Abstract

The thesis consists of three research papers on credit securitization and credit derivatives that can be read independently. Chapter 2 focuses on rating and pricing of collateralized debt obligations. Chapter 3 examines determinants of CDS liquidity, while Chapter 4 is about relative pricing between equities and CDSs.

Chapter 2 of the thesis is directly motivated by the financial crisis. It investigates the relation between credit ratings and fair premia of CDO tranches and it also analyzes the risks of CDOs. Our main finding is that the market-standard models predict CDO tranches to have much higher fair premia compared to similarly-rated corporate bonds implying that credit ratings are not sufficient for pricing, which is surprising given their central role in the structured finance markets. The explanation of this finding is that CDO tranches have much higher systematic risk than single-name instruments as losses on CDO tranches are concentrated in bad economic states. This can (partly) explain the very poor performance of CDO tranches during the recent crisis when even some of the previously AAA-rated tranches lost most of their value and were downgraded to junk within months. While the standard view is that the failure of CDOs was a result of insufficient or badly calibrated models used for assigning ratings to CDO tranches, we find that the essence of the problem lies with a fundamental difference between ratings and prices of these securities. The ratings are supposed to capture the real-world default probabilities, which for CDO tranches can indeed be low, but the market pricing of financial assets is based on risk-neutral probabilities that account for when the losses occur. The CDO tranches are instruments designed to take this difference to the limit and thus combine the highest credit ratings with the highest coupons possible. The downside is that such instruments carry greater risks because if they fail, they all fail at the same time. We also find that this effect is particularly strong for CDO-squareds, which are CDOs with a collateral pool comprised of other CDO tranches.

Chapter 3 investigates the determinants of the costs of trading in the corporate CDS market. The CDS market is well-standardized and thus offers a unique opportunity to investigate cross-sectional determinants of bid-ask spreads in an OTC credit market. We consider explanatory variables related to inventory costs and adverse selection costs following the broad equity literature on the costs of trading. We find that as much as 80% of variation in CDS bid-ask spreads is determined by proxies for dealer inventory costs such
as variability of CDS premia or CDS trading volume. We also find that reference entities with lower idiosyncratic risks and thus less prone to insider trading have lower CDS bid-ask spreads ceteris paribus. Furthermore, we demonstrate that liquidity of CDS contracts is not significantly hindered by increased market volatility or funding costs as well as by information asymmetry associated with periods preceding earnings announcements. The CDS market thus appears to be robust and functioning orderly, which gives a positive view of the current CDS market structure dominated by a group of G-14 dealers.

Chapter 4 examines risks and returns of capital structure arbitrage strategies that aim to profit from temporal mispricing between equity and credit default swaps (CDSs) of companies. We demonstrate that implementing a simple version of this strategy offers an attractive annualized return of 24.35% in the period from July 2010 to November 2012. We find that arbitrage returns are higher for lower rated companies and surprisingly they are also higher for more liquid companies with larger CDS trading volumes. This indicates that arbitrage profits are not merely driven by a lack of integration or synchronization of prices between these markets due to different levels of liquidity. In this chapter, we also demonstrate the importance of managing capital when implementing capital structure arbitrage because the number of open trades can cluster in time, which leads to large increases in capital needs. We find that an arbitrageur with insufficient capital would have to forgo the most profitable trading opportunities in our data period. Finally, we construct weekly return indices of capital structure arbitrage and we find that no more than 15% of the returns is explained by equity and bond risk factors, which suggests that capital structure arbitrage offers a different and potentially interesting risk-return exposure to investors.