Information in CDS spreads

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ABSTRACT

We investigate how public and private information affects corporate CDS spreads prior to rating announcements. First, CDS spreads of firms with high news intensity change significantly earlier and more strongly prior to negative rating announcements than those of firms with low news intensity. Second, the contents of daily corporate news significantly influence the direction in which the CDS spreads move. Third, CDS spreads change more strongly for firms with more bank relationships and days with no news but large abnormal CDS spread changes are more frequent prior to negative rating announcements than prior to positive ones. The study provides new evidence on the informational efficiency of the CDS market, the impact of credit rating announcements, and insider trading.

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1. Introduction

Credit derivatives, especially credit default swaps (CDS), have been considered as the most significant financial innovation of the past 20 years. The market has shown unprecedented growth in the period before the global financial crisis of 2007–2009 and has been resilient during the financial crisis. While there is abundant evidence on the efficiency of various securities markets, there is little direct evidence on the informational efficiency of the market for credit derivatives. In this paper we investigate how public and private information affects CDS spreads prior to credit rating announcements. We base the analysis on direct measures of public information derived from corporate news to provide evidence on the informational efficiency of the CDS market, the impact of credit rating announcements, and insider trading.

Investigating the impact of public and private information on CDS spreads is important for several reasons. Differently from stock markets there are only institutional traders in the CDS market (e.g., banks, insurance companies, hedge funds, and mutual funds). Corporate CDS trading has emerged from bilateral OTC trading through the phone to internet based trading platforms and it is predominantly driven by information about credit risk. The latter is available from various sources, such as corporate financial statements, credit ratings, and the continuous flow of corporate news. Credit rating announcements are key information events for traders in the CDS market (e.g., Hull, Predescu and White, 2004; Norden and Weber, 2004). Furthermore, private information might affect CDS spreads. Banks and other institutional investors frequently invest in large firms and trade in the CDS market at the same time, having access to private information about these firms through their screening, monitoring and advisory activities (Acharya and Johnson, 2007; Ivashina and Sun, 2011). Therefore, private information might influence the role that bankers take in the CDS market (e.g., British Banker’s Association, 2006; Minton, Williamson, and Stulz, 2009; Stulz, 2010; Bolton and Oehmke, 2011). There are also some real incidents of CDS insider trading. For example, in its first CDS insider trading investigation in 2009 the SEC charged a hedge fund manager and bond salesman with insider trading in CDS of VNU N.V., an international holding company that owns Nielsen Media.1 Moreover, the CDS market has hardly been subject to any regulation and the financial reporting of CDS trading follows minimum requirements for off-balance sheet items. As a reaction to the global financial crisis some institutional features of the CDS market have been modified (e.g., Stulz, 2010). Central counterparties were introduced, such as the Depository Trust and Clearing Corporation (DTCC) in the U.S., and the credit event definitions were narrowed.

and further standardized to facilitate netting and reduce counterparty risk.

Our study contributes to the research on the informational efficiency of the CDS in three ways. First, we investigate whether public information affects CDS spreads prior to rating announcements. Specifically, we consider news intensity as a direct measure of the extent of public information and hypothesize that CDS spread changes are stronger when news intensity is high. We do not claim that the firm-specific news intensity reflects all public information, but it is plausible that it is highly correlated with it. Second, we investigate whether the contents of daily corporate news influence the direction in which CDS spreads move prior to rating announcements. We hypothesize that more negative (positive) rating related news prior to negative (positive) rating announcements should gradually increase (decrease) firms’ CDS spreads. Third, we investigate whether private information affects CDS spreads prior to rating announcements. We analyze uncontaminated trading windows prior to rating announcements to detect days with significantly abnormal CDS spread changes and no or no related public information. A significantly higher fraction of these days in windows before rating events than in the full sample would be consistent with the presence of private information-based trading. Moreover, we consider firms’ number of major bank lenders in the market for syndicated loans as a proxy for private information because these banks have special access to private information and are the most important participants in the CDS market at the same time. If private information based trading occurs prior to the rating actions, we can infer that this information is incorporated only in the CDS spreads but not the rating actions. Such finding would explain why investors in the stock market have increasingly paid attention to CDS spreads rather than credit ratings, as shown by Chava, Ganduri, and Ornthanalai (2016).

We base the analysis on a large and international sample of frequently traded firms from the early years of the CDS trading, spanning the period from 2000 to 2006. We obtain the three main results. First, public information, measured by news intensity, significantly affects CDS spreads before rating announcements. Second, daily rating related corporate news from news wires significantly influence the run up of CDS spreads. Third, private information also affects CDS spreads before rating events. The anticipative CDS spread changes are more pronounced for firms with a high number of bank relationships, supporting the view that private information of these lenders spills over to markets through their CDS trading. Furthermore, there is a significant clustering of days with no (or no related) news but large abnormal CDS spread changes before negative rating events. Interestingly, the latter result is not found for positive rating announcements. Both findings together indicate that there is insider trading in the CDS market and that this insider trading is asymmetric. Our findings are consistent with Acharya and Johnson (2007) but obtained with different empirical methods. Overall, the evidence suggests that the CDS market quickly incorporates public information and that private information also influences CDS spreads. Several additional empirical checks confirm that the main results are robust and not the product of particular choices of samples, methods, or model specifications.

The remainder of this paper is organized as follows. In Section 2 we summarize related research and present our hypotheses. In Section 3 we describe the data and the empirical strategy. In Section 4 we examine the influence of public and private information on CDS spreads prior to rating events. In Section 5 we summarize results from further empirical checks and robustness tests. Section 6 concludes.

2. Related literature and hypotheses

2.1. Related literature

This study relates to the literature on informational efficiency of capital markets in general (Fama, 1970), and credit derivatives market in particular. We provide a brief summary of research on CDS that relates to credit rating announcements, insider trading, links with other markets, and bank lending behavior.3

First, there is evidence that the CDS market reacts significantly around rating announcements (e.g., Hull, Predescu, and White, 2004; Norden and Weber, 2004). CDS spreads display a significant reaction to rating downgrades and an even stronger response to announcements of reviews for downgrades, while there is no clear reaction prior to positive rating announcements. Most important in the context of our study, CDS spreads already move early and substantially prior to rating announcements. CDS spreads start changing approximately two to three months prior to negative rating events. These findings are robust and have been confirmed in subsequent studies (e.g., Galil and Soffer, 2011; Finnerty, Miller and Chen, 2013). However, these studies do not explain why CDS spreads change prior to rating announcements. Almost entirely missing is direct evidence on whether and how public and/or private information affects CDS spreads prior to rating announcements. This is the main topic of our study.

Second, CDS spread changes have significant predictive power for future stock returns, in particular prior to adverse changes to the credit quality of the firms (Acharya and Johnson, 2007). This effect is stronger for firms with a higher number of bank relationships and consistent with the presence of insider trading in the CDS market. For comparison, in our study we consider direct indicators of public information instead of taking the stock market as indirect benchmark for public information. This approach has an advantage when analyzing information events such as rating downgrades because the latter can be associated with positive or negative stock market reactions depending on the reason for the rating change (increase of leverage vs. decrease of profitability; Goh and Ederington, 1993). In contrast, the prediction for the impact of negative rating-related news on CDS spreads is unambiguous (Jorion and Zhang, 2007).

Third, there are studies that analyze the link between prices in the corporate CDS, bond, and stock market. These studies document that the CDS market leads the bond market and that the former contributes more to price discovery than the latter (e.g., Blanco, Brennan, and Marsh, 2005; Houweling and Vorst, 2005; Zhu, 2006; Norden and Weber, 2009). There is also evidence that lagged stock returns significantly explain contemporaneous CDS spread changes in firm-specific time-series analysis. Zhang, Zhou and Zhu (2009) construct high-frequency measures of volatility risk and jump risk using stock market data. These measures alone have already substantial explanatory power and can explain, after including credit ratings, macroeconomic variables, and firms’ financial statements, around 70% of the variation in CDS spreads. Callen, Livnat, and Segal (2009) provide evidence that CDS spread

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2 During this period the CDS market has developed rapidly and matured. The trading volume of U.S. commercial banks and trust companies increased from 302 billion dollars in Q1:2000 to 9,019 billion dollars in Q4:2006 (see Office of the Comptroller of the Currency, Bank Derivatives Reports). This growth slowed down during the financial crisis of 2007-2009 because of counterparty credit risk and restarted after the introduction of central clearing counterparties. We do not believe that institutional changes mentioned above influenced the effects we analyze here because CDS trading is still limited to institutional investors, news wires remain the key source of information for CDS traders, and corporate credit ratings remain to be important indicators of credit risk.

3 We focus on the segment of single name corporate CDS and do not summarize research on sovereign CDS.
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