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What drives corporate default risk premia? Evidence from the CDS market☆

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ABSTRACT

This article studies the economic factors behind corporate default risk premia in Europe during the period 2006–2010. We employ information embedded in Credit Default Swap (CDS) contracts to quantify expected excess returns from the underlying bonds in market-wide default circumstances. We disentangle the compensation to investors for unexpected changes in the creditworthiness of the bond issuer from their remuneration for the risk that the bond's price will drop in the event of default. Our results show that the risk premia associated with systematic factors influencing default arrivals represent approximately 40% of total CDS spread (on median). These premia also exhibit a strong source of commonality; a single principal component explains approximately 88% of their joint variability. This factor significantly covaries with aggregate illiquidity and sovereign risk variables. Empirical evidence suggests a public-to-private risk transfer between sovereign credit spread and corporate risk premia. Finally, the compensation

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in the event of default is approximately 14 basis points of the total CDS spread, and a significant amount of jump-at-default risk may not be diversifiable.

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1. Introduction

What are the main drivers of corporate default risk premia? Do they change during periods of financial distress? Do investors care about factors such as sovereign risk or aggregate illiquidity when pricing the excess return of corporate bonds? These questions are of paramount importance in the scenario in which market-wide defaults and liquidity restrictions have significantly raised corporate and sovereign borrowing costs. Several answers have been provided from the sovereign side (Longstaff et al., 2011), but a comprehensive analysis of the corporate risk premium and the nature of its relationship with the public sector has not yet been performed.

This paper analyzes the macroeconomic factors behind the corporate default risk premium. Our objective is to examine what are the sources of excess expected return, instead of studying the determinants of credit spread changes (e.g. Collin-Dufresne et al., 2001). As opposed to previous analyses on corporate credit spreads, we focus on the default risk premium embedded in such spreads. We employ information in Credit Default Swap (CDS) prices in an innovative manner to learn how investors assess the risk of changes in corporate bond returns under widespread default circumstances. Consistent with Longstaff et al. (2011) in the case of sovereign default risk, our approach relies on the information content of corporate default swaps to obtain fairer estimates of credit spreads instead of bonds, which are usually traded in frictional markets. Our analysis disentangles the compensation for those future changes in the creditworthiness of the bond issuer that might vary from expectations (Pan and Singleton, 2008) – the *distress* risk premium – from the remuneration for the surprise jump in the bond price at the event of default – the *jump-at-default* premium.[2] In this way, we explore common factors across firms that might affect those premia and which portion of this co-movement is attributable to macro-financial variables. Additionally, we stress the link between corporate and sovereign default risks, quantifying the effect of shocks in sovereign risk on corporate risk premia. To this end, an analysis of the European debt crisis during the period 2006–2010 would provide a unique position to observe the possible risk channels between public and corporate sectors.[3] To our knowledge, this is the first article drawing a complete picture of the default risk premia in European firms while searching the main drivers of these premia.

Our empirical findings contribute to the existing literature in several ways. First, our results show that compensation for changes in the default environment accounts for approximately 40% of total CDS spreads (on median). Moreover, a strong source of commonality among European distress risk premia is revealed by a principal component (PC) analysis showing that one factor explains approximately 88% of their joint variability. When examining the loading coefficients, this first PC represents an equally weighted contribution of firms and is interpreted as an aggregate level of distress risk premium. Notably, we find positive and significant beta coefficients when projecting this PC onto aggregate illiquidity and sovereign risk variables. The adjusted-R^2 coefficients of the regressions are close to 70% for the entire period, rising to approximately 75% after the Lehman's bankruptcy in September 2008. These results suggest that aggregate illiquidity and sovereign risk may act as pricing factors of European corporate CDS. Along these lines, recent articles focus on the importance of liquidity in credit markets (Bongaerts et al., 2011; Acharya et al., 2013), but there is not much evidence on the study of sovereign risk and its relevance in the credit derivative pricing and risk management.

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[2] Jump-at-default risk premium (Pan and Singleton, 2006) is indistinctly named default event (Driessen, 2005), credit event (Collin-Dufresne et al., 2010) or jump-at-event (Longstaff et al., 2011) premium. For purposes of clarification, we reserve the term default risk premium to indicate the entire compensation for default embedded in credit spreads. As discussed in Section 2.1, our default risk premium is the sum of distress plus jump-at-default premia.

[3] Europe comprises a significant share of the global CDS market in terms of geographical focus of products – approximately 40% of CDS index products are based on European entities –, market share of dealers – 66% and 50% of the dealers contributing to calculation of the iTraxx Europe indices and the CDX indices are domiciled in Europe, respectively –, and currency denomination – approximately 39% of CDS are denominated in Euros (ECB, 2009).

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