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The impact of the Argentine default on volatility co-movements in emerging bond markets

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Abstract

This paper investigates the impact of the Argentine default of December 2001 on daily spreads on sovereign bonds issued by 10 emerging countries located in Latin America and Asia. It addresses the problem of shift contagion examining the dynamics of variances and covariances obtained with conditional procedures. The intra-regional analysis detects signs of contagion in Latin America, where the default has long-lasting effects. In Asia, changes in spread covariation due to Argentine and other extra area shocks tend to be less persistent. The conditional covariances between Asia and Latin America reflect this state of affairs: they are positive and large only during the turbulent months following September 11 2001 and corroborate the hypothesis of a temporary contagious reaction of the Asiatic spreads to the Argentine default. The blurred vision of the idiosyncratic nature of emerging market bonds is short-lived, and so is the ensuing herding behaviour. A policy of diversification with assets from different geographical areas may thus reduce portfolio risk, in terms of overall variance, in spite of cross-area contagion.

JEL classification: F30; G12; G14; G15

Keywords: Sovereign bond spreads; O-GARCH; Shift contagion

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1. Introduction

The volume of bonds issued by developing countries had risen substantially from 1990 to 1995, Brady bonds being progressively superseded by direct sovereign and private bond issues actively traded in secondary markets.[1] Recent financial crises in emerging countries, ranging from Mexico to Russia and Argentina, altered this promising scenario. Large capital outflows were associated with a rising degree of interest rate volatility and higher cost of borrowing. Indeed, an overall increase in volatility also tended to involve assets issued in markets that had little in common with the market originally affected.

This paper investigates the impact of the Argentine default of December 2001 on daily spreads on sovereign debt issuance from 10 emerging countries located in Latin America and in Asia. Spreads are measured as the interest rate differential between the annualized yield on a dollar denominated emerging country sovereign bond and the annualized yield of a U.S. treasury bond of the same maturity. We use daily data from 3 January 2000 to 15 April 2002.

The analysis focuses on spread volatility co-movements which may be affected by contagion phenomena triggered by a shock, here identified as the Argentine default crisis. Financial contagion is a notoriously elusive concept and requires close preliminary definition. It may simply be seen as "shift contagion", i.e. an increase in asset price correlation linkages in the aftermath of a financial crisis, symptomatic of the crisis-contingent nature of the volatility transmission mechanisms (Forbes and Rigobon, 2000). An element of surprise is often introduced, due either to the geographical location of the markets involved, far from the epicentre of the turmoil, or to the dimension of the shifts. The latter exceed what is to be expected according to a financial and/or economic rationale (Mody and Taylor, 2003; Bekaert et al., in press). Indeed, the literature on contagion suggests that price co-movement explanations based on fundamentals and economic and financial linkages miss out some relevant explanatory factors, such as multiple equilibria (Masson, 1998), endogenous liquidity shocks (Valdés, 1997; Kaminsky and Schmukler, 1999) and asymmetric dissemination of information (Calvo and Mendoza, 1995, 2000). A related issue, also investigated in this paper and set out in Mauro et al. (in press), among others, is whether spreads are influenced by global events and tend accordingly to co-move or, rather, are influenced by idiosyncratic shocks only.

Our analysis follows Forbes and Rigobon insofar as it associates contagion with an increase in spread volatility linkages among markets brought about by a financial crisis. It differs from their approach, however, in two significant aspects: (i) it discards correlation coefficients and focuses on the behaviour of (conditional) variances and covariances which, according to a stylized regularity identified by Corsetti et al. (2001), tend to rise simultaneously during crises; (ii) it relies on an assessment of cross-area price volatility segmentation.

From our analysis it turns out that the tight segmentation between the Latin American and Asiatic financial areas is weakened, only temporarily, by the Argentine crisis and provides useful information on contagion dynamics. Contrary to common wisdom that

[1] More recently the opening of emerging equity markets to foreign investors has gained momentum, becoming an additional major channel of foreign funding and is being extensively investigated in a burgeoning literature, see Bekaert et al. (2002) and Bae et al. (2004) among others and the references therein.