Systemic Risk in the Italian Banking Sector

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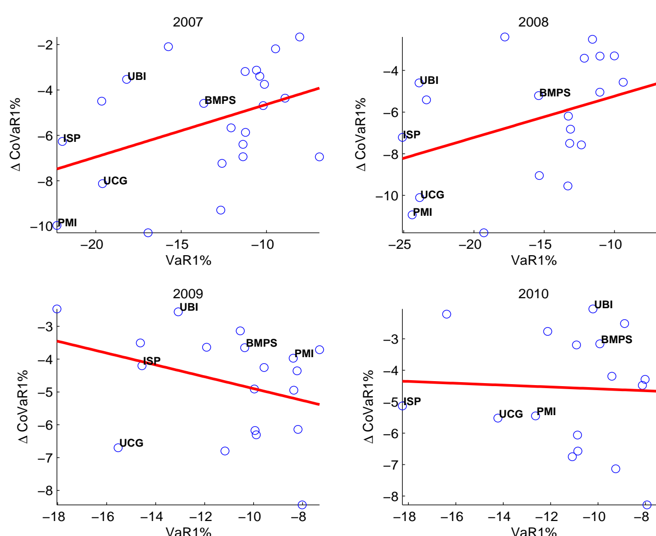
Long abstract

Systemic risk is the risk of a collapse of the entire financial system, typically triggered by the default of one, or more, large and interconnected financial institutions. In this paper we estimate the systemic risk contribution of each financial institution for Italian listed banks. Starting from our previous work "Sistemic Risk in the European Banking Sector"[1], we first compute the unconditional VaR and *ΔCoVaR* of each bank as proposed by Adrian and Brunnermeier (2011).
In Figure 1 we plot the yearly averages of the two measures of risk around the financial crisis (2007-2010): The positive relationship between Var and *ΔCoVaR* decreases over time and is close to zero in 2010, when the sovereign crisis hit the Eurozone more deeply.

Figure 1: VaR vs ΔCoVaR around the Financial Crisis



Notes: The scatter plots show the relationship between average annual VaR(1%), on the horizontal axis, and ΔCoVaR(1%), on the vertical axis, for a sample of Italian banks in the period 2007-2010. The VaR and ΔCoVaR are in units of weekly percent returns to total market-valued financial assets. For the five largest banks we also report their ticker symbol: Unicredit Group (UCG), IntesaSanPaolo (ISP), Banca Monte dei Paschi (BMPS), Banca Popolare di Milano (PMI) and UBI Banca (UBI).

[1] XVII Rapporto sul sistema finanziario - Fondazione Rosselli, 2012

Then, we investigate which variables are good predictors of systemic risk at the individual bank level. We estimate a pooled regression where the dependent variable is the weekly $\Delta CoVaR$ for each bank at the end of each year in the sample 2000-2010. We consider a set of regressors that includes banks' characteristics and other market or industry factors. In particular, we collect variables to account for i) banks' balance sheet; ii) governance structure; iii) market-related characteristics; and iv) risk characteristics.

Preliminary results show that balance sheet variables are very weak predictors of banks' contribution to systemic risk, if compared to market based variables suggesting that measures of risk based on higher frequency market prices are more likely to anticipate systemic risk.