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PRESS RELEASE

A macro-financial analysis of the euro area sovereign bond market
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The start of the third stage of the European Economic and Monetary Union in 1999 led to an unprecedented convergence of government bond yields in the euro area countries, with the remaining differentials mainly attributed to differences in credit and liquidity risks between individual nations. Nevertheless, the surge in bond spreads, particularly since 2011, has raised questions about the underlying drivers behind such dynamics. In this paper, we estimate the fundamental component of euro area sovereign bond spreads, that is, the part justified by country-specific economic factors, euro area economic fundamentals, and international influences. The remaining (non-fundamental) part incorporates liquidity and political uncertainty effects, in addition to other common factors which might be proxying for redenomination risk, referring to the possibility of at least one country abandoning the euro area. The yield spread decomposition is achieved by extending the approach proposed by Joslin, Singleton, and Zhu (2011) to a multi-market setting and introducing a set of unspanned macro factors, as in Joslin, Priebsch, and Singleton (2013).

The proposed model is part of the multi-issuer, no-arbitrage, affine term structure model literature and differs from existing papers on at least two points. First, we attempt to determine the fundamental component of bond spreads by using a relatively large set of observable macroeconomic factors. Second, we adopt a relatively flexible and simple methodology that overcomes most of the drawbacks related to existing affine term structure models. One of these shortcomings is the fact that the standard formulation implies that the macroeconomic risk factors are spanned by – i.e. can be expressed as a linear combination of – bond yields. Yet this spanning condition is overwhelmingly rejected by standard regression analysis, which shows that there is no perfect linear relation between yields and macroeconomic variables.

We apply the model to yield curve data from Belgium, France, Germany, Italy, and Spain over the period 2005-2013. We estimate separately five dual-market models in which the Overnight Index Swap (OIS) rate is used as the reference rate, i.e. it serves as our benchmark market. We use four spanned pricing factors computed as linear combinations of yields. Two of these factors are used to fit the OIS yield curve and the other two to fit the country's bond yield differentials. In order to determine the effect of specific macroeconomic and financial variables in the dynamics of bond spreads, we estimate a vector autoregressive model combining the spanned factors with nine unspanned factors. Five of them represent country-specific fundamental factors, euro area economic measures, and other international influences. The other four factors capture the non-fundamental component of the sovereign spread, such as liquidity premia, political uncertainty, and common dynamics in the euro area sovereign bond spreads.

We find that both economic and non-fundamental risk factors are important sources of variation in bond yield spreads. Non-fundamental risk shocks are the main source of variation in bond spreads for high frequency developments (up to a one-month horizon). Although the influence of the non-fundamental shocks declines for lower-frequency dynamics of the yield (e.g. yearly) spreads, such shocks are responsible for at least 20% of the bond spread variation for any maturity and frequency in the case of all countries. Shocks to economic fundamentals, on the other hand, gain in importance as the forecast horizon increases, i.e. for lower-frequency developments. Finally, a historical decomposition of bond yield spreads shows that, overall, economic fundamentals have remained the dominant drivers behind yield differentials. However, non-fundamental risk shocks have had a significant impact on bond spreads, and especially since September 2011.

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