Credit ratings and the cross-section of stock returns

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Abstract

Low credit risk firms realize higher returns than high credit risk firms. This is puzzling because investors seem to pay a premium for bearing credit risk. The credit risk effect manifests itself due to the poor performance of low-rated stocks (which account for 4.2% of total market capitalization) during periods of financial distress. Around rating downgrades, low-rated firms experience considerable negative returns amid strong institutional selling, whereas returns do not differ across credit risk groups in stable or improving credit conditions. The evidence for the credit risk effect points towards mispricing generated by retail investors and sustained by illiquidity and short sell constraints.
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0. Introduction

It is a fundamental principle of financial economics that higher-risk assets should command higher expected returns. This risk–return tradeoff underlies the conceptual

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framework of asset pricing and investment decisions in efficient markets. Empirically, however, Dichev (1998), Griffin and Lemmon (2002), and Campbell et al. (2008), among others, demonstrate a *negative* cross-sectional correlation between credit risk and future stock returns. This negative credit risk–return relation seems to be an anomalous pattern in the cross-section of stock returns because it suggests that investors pay a premium for bearing credit risk.[1] In this paper, we identify the conditions that give rise to the negative relation between credit risk and returns. This new evidence helps us to distinguish between the potential explanations of the puzzle.

We first confirm the significance of the credit risk effect over the period from October 1985 to December 2007 using a sample of 4,953 NYSE, AMEX, and NASDAQ firms rated by Standard & Poor's. Specifically, the return differential between the highest- and lowest-rated decile portfolio is 1.09% (3.33%) over a 1-month (year) period after the portfolio formation date. The negative relation between credit risk and returns is also confirmed in Fama and MacBeth (1973) cross-sectional regressions of monthly individual stock returns on credit rating. We use the Capital Asset Pricing Model (CAPM) of Sharpe (1964) and Lintner (1965), the Fama and French (1993) three-factor model and the Fama and French (1993) three-factor model augmented by a momentum factor, as well as the characteristic-based model of Daniel et al. (1997) to demonstrate that the credit risk effect is robust to adjustments for risk factors, as well as firm characteristics.

Analyzing the credit risk puzzle, recent research by Campbell et al. (2008) shows evidence that the "distress effect" is stronger among small, illiquid stocks. Moreover, Dichev and Piotroski (2001) show that low credit quality firms perform poorly after downgrades, which they attribute to market underreaction. Griffin and Lemmon (2002) find that poorly performing high credit risk firms also have low book-to-market ratios, suggesting that they may be mispriced. Garlappi et al. (2008), on the other hand, do not find the negative credit risk–return relation anomalous. They argue that, due to violations of the absolute priority rule for claimants at bankruptcy, distressed stocks have lower betas and, therefore, command lower returns.

The contribution of this paper is to show that the credit risk effect is concentrated in the worst-rated stocks around downgrades. That is, we isolate the effect much further, and identify a narrow set of circumstances that drive the credit risk effect. In particular, the significant negative credit risk–return relation prevails only 3 months before and after credit rating downgrades and is attributable to the lowest-rated firms in financial distress. Around downgrades, low-rated firms experience sharply deteriorating firm fundamentals, as well as surprisingly poor price performance associated with the selling pressure by institutions who reduce their holdings by a third.

In contrast, the credit risk effect is statistically and economically non-existent during periods of stable or improving credit conditions, which capture more than 90% of the overall sample observations. From an economic perspective, trading strategies that are long low credit risk and short high credit risk stocks during non-downgrade periods provide economically small and statistically insignificant payoffs. Moreover, the credit rating is statistically and economically insignificant in cross-sectional regressions during non-downgrade periods.

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[1]We do not make an a priori assumption that credit risk should be priced. If it is systematic risk, investors should demand a positive premium for holding high credit risk stocks. If it is non-systematic, then there should be no return differential due to credit risk. In either case the negative credit risk–return relation is a puzzle.