. 89.
22. Джон Джудис “Роковой изъян денежной системы” // Глобальная финансовая система: взгляд на кризис глазами шести экспертов – eJournal USA – электронный ресурс доступный 10 жовтня 2009 року – www.america.gov
23. Уильям Энгдаль “Финансовое цунами. Часть 4. Эндшпиль: создание нерегулированных частных денег” www.warandpeace.ru/exclusive/view/20778