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PRESS RELEASE

Determinants of Euro Term Structure of Credit Spreads

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In this paper, we investigate the determinants of credit spreads changes on Euro corporate bonds between 1997 and 2002. We examine whether the sensitivity of credit spread changes to financial and macroeconomic news depends on bond characteristics such as rating and maturity.

There are several reasons to investigate the dynamics of credit spreads on Euro corporate bonds. First, the Euro corporate bond market, which lags its US counterpart, has become broader and more liquid. The number and the market value of Euro corporate bonds have more than doubled over the last decade. Second, the credit derivatives market and the structured finance market, which includes collateralized debt obligations (CDO), have experienced considerable growth over the last two decades and are expected to grow strongly in the coming years. Some structured products such as collateralized bond obligations (CBO) are backed by a large pool of corporate bonds. This implies that the cash flows and the riskiness of the underlying bonds determine the profitability of these structured products. Third, according to the Basel II Accord, credit risk models can be used as a basis for calculating a bank's regulatory capital. To develop and use these models, one needs to make assumptions about what variables to include and the relation between these variables and credit risk. Finally, central bankers use credit spreads to assess (extract) default probabilities of firms and to assess the general functioning of financial markets. In addition, the credit spread is often used as a business cycle indicator. Having a better understanding of credit spreads will help central bankers to extract more precise information from bond prices/spreads.

First, we estimate the term structure of credit spreads for different rating categories by applying an extension of the Nelson-Siegel method. The data set consists of weekly observations of prices and yields on 1577 Euro corporate bonds and 260 AAA government bonds from January 1998 until December 2002. Then, we analyze the determinants of credit spread changes for different rating categories and a broad range of maturities. The conclusions based on the empirical results are as follows: According to the structural credit risk models, we find that changes in the level and the slope of the default-free term structure (term spread), the stock return, and implied volatility of the stock price, significantly influence credit spread changes. An increase in the level and the slope of the default-free term structure reduces credit spreads. High stock returns and low (implied) volatility significantly reduce credit spreads. Furthermore, we find that liquidity risk causes credit spreads to widen. Finally, we find evidence for mean reversion of credit spreads for all ratings and maturities.

An important conclusion that can be drawn from the empirical analysis is that the effect of financial and macroeconomic news significantly depends on bond characteristics, especially the rating and to a lesser extent the maturity. Bonds with a lower rating are often more affected by financial and macroeconomic news. The maturity of the bond mainly influences the relation between financial and macroeconomic news and credit spread changes on higher rated bonds (AAA and AA).

Our models explain on average 22% of the variation in credit spreads. This is comparable with the results of Collin-Dufresne et al. (2001) for US corporate bonds. Although the US and the Euro corporate bond markets differ significantly in terms of market value and number of bonds, empirical results for bond markets in both regions are very similar, that is, the impact of financial and macroeconomic news on credit spread changes is comparable.