



## Credit derivatives as a commitment device: Evidence from the cost of corporate debt



Gi H. Kim\*

Warwick Business School, University of Warwick, Coventry CV4 7AL, United Kingdom

### ARTICLE INFO

#### Article history:

Received 16 September 2015

Accepted 30 August 2016

Available online 13 September 2016

#### JEL classification:

G10

G13

G30

G33

#### Keywords:

Credit default swaps

Empty creditors

Cost of corporate debt

Corporate bond yields

### ABSTRACT

When a firm writes incomplete debt contracts, its limited ability to commit to not *strategically* default and renegotiate its debt requires the firm to pay higher yields to its creditors. Hedged by credit derivatives, creditors have stronger bargaining power in the case of debt renegotiation, which *ex-ante* demotivates the firm to default strategically. In this paper, I aim to investigate theoretically and empirically whether credit derivatives could help reduce the cost of debt contracting stemming from the possibility of strategic default. I find that firms with a priori high strategic default incentives experience a relatively large reduction in their corporate bond spreads after the introduction of credit default swaps (CDS) written on their debt. This result is robust to controlling for the endogeneity of CDS introduction. My finding is consistent with the presence of CDS reducing the strategic default-related cost of corporate debt, suggesting the beneficial role of credit derivatives as a commitment device for the borrower to repay the lender.

© 2016 Elsevier B.V. All rights reserved.

When a firm cannot credibly commit to repay its debt, its shareholders may have incentives to default strategically under the firm's financial distress. Strategic default could allow them to extract a substantial fraction of firm value from debt holders through debt renegotiation. Since the pioneering work by [Hart and Moore \(1994, 1998\)](#) and [Bolton and Scharfstein \(1990, 1996\)](#), the possibility of strategic default has been widely recognized to alter the relationship between shareholders and debt holders, which in turn affects the firm's optimal debt structure and debt valuation, among other things. It can reduce a firm's debt capacity by imposing the extra cost on its debt financing. In fact, it is well documented in the literature both theoretically and empirically that the threat of strategic default increases the cost of debt (e.g., [Fan and Sundaresan, 2000](#) and [Davydenko and Strebulaev, 2007](#)).

Credit default swap (CDS) could reduce the strategic default-related cost of debt by helping shareholders commit credibly to be less engaged in strategic default. CDS can strengthen debt holders' bargaining power in debt renegotiation upon a firm's default. Specifically, when debt holders are insured through CDS, they stand to lose less *after* the failure of renegotiation, and are therefore less forgiving *during* debt renegotiation.<sup>1</sup> The better bargaining

position enables debt holders to make fewer concessions to shareholders. As a result, shareholders are less incentivized to attempt to strategically renegotiate down the promised debt payments to their own advantage. The reduced threat of strategic default should then be reflected in the value of the firm's debt.

The goal of this paper is to investigate theoretically and empirically whether the presence of CDS contracts that are traded on the firm's debt relates to firms' strategic default incentives, which should be incorporated in the value of the firm's debt. More specifically, I argue and show theoretically that the presence of traded CDS should result into higher (lower) values (interest rate spreads) of the firm's debt by reducing the firm's likelihood of strategic default. (I refer to this effect of CDS as "commitment benefit of CDS".) Moreover, I examine empirically whether the firm's bond spreads are lower due to the reduced strategic default premium when a CDS contract starts trading on the firm's debt.

It is a challenging task to establish empirically the causal relationship between a firm's bond spreads and the onset of CDS trading, since the timing of CDS introduction for a given firm could be endogenous. For example, CDS trading may be initiated in

\* Fax: +44 24 7652 3779.

E-mail address: [Gi.Kim@wbs.ac.uk](mailto:Gi.Kim@wbs.ac.uk)

<sup>1</sup> This reasoning is valid only if debt renegotiation does not constitute a credit event that triggers the CDS payments. Even though many CDS contracts written

before 2009 included restructuring clauses in a contract, by which debt restructuring formally constitutes a credit event, *in practice* there is often significant uncertainty for creditors whether a particular restructuring qualifies. For example, debt restructuring in the U.S. corporate segment has never triggered a credit event, given the general disagreement about what constitutes a restructuring event.

anticipation of the deterioration in a firms' creditworthiness, which should act against finding a reduction (if any) in bond spreads with the introduction of CDS. To mitigate the endogeneity issue, I employ an identification strategy that is similar to a difference-in-differences framework. The basic idea is to sort firms on the basis of their strategic default incentives before the onset of CDS trading, and then examine how these firms behave differently with the introduction of CDS in terms of their bond spreads.

The intuition is that the commitment benefits of CDS should be larger for firms that face the severe problem of limited commitment in the absence of CDS, i.e., firms that are expected (by creditors) to be more likely to be engaged in strategic default in the event of a firm's financial distress. If CDS plays a role as a commitment device by reducing the strategic default-related cost of contracting, we should observe a larger reduction in the cost of debt for firms that would have suffered from the higher cost of strategic default in the absence of CDS. By exploiting the cross-sectional variation in strategic default incentives, my results could be less contaminated by the endogeneity in the timing of CDS introduction.

To convey the intuition more clearly, I present a theoretical framework by extending a stylized model of strategic debt service à la Fan and Sundaresan (2000) and Davydenko and Strebulaev (2007), among others. The model allows me to derive the relationship between the magnitude of reductions in the likelihood of strategic default (hence, increases in debt values) and three firm characteristics – referred to as “strategic variables”: (1) shareholder bargaining power, (2) liquidation costs, and (3) renegotiation frictions. In the model, CDS provides creditors with better outside options (i.e., the payment from CDS sellers that is presumably higher than the bond's post-default value) in their renegotiation with the firm's shareholders. The creditors' strengthened bargaining position due to the external options results in the lower payoffs of shareholders through debt renegotiation, and decreases the option value of strategic default ex-ante. The option value of strategic default falls most for firms whose shareholders would originally have high incentives for strategic default, such as firms with high shareholder bargaining power, high liquidation costs, or fewer renegotiation frictions. Therefore, the model predicts a positive relationship between the commitment benefits of CDS and shareholder bargaining power or liquidation costs, whereas they are negatively related to renegotiation frictions.

I test empirical predictions derived from the model using a (unbalanced) panel data set of 136 U.S. firms whose bonds are publicly traded, and for which CDS trading was initiated between 2001 and 2008. My empirical model, which is conducted in a firm-fixed and time-fixed OLS regression with an interaction term, essentially regresses the changes in a firm's bond spreads followed by the onset of CDS trading on its strategic variable *measured at the time of the onset of CDS trading*. I proxy for strategic variables with commonly used firm-specific variables in the literature, namely, the concentration of CEO equity ownership for shareholder bargaining power, asset intangibility for liquidation costs, and the dispersion of bondholders for the probability of renegotiation breakdown.

My empirical tests yield two main findings. First, while bond spreads are shown to increase for the average firm in my sample, which is consistent with the results of existing studies (e.g., Ashcraft and Santos, 2009), I find a relatively large reduction in spreads for firms with high strategic default incentives, such as (1) *high* shareholder bargaining power, (2) *high* liquidation costs, and (3) *low* renegotiation frictions. These results may suggest that the firms most vulnerable to the threat of strategic default in the absence of CDS would benefit from the presence of CDS through reductions in shareholders' incentives for strategic defaults, hence the bond spread.

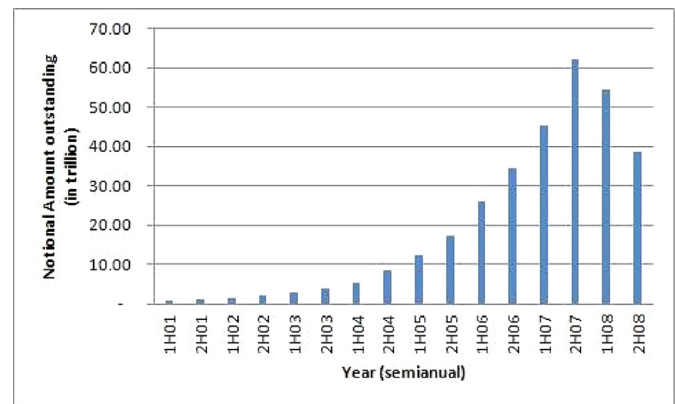


Fig. 1. Growth of the CDS markets. This figure displays the notional amount of outstanding CDS contracts in trillion dollars from 2001 to 2008, source: BIS.

Second, I show that these observed patterns between bond spreads and strategic incentives are more pronounced for the riskier firms in my sample. Specifically, when the sample of firms is divided into two sub-groups based on their credit rating at the time of CDS introduction, namely, AAA/AA/A or BBB, the effects of CDS are seen to be strong, especially for firms that belong to the subgroup with lower credit ratings. This result may be in line with the fact that debt holders' concerns about shareholders' strategic default would become more serious, hence the strategic default premium is higher in bond spreads when the firm is close to financial distress.

Robustness tests address three main potential concerns. The first is that my reasoning throughout the paper hinges on the assumption that creditors become *hedged* (so-called empty creditors) in the presence of traded CDS contracts.<sup>2</sup> This assumption may not hold if the majority of CDS trading consists of “naked CDS,” i.e., CDS purchasers are not creditors of the firm. To address this concern, I consider a subsample of firms that has a low ratio of the (notional) amount of CDS to the amount of a firm's total debt. By focusing on those firms with a reasonably low CDS amount, I could exclude from consideration firms with a vast amount of CDS (which is sometimes even larger than the amount of total debt), for which many CDS tradings might be done by speculators, not creditors.

The second concern is dealing with the endogeneity of strategic variables employed in the analysis. It could be argued that my strategic variable is a noisy proxy and so could be correlated with other firm characteristics than strategic default incentives *per se*. To mitigate this concern, I control for other relevant firm characteristics, such as risk, information transparency, and liquidity, which could be correlated with both my strategic variable and the CDS effect on bond spreads. In fact, these firm characteristics are studied in the literature as the potential factor relating to the impact of CDS with respect to bond spreads (e.g., Ashcraft and Santos, 2009; Oehmke and Zawadowski, 2014; 2015, among others).

The final concern is that the introduction of CDS may be endogenous, which could not be fully accounted for by my control variables in a regression framework. Based on the explosive growth of CDS markets over my sample period (as shown in Figs. 1 and 2), however, it seems that a technology (or financial innovation) shock might facilitate CDS trading. As the markets expand and become more liquid, the timing of CDS trading is likely

<sup>2</sup> This type of creditor was first dubbed “empty creditor” by some legal scholars (e.g., Hu and Black, 2008a,b) to refer to creditors that have obtained insurance (by purchasing the CDS contract) against the firm's default, and so cease to be concerned about whether the firm will fulfill their debt payment.

Download English Version:

<https://daneshyari.com/en/article/5088126>

Download Persian Version:

<https://daneshyari.com/article/5088126>

[Daneshyari.com](https://daneshyari.com)