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A Regional Analysis on Co-movement of Sovereign Credit Risk and Interbank Risks

Authors : Mehdi Janbaz

Abstract : The global financial crisis and the credit crunch that followed magnified the importance of credit risk management and its crucial role in the stability of all financial sectors and the whole of the system. Many believe that risks faced by the sovereign sector are highly interconnected with banking risks and most likely to trigger and reinforce each other. This study aims to examine (1) the impact of banking and interbank risk factors on the sovereign credit risk of Eurozone, and (2) how the EU Credit Default Swaps spreads dynamics are affected by the Crude Oil price fluctuations. The hypothesizes are tested by employing fitting risk measures and through a four-staged linear modeling approach. The sovereign senior 5-year Credit Default Swap spreads are used as a core measure of the credit risk. The monthly time-series data of the variables used in the study are gathered from the DataStream database for a period of 2008-2019. First, a linear model test the impact of regional macroeconomic and market-based factors (STOXX, VSTOXX, Oil, Sovereign Debt, and Slope) on the CDS spreads dynamics. Second, the bank-specific factors, including LIBOR-OIS spread (the difference between the Euro 3-month LIBOR rate and Euro 3-month overnight index swap rates) and Euribor, are added to the most significant factors of the previous model. Third, the global financial factors including EURO to USD Foreign Exchange Volatility, TED spread (the difference between 3-month T-bill and the 3-month LIBOR rate based in US dollars), and Chicago Board Options Exchange (CBOE) Crude Oil Volatility Index are added to the major significant factors of the first two models. Finally, a model is generated by a combination of the major factor of each variable set in addition to the crisis dummy. The findings show that (1) the explanatory power of LIBOR-OIS on the sovereign CDS spread of Eurozone is very significant, and (2) there is a meaningful adverse co-movement between the Crude Oil price and CDS price of Eurozone. Surprisingly, adding TED spread (the difference between the three-month Treasury bill and the three-month LIBOR based in US dollars.) to the analysis and beside the LIBOR-OIS spread (the difference between the Euro 3M LIBOR and Euro 3M OIS) in third and fourth models has been increased the predicting power of LIBOR-OIS. Based on the results, LIBOR-OIS, Stoxx, TED spread, Slope, Oil price, OVX, FX volatility, and Euribor are the determinants of CDS spreads dynamics in Eurozone. Moreover, the positive impact of the crisis period on the creditworthiness of the Eurozone is meaningful.

Keywords : CDS, crude oil, interbank risk, LIBOR-OIS, OVX, sovereign credit risk, TED
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