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Identifying risks in emerging market sovereign and corporate bond spreads

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ABSTRACT

This paper investigates the systematic risk factors driving emerging market (EM) credit risk by jointly modeling sovereign and corporate credit spreads at a global level. We use a multi-regional Bayesian panel VAR model, with time-varying betas and multivariate stochastic volatility. This model allows us to decompose credit spreads and build indicators of EM risks. A key result is that indices of EM sovereign and corporate credit spreads differ because of their specific reactions to global risks (risk aversion, liquidity and US corporate risk). For example, following Lehman's default, EM sovereign spreads 'decoupled' from the US corporate market, whereas EM corporates 'recoupled.'

1. Introduction

In recent years, a large number of studies has looked at the emerging market (EM) asset class with a particular focus on sovereign debt (Longstaff et al., 2011, among others[1]). Consequently, our understanding of sovereign EM credit risk has improved significantly. More recently, however, corporate bonds have become an important member of the EM asset class. In fact, both the issuance and the stock of external debt of EM corporates exceed those of EM governments as of 2013. A number of reasons can explain this rapid growth of the EM corporate market, such as: (i) the good quality of the average issuer's balance sheet, as reflected in low debt and leverage levels, and high cash reserves, (ii) the high credit spread premium relative to similarly rated US companies, and (iii) the slowdown in EM sovereign issuance of dollar debt. The rise of the corporate market, however, brought with it new challenges for EM investors

[1] Eichengreen and Mody (2000), Zhang (2003), Maier and Vasishtha (2008), Pan and Singleton (2008), González-Rozada and Yeyati (2008), and Hilscher and Nosbusch (2010).

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as well as EM authorities. For example, this large scale issuance by EM non-bank corporations may pose severe risks for the stability of the domestic interbank market even if macroeconomic conditions do not deteriorate (Turner, 2014). Yet the nature of EM corporate risk remains largely unexplored in the academic literature. To fill this gap, in this study, we contrast the risks of EM corporate bonds with those of the more familiar sovereign bonds.

Specifically, we investigate the systematic risk factors driving EM credit risk by jointly modeling the dynamics sovereign and corporate credit spreads at a regional level. We test a number of alternative model specifications so that we can infer from the 'best model' what drives the divergences in sovereign and corporate spreads. We find that there is no need to include an EM corporate specific factor. What differentiates corporate from sovereign spreads is their exposure to global risk factors (VIX, US corporate default risk, and Overnight Index Swap-Treasury spread). We then use the 'best model' to decompose sovereign and corporate spreads into a number of credit indicators of systematic risk. Finally, through the lens of these indicators we investigate what drove the differing responses of sovereign and corporate spreads in EMEs during the crisis.

The 2007–09 crisis provides a valuable sample to assess the response of the EM asset class as a whole to EM ('pull') and global ('push') factors, as well as the specific reactions of sovereign and corporate bonds. As the credit crunch hit developed markets in the summer of 2007, the EM asset class proved initially to be resilient to the financial turmoil. This response to the crisis was in stark contrast with past episodes when EMs were rapidly and severely affected by adverse global financial developments. However, as the crisis developed, and intensified with the Lehman Brothers' default, the financial turmoil transmitted to a number of EMs. As of mid-October 2008 the three-month outflow from EM bond and equity funds reached $29.5 billion, the highest level since 1995 (Financial Times 2008). A wave of deleveraging from global banks in advanced economies was partly responsible for the rise of EM credit spreads (Cetorelli and Goldberg, 2011). But the crisis did not spread equally across regions, and sovereign and corporate securities displayed different behaviors.

Then, accommodative monetary policies in advanced economies, coupled with strong domestic fundamentals in selected emerging markets, led to strong cross-border portfolio flows to EMs with a consequent compression in the EM yields (OFR, 2013). However, in response to this favorable environment, local companies in a number of EMs have expanded their levels of debt and leverage (IMF, 2013), and as a result markets for EM debt have grown increasingly more sensitive to changes in US interest rates. This heightened sensitivity can partly explain the sell-off in EMs that begun in late May 2013 once US monetary conditions tightened. All of this suggests that EMs, and the corporate sector in particular, are increasingly connected to developed countries through a number of channels, including funding, foreign exchange, credit and growth channels (OFR, 2013) that are largely captured by our global risk factors.

1.1. Our model

This sequence of events demonstrates the need for our model to be sufficiently accurate to capture such complex dynamics. For instance, it is of paramount importance to look both at the cross-sectional and time-series dimension of EM bond spreads. To this end, in this study we jointly model EM sovereign and corporate bond spreads at a global level. We employ the multi-country panel VAR proposed by Canova and Ciccarelli (2009). Precisely, we estimate this model on daily regional indices of sovereign and corporate credit spreads, over the period from January 2004 to February 2009, in four regions: Latin America (LatAm hereafter), Europe, Asia and Middle East (Mideast hereafter).

This model allows us to emphasize structural time-variation, maintaining complex dynamics and interdependencies across regions and markets. The estimation is Bayesian, and the otherwise over-parameterized VAR is transformed into a parsimonious model, with a small number of loadings on certain linear combinations of right hand side variables (factors). Interestingly, this factorization conveys a clear economic interpretation to the systematic correlation structure, and implicitly decomposes credit spread changes into few credit indices. Ultimately, a basic specification could consist of common, variable (sovereign or corporate), regional and global factors. These indicators inform us on the evolution of EM credit risk, trading off the relative importance of each indicators over time.

In order to explore the correlation structure over cyclical fluctuations, and during episodes of financial turmoil, the coefficients (factor loadings) are time-varying. This is a crucial feature, because EM credit