Econ-294: Money & Banking

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**FIRST DRAFT**

**Do CDS increase the rate of bankruptcy?**

**Introduction**

Credit Default Swaps (CDS) is an important financial contract that insures creditors against unwanted credit events, including rating downgrades, bankruptcy and loan defaults. The firm with loans underlying a CDS contract is called a reference firm. In the case of a credit event, a CDS buyer would get paid back the (defaulted) underlying loan from the seller of that CDS contract. For such protection, CDS buyers pay a predetermined amount of annual fee called CDS spread, a percentage of the loan face value underlying CDS contracts. Similar to any other kinds of insurance, a higher probability of default (PD) of the underlying loan corresponds to a higher CDS spread. The construction of CDS allows financial institutions to use them either as profitables investment or as credit-risk hedges.

Although the intended purposes of CDS is for financial institutions to invest or hedge against credit risks, CDS do not necessarily increase efficiency in the market as expected. In fact, three of the reasons why CDS could become an issue for related parties are lower level of monitoring, changes in borrower behaviors, and most importantly, the empty creditor problem. This paper will focus on the empty creditor problem to explain why CDS may increase the rate of bankruptcy and discourage more efficient loan restructuring, refinancing or renegotiation between buyers and sellers of CDS.

**Plot twist + Results + Summary of paper**

The remaining of this paper is structured as follows. Section 1 discusses the possible reasons why CDS may result in an increased rate of bankruptcy. **…………………... (the rest)**

1. **Reasons Why CDS May Increase the Rate of Bankruptcy**

CDS could increase the rate of bankruptcy of the underlying bonds because of changes in behaviors of the borrowers and/or the lenders. For borrowers, CDS provides the incentives for them to take riskier projects, which potentially leads to higher rate of bankruptcy. For lenders, the protection provided by CDS could potentially result in lower level of monitoring and empty creditor problem. Even though this paper focuses on the creditor problem, this section will discuss the reasons that CDS may increase the rate of bankruptcy from both the borrower and lender sides.

**1.1 Change In Borrower Behaviors**

According to Robicheck and Myers (1966), even with the tax benefits, firms are reluctant to structure their finance with debt. They reason that the pressure from the creditors and the cost/threat of bankruptcy discouraged borrowings. As discussed above, CDS mitigate such pressure from creditors thanks to lower level of monitoring, causing loan borrowers to take on more loans and riskier projects. Bolton (2012) also found that CDS referenced firms have higher debt leverage and longer maturity date. While a longer maturity date is desirable because it provides more resilience against a financial distress, a higher debt leverage also increase the risk of insolvency for these firms. This implies a potential higher rate of bankruptcy.

* 1. **Change in Lender Behaviors**

**1.2.1 Lower Level of Monitoring**

For financial institutions, loans constitute a huge fraction of their assets and income stream. In addition, financial institutions are highly leveraged. A decent amount of default on these institutions’ loans portfolios could impact their solvency. Thus, creditors devote a significant amount of resources to due diligence and monitoring of their investments to minimize default rates. This resolves the information asymmetry problem in the financial market. However, when credit exposures are hedged, creditors have less incentives to be as vigilant in their decision and monitoring process. The relaxation in the monitoring process means that banks are willing to make riskier loans, which results in higher rate of bankruptcy in their loans portfolio.

**1.2.2 Empty Creditor Problem**

Creditors of CDS have a tendency to over-insure above the efficient equilibrium, resulting in higher rates of bankruptcy (Bolton and Oehmke, 2010).

Empty creditors are ones that lose their interest in maintaining the loan efficiently, by renegotiation or reorganization if necessary, and may force inefficient liquidation or bankruptcy to their interest. Although it is not necessarily true that all CDS eventually give rise to empty creditors, this is a real and controversial problem in the CDS market.

Specifically, over-insurance threatens the consideration of loan restructuring, which is more efficient than forced bankruptcy. Due to over-insurance, creditors are harsher during restructuring and renegotiations. In such a case, creditors are usually able to obtain more benefit and debtors are less prompted to negotiate down their payment. Due to over-insurance, creditors may even refuse to renegotiate, leading to inefficient Chapter 11 bankruptcy.

Several terms aiming to eliminate empty creditors problem, such as mandating renegotiation in all CDS contracts, are in fact inefficient because they also reduce ex-ante positive commitment benefits for borrowers. Instead, to alleviate the problem of over-insurance, it is beneficial to consider using private optima that may differ from social optimum. Public disclosure of CDS positions is also a viable option. Under public disclosure, creditors can be discouraged from over-insurance and investors can get a better idea of how much creditors value renegotiation and restructuring (Bolton and Oehmke, 2010).

In summary, lower level of monitoring, changes in borrower behavior, and the empty creditor problem together may result in a situation where firms are riskier in borrowing and choosing projects, but more likely to declare bankruptcy when facing the threat of insolvency.

**1.2.3 Inspiration for Our Research Question**

As discussed above, when creditors do not have enough exposure to the credit risk because of CDS protection, the rate of bankruptcy increases for the underlying firms because of both the lower level of monitor and empty creditor problem. Naturally, an important question arises: do financial institutions over-insure their portfolios with CDS? We will be looking into empirical data to answer whether lenders hedge their portfolio to the extent that the problems discussed above arise and become significant.

1. **Past Research on the Empty Creditor Problem**

**2.1. Resulting Inefficiency in the Market**