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Do sovereign credit ratings influence regional stock and bond market interdependencies in emerging countries?

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We investigate the permanent and transitory effects of sovereign credit ratings on time-varying stock and bond market correlations with their respective regional markets for a sample of up to nineteen emerging countries over the period from 1 January 1994 to 1 July 2007. We find that stock and bond market co-movements within a region respond heterogeneously to sovereign ratings information. Sovereign ratings and outlooks tend to be positively related to regional stock market co-movements suggesting that there are positive rating spillover effects whereby upgrades provide common benefits for neighboring countries in the region, however downgrades would lead to investors shifting funds from the downgraded market into the surrounding region. In contrast, sovereign rating and outlooks tend to be negatively related to regional bond market co-movements suggesting the existence of contagion during periods of ratings and outlook downgrades (negative rating spillover effects). We find the negative influence is concentrated in the countries that have higher foreign currency debt ratings than the regional average.

1. Introduction

Throughout recent decades, sovereign credit ratings and their influential roles in both encouraging and potentially destabilizing investment flows into emerging markets have amassed considerable

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interest, particularly in light of their delayed revisions that intensified various currency crises in the 1990s and early 2000s. These ratings provided by credit rating agencies reflect the capacity and willingness of sovereign obligors to meet their debt service payments and are based on a broad range of criteria which includes, among other considerations, economic performance, loan default history and political factors. By encapsulating a wide range of factors, these credit risk assessments have been identified as crucial tools for evaluating investment opportunities in emerging markets where problems of asymmetric information can be severe. As a result, the literature aiming to gauge the impacts of sovereign ratings on asset returns has proliferated with the main empirical findings supporting the notion that they significantly influence overall capital flows into stock and bond markets (see Brooks et al., 2004; Cantor and Packer, 1996; Reisen and von Maltzan, 1999; Reinhart and Rogoff, 2004; Kim and Wu, 2008).

A remarkable feature of these capital flows is that asset returns in neighboring emerging markets are often observed to move in tandem. This is evident in the numerous episodes of financial crises in the recent past, in which sharp capital movements led to substantial devaluations in stock and bond investments not only in the epicenters of the crises but also surrounding countries in the nearby region.[1] These simultaneous and powerful financial shocks have highlighted the existence of a regional transmission channel through which both information and capitals flow. In the extant literature, strong neighborhood effects are documented and contagion is known to be regional rather than global in nature (Glick and Rose, 1999). This aspect has important implications for investors' portfolio allocation decisions and for policy makers who are entrusted to regulate and to maintain the stability of international financial systems. For these reasons, focus needs to be placed on monitoring how an emerging market's stock and bond capital flows *co-move* with those of the overall region and more importantly, to understand what factors significantly influence these patterns.

To date, research on the nature of asset interdependence has been mostly confined to measuring the level of national stock or bond market co-movements with the world market in order to uncover signs that countries are becoming globally interdependent (see Bekaert and Harvey, 1995, 2003; Bekaert et al., 2009; Bracker et al., 1999). Most studies in the literature have been primarily motivated to investigate the contagious effects of financial crises that increased financial linkages in asset returns across geographically proximate nations (see Baig and Goldfajn, 1999; Hernandez and Valdez, 2001; Kaminsky and Reinhart, 1999; Kaminsky and Schmukler, 2002). By measuring the short-term stock or bond market co-movements between neighboring emerging markets, the bulk of existing evidence supports strong contagion and/or negative rating spillover effects during times of financial distress (Ferreira and Gama, 2007; Gande and Parsley, 2005; Kaminsky and Schmukler, 2002). For example, Baig and Goldfajn (1999) find that co-movements in sovereign bond spreads and stock returns across pairs of South-East Asian countries significantly increased during periods of financial crises.

Given the established evidence of sovereign rating impacts on individual country asset flows, we conjecture that they contain significant informational value that can influence regional asset co-movements. Thus, our aim in this paper is to merge the two prominent strands of literature on sovereign ratings and asset co-movements to determine whether an explicit relationship exists between the two. To the best of our knowledge, the nature of this potential linkage has yet to be fully explored. Our research question is: How do sovereign ratings affect an emerging country's stock and bond market interdependence with its corresponding region in both the short- and long-term? The ratings literature has not previously differentiated between the long-term and transitory impacts of sovereign credit ratings and is missing such a comprehensive study of emerging markets' asset return co-movements. Moreover, there are few studies comparing the effects of sovereign credit ratings in both stock and bond markets (besides Pukthuanthong-Le et al., 2007; Kaminsky and Schmukler, 2002). While it has been documented that rating events in one country has significant spillover effects for other international bond and stock markets in the short-term (see Gande and Parsley, 2005; Ferreira and Gama, 2007, respectively), it is not clear how they may impact on a country's intra-regional stock and bond market interdependencies over different time-frames. Our work is the closest to

[1] These include the Asian Financial Crisis (1997–1998), the Russian Debt Default (1998), the Brazilian Crisis (1999), the Argentine Crisis (2001–2002) and the Eurozone sovereign debt crisis (2009+).