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The impact of credit rating announcements on credit default swap spreads

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ABSTRACT

We document the ability of the credit default swap (CDS) market to anticipate favorable as well as unfavorable credit rating change (RC) announcements based on more extensive samples of credit rating events and CDS spreads than previous studies. We obtain four new results. In contrast to prior published studies, we find that corporate RC upgrades do have a significant impact on CDS spreads even though they are still not as well anticipated as downgrades. Second, CreditWatch (CW) and Outlook (OL) announcements, after controlling for prior credit rating events, lead to significant CARs at the time positive CW and OL credit rating events are announced. Third, we extend prior results by showing that changes in CDS spreads for non-investment-grade credits contain information useful for estimating the probability of negative credit rating events. Fourth, we find that the CDS spread impact of upgrades but not downgrades is magnified during recessions and that upgrades and downgrades also differ as to the impact of simultaneous CW/OL announcements, investment-grade/speculative-grade crossovers, current credit rating, market volatility, and industry effects.

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1. Introduction

An extensive literature has investigated the relationship between changes in borrower credit quality, the rating agencies' release of information concerning a potential or actual credit rating change (RC), and the timing of changes in securities prices in anticipation of, or in response to, actual credit rating events. This literature addresses four main issues. How do stock and bond prices, and more recently credit default swap (CDS) spreads, react to credit rating events, and is there a systematic difference between each market sector's reaction to downgrade and upgrade announcements? Second, to what extent do investors in these market sectors detect significant changes in credit quality in advance of credit rating events, and which market sector appears most prescient in anticipating RC announcements? Third, what is the relative information content of announcements of additions to rating agency watch lists and actual RC announcements? Fourth, are there differences in how each market sector reacts to credit rating events

involving investment-grade borrowers, non-investment-grade borrowers (including as a special case non-investment-grade sovereign borrowers), and borrowers experiencing credit rating announcements crossing over the investment-grade/non-investment-grade boundary?

This paper contributes to the growing literature concerning the linkages between CDS spreads and rating agency credit announcements. We present four new results based on more extensive samples of credit rating events and CDS spreads than previous studies. We find that positive corporate credit rating events have a statistically significant impact on CDS spreads, which contradicts prior published findings. Second, we investigate the differential impact of the different types of credit rating alerts that the rating agencies, and in particular Standard & Poor's (S&P), issue. We find that S&P's CreditWatch (CW) and Outlook (OL) credit warnings, after controlling for prior credit rating events, are associated with significant cumulative abnormal returns (CARs) at the time of the announcement for both positive and negative credit rating events. These results contradict prior findings that positive and negative CW and OL credit rating events result in insignificant announcement date CARs, which had led researchers to conclude that the CDS market fully anticipates such events. Third, we extend Hull et al. (2004) finding that changes in CDS spreads contain information that is useful for estimating the probability of negative credit rating events for investment-grade credits by showing that they are also useful for estimating the same probability for non-investment-grade

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credits. However, we find that they do not contain sufficient information to be useful for estimating the probability of positive credit rating events. Fourth, we find that the CDS spread impact of upgrades but not downgrades is magnified during recessions and that upgrades and downgrades also differ as to the effects of simultaneous CW/OL announcements, crossing over the investment-grade/speculative-grade boundary, current credit rating, market volatility, and industry effects.

Several studies have documented the negative impact of RC downgrades on stock and bond prices (Griffin and Sanvicente, 1982; Hand et al., 1992; Goh and Ederington, 1993; Hite and Warga, 1997; Dichev and Piotroski, 2001; Steiner and Heinke, 2001; Vassalou and Xing, 2005; Cantor, 2004; Norden and Weber, 2004; Gande and Parsley, 2005; Behr and Güttler, 2008; Bannier and Hirsch, 2010; Jorion and Zhang, 2010; and Chung et al., 2012).¹ Barron et al. (1997) and Choy et al. (2006) make similar findings regarding foreign company stock price reactions.

In contrast to downgrades, previous research finds either an insignificant or at most a weak market reaction to RC upgrades (Griffin and Sanvicente, 1982; Hand et al., 1992; Hite and Warga, 1997; Dichev and Piotroski, 2001; Steiner and Heinke, 2001; Cantor, 2004; Norden and Weber, 2004; Gande and Parsley, 2005; Vassalou and Xing, 2005; Behr and Güttler, 2008; and Bannier and Hirsch, 2010). However, Jorion et al. (2005) find a significant positive abnormal reaction following RC upgrades after SEC Regulation Fair Disclosure became effective October 23, 2000.

Because of intensive credit monitoring by bond investors and credit analysts, prior research suggests that downgrades are better anticipated than upgrades. While unanticipated downgrades have a significant negative impact on both bond and stock prices, there is also evidence that downgrades are largely anticipated because of the credit warnings the rating agencies publish. These warnings, which consist of CW and OL in the case of S&P, signal a change in credit quality significant enough that it might trigger an RC.² As a result, the subsequent downgrade announcement, in general, is found to have an insignificant impact on bond prices.

Hand et al. (1992) is the first paper to investigate the impact of credit warnings. Testing both stock and bond data, they find that additions to S&P's CW list between 1981 and 1983 elicited significant abnormal returns. However, they do not control for market expectations, as we do by controlling in our regressions for previous RC, CW, and OL announcements. Bannier and Hirsch (2010) find that the stock market reacts more strongly to unexpected RC downgrades than to CW-preceded downgrades and that the difference in reaction is statistically significant.

Which market sector is the most prescient in reacting to changes in credit quality received relatively little attention in the literature until recently. Norden and Weber (2004, 2009) find that the stock market leads the bond and CDS markets. More recently, Forte and Peña (2009) employ a vector error correction model to compare changes in stock market implied credit spreads, changes in bond spreads, and changes in CDS spreads. They find that stocks lead CDS and bonds more frequently than vice versa and that CDS lead bonds more frequently than vice versa in reacting to changes in credit quality.

Prior studies show that the impact of an RC depends on the pre-event rating. Hite and Warga (1997) find that bond prices and Goh

and Ederington (1999) find that stock prices react more strongly to downgrades within the speculative-grade segment and to cross-overs into the speculative-grade segment than to downgrades within the investment-grade segment. Interestingly, they find no significant difference in reaction between single-notch and multi-notch downgrades. Hand et al. (1992) find that the average excess bond returns associated with downgrades are greater for non-investment-grade bonds than for investment-grade bonds. However, Bannier and Hirsch (2010) find no significant negative bond market reaction when fallen angels cross the investment-grade/non-investment-grade boundary upon being downgraded, which suggests that these downgrades are anticipated. Chung et al. (2012) provide evidence that credit watch announcements deliver significant information to the stock market. They also find that abnormal stock returns in the 3-day window around credit watch listing are related to the total assets of the firm and the duration of the credit watch listing.

More recently, several studies investigate the reaction of CDS spreads to credit rating events. CDS contracts represent a pure form of default insurance; the CDS spread for a firm is the cost per year to buy protection against that firm defaulting on its debt. Hence, credit market participants view CDS spreads as an unambiguous reflection of the default risk of the firm. It is reasonable to expect that if an RC conveys useful information, its impact should be more evident on CDS spreads than bond yield spreads because the latter are affected by a variety of other factors, such as call risk. The differential bond market reaction to downgrades and upgrades suggests that bond investors and credit analysts monitor deteriorating credits more intensively than improving credits. This focus on potential downgrades is reasonable because of the asymmetry in credit spreads between adjacent rating classifications. Bonds exhibit negative credit spread convexity: a one-notch reduction in credit rating has a greater impact on bond price than a one-notch improvement because credit spreads progressively widen as credit ratings decline.

Hull et al. (2004) use a CDS transaction dataset³ compiled by a major CDS dealer for the period between October 1, 1998 and May 24, 2002 to examine the impact of Moody's RC, Review for Downgrade or Upgrade,⁴ and OL announcements on investment-grade CDS spreads. Their sample excludes non-investment-grade debt and crossovers. They find that the CDS market reacts asymmetrically: significantly (insignificantly) in anticipation of all three types of negative (positive) credit rating events, which is consistent with the reaction of bond prices found in earlier studies. They acknowledge that the lack of a significant response to positive credit rating events may be due to their small credit rating event sample. They also find that the largest CDS spread change occurs in the window extending from 30 days to 1 day prior to the credit rating event. This reaction is more significant prior to Review for Downgrade and OL announcements than prior to RC downgrade announcements. The CDS market's reaction to the actual credit rating event announcement is statistically significant in all rating categories only for the Review for Downgrade event. For the BBB rating group, CDS spreads start to widen significantly up to 90 days prior to the downgrade announcement, which is consistent with the greater impact of downgrades in the lowest investment-grade category. They also find that the RC downgrade announcement date and the post-announcement period exhibit no significant CDS spread changes, which implies that CDS spreads have already fully anticipated the

¹ Katz (1974) provided one of the earliest studies, which found no anticipation of downgrades in investment-grade electric utility bond prices but abnormal performance after the RC. Gonzales et al. (2004) furnish an excellent review of the impact of RC announcements.

² S&P's "CreditWatch" is similar to Moody's "Watchlist" (containing lists of ratings under Review for Downgrade or Review for Upgrade) and to Fitch's "RatingAlert." These designations signal a very high probability that the credit rating will be downgraded or upgraded. The rating agencies use Outlook to forewarn investors concerning possible changes in creditworthiness.

³ Unlike matrix prices, each quote in the data set is an actual quote (bid or ask) posted by a securities dealer.

⁴ Moody's Review for Downgrade or Upgrade is similar to S&P's CW (CreditWatch). Both lists warn fixed income investors that deterioration (improvement) in the credit quality of the issuer has occurred and a credit rating downgrade (upgrade) may be imminent.

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