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How do CDOs and CDSs influence the crisis of 2008

Martin BUFFET

Abstract

Everybody has heard about the “subprime” crisis but do we really know how it occurred and why this phenomenon had such an impact on our economies. One aspect of the answer to this question lies in the trade of credit default swaps (CDSs). These financial products led to less transparency in the markets and to a very collectively vulnerable financial system. This created a vicious circle that had not been anticipated by our financial regulators. In this paper, we will discuss how it occurred and what could have been done to avoid, or at least reduce, the impact of these products.

Introduction

The financial crisis that occurred in 2007 is not the result of a lack of power or lack of information from financial regulators. It is the result of bad policies that have been implemented and maintained by these regulators. This started when lenders were incited to issue mortgages to riskier borrowers after the US government created policies to facilitate American people housing. These policies, through the action of government-sponsored entities (such as Freddie Mac and Fannie Mae), were signaling that these entities would purchase mortgages with subprime characteristics. This has led to the multiplication of “subprime” mortgages, which were packed into collateralized debt obligations (CDOs) and then traded in the markets. This phenomenon was emphasized by the existence of credit default swaps, which led to less transparency and to a very vulnerable financial system. In this paper we will see what are credit default swaps and how it has influenced the spread of the financial distress.

Definition of CDO and CDS

First of all, what is a CDO? A collateralized debt obligation, also called CDO, is a structured financial product backed by a pool of assets that are essentially debt obligations. These assets can include mortgages, loans or bonds. The bank Drexel Burnham Lambert Inc., which doesn't exist anymore, issued the first CDO in 1987. Retail banks created CDOs because they were looking to sell it to investors in order to reduce their risks on the debt obligations they issued. The principal and interest payments made on the loans are redirected to the investors. The investors hedge against default thanks to the collateral, which also determines the CDO value. This is why these products are called “collateralized”.

In order to sell these packages of debt obligation; banks sliced CDOs into various risk levels, also called tranches. Senior tranches are the safest risk levels because they have the first claim on assets if some of the underlying loans default. On the other hand, junior tranches are the riskiest level. In order to attract investors and compensate the higher risk taken by investors, these tranches offer a higher level of interest.

Another financial market that became very important before the crisis is the credit default swap market. Blythe Masters, who works at JP Morgan bank, is the person who created the credit default swap, also called CDS. This financial product was created in 1994 and became rapidly popular across the industry, as it allows investors to avoid credit event consequences on risky investments. For example, people that were good to find profitable investments but not very aware about the management of risks let this part to experts, who are the CDS sellers. The general idea of CDS was to divide the load of work into different domains of expertise in order to allocate resources more efficiently.

Credit default swaps represent the transfer of the risk of default of fixed income products (bonds, loans, credit...) to an “insurer”, which corresponds to CDS sellers, in exchange for a certain premium. In other words, if someone buys a bond, there is always a probability that the issuer experiences a credit event, especially if the bond is a low rating by credit rating agencies. Therefore, the bond buyer can choose to pay a premium to an insurance company (CDS seller) in order to be sure that he will recover his principal at the bond maturity date or interest payments that would not have been paid during the time he held the bond. In most of the cases, the bond buyer will allocate a fraction of the interests he will receive from the issuer of the bond to buy this credit default swap.

Their role in the financial crisis of 2008

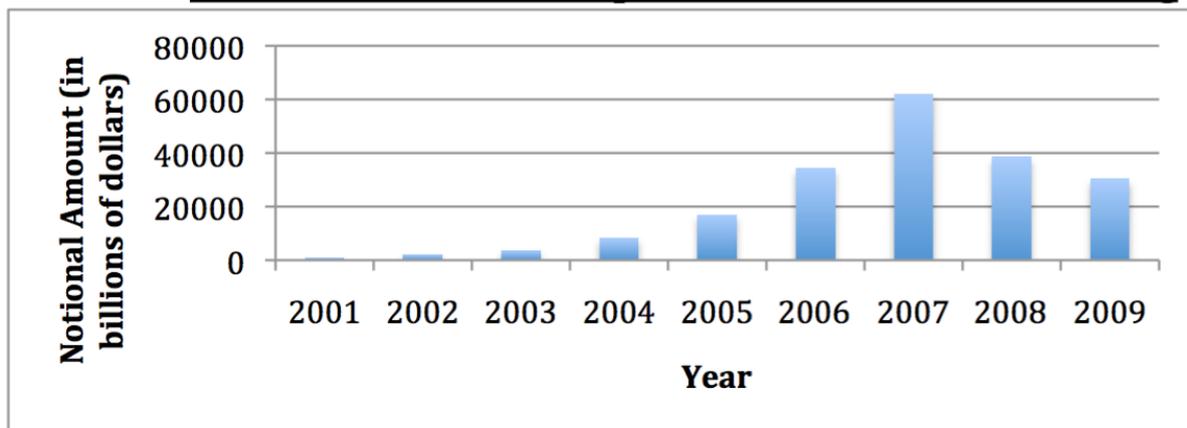
In order to have efficient financial markets, we need to establish efficient regulations. To do so, it is very important to have strong and efficient policy makers. Their role is to avoid financial distress, such as crises. Nobody can deny that they played an important role in the rising of the

crisis that happened in 2008. They knew what was happening and had the power to change it but instead of doing that they maintained and implemented inadequate policies, such as NRSRO or GSE policies. In this part, we will see how the evolution of CDS trade supporting by inadequate policies had extensive repercussions on the financial systems.

During the 1990s and early 2000s, most of the CDOs were backed by a diverse pool of loans, which limited the risk of default and gave the instrument a reputation for stability. However, around 2003, the housing boom allowed a large number of banks to use subprime mortgages as their main sources of collateral. With the popularity of CDOs increasing rapidly, home lenders received a continuous stream of cash. As the result, and because of bad policies implemented and maintained by regulators³, lenders expanded their offers of credits to riskier borrowers. Consequently, when the real estate market dropped and mortgage defaults started to rise, CDOs issuers and their investors suffered enormous losses⁴.

Moreover, the incredible growth of the CDS market in the few years before the crisis also aggravated the phenomenon. The value of the CDS market was about \$6 trillion in 2004 and boomed to over \$60 trillion at the end of 2007⁵. This can be explained by the new use of CDS not only to hedge but also to speculate on the performance of securities.

Total Credit Default Swap Notional Amounts Outstanding



Source: International Swaps and Derivatives Association, Inc.

The CDS played a major role in the spread of the financial crisis. The first impact they had on the crisis was to hide who was really bearing risks. Credit default swap transactions are not visible on the balance sheet of financial institutions. This implies that investors cannot accurately assess the real risks born by financial institutions. The lack of transparency affected the whole system and made it more vulnerable because of the decrease of trust in the counterparties. The best example of this is when the “subprime” crises occurred. When the subprime mortgage-backed securities (MBS) started to default, everybody was wondering about who were going to face the losses. This led to a shrink in counterparty trust, which led to the collapse of key financial markets. One key market that was affected was the interbank lending market. Banks were not willing to lend money to other banks as they did not really know if they were exposed to high risk or not. Therefore, banks were not able to borrow money to meet their liquidity needs and so were assessed as risky institutions. This was the beginning of a vicious circle...

³ Explained in the introduction, linked to Freddie Mac and Fannie Mae issue

⁴ This phenomenon was increased by the creation of synthetic CDOs

⁵ Figures from the International Swaps and Derivatives Associations

The second big impact that the spread of CDS had on the importance of the financial distress in 2008 is that they made CDS sellers become very connected and therefore exposed to the failure of the weakest ones. That is to say that if any CDS dealers fails it will affect the other ones because they are dealing credit default swaps to one another. The reason of such a collective vulnerability lies in the fact that most CDSs were traded over-the-counter (OTC). The problem linked to this way of trade is that investors cannot assess the riskiness of dealing with one particular dealer. In order to do so, they have to know at which level of risk this dealer is involved in its other contracts. Over-the-counter deals do not allow this. On the other hand, an exchange has the power and the duty to impose a reflection, through the securities prices, of risk-taking to its members.

Moreover, the conflict of interest created by the Nationally Recognized Statistical Rating Organizations (NRSRO) can also explain the importance of CDS in the financial markets. The incorrect ratings issued by the Credit Rating Agencies (CRA) made CDS sellers believe they were insuring credit events of financial products that had low probability of default. In other words, they believed that the risk of credit event of their global portfolio was lower than it was in reality. Their will to always make bigger profits incited them to multiply the sale of credit default swaps but without the concern of increasing their collateral in the same way.

Posted Collateral as Percentage of CDS Notional Amount Outstanding

Year	Collateral as Percentage of CDS Notional Amount Outstanding
2001	47.56%
2003	26.91%
2005	7.77%
2007	3.42%
2009	10.36%

Source: ISDA Margin Survey, 2010

Therefore, when the subprime crises occurred they had to repay more money to their clients than what they really possessed. And as we saw before, all the dealers were interconnected, so if one comes to default and cannot pay another one, it affected the entire system. This is why US regulators rescued AIG and Bear Stearns; their failure would have led to bigger damages for the entire system.

Conclusion

In conclusion, I would say that nobody could deny the strong influence that these financial products had on the outcome of the crisis. The use of these products associated with bad policies established by the regulators led the system to nearly collapse. We can propose solutions to avoid similar situations in the future. For example, CDSs should be mainly traded on the exchange and not over-the-counter in order to increase the transparency of the market. I think that the main policy to implement is to set strong capital requirements for investors in CDOs and CDSs in order to reduce the probability of a chain of defaults that would affect the entire system.

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