Bond Market Dynamics in East Asian Countries*

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<Abstract>

This study investigates the degree of interdependencies among seven individual East Asian bond markets and the U.S. market. Results based on co-integration analysis and GJR-DCC-GARCH model suggest that: (i) there is no long-run co-integration relationship between any bond market pairs in the sample; (ii) the East Asian bond markets, however, show interdependencies in the short-run. Significant information spillover effects are identified at both return and volatility level between country pairs, although the degrees of the effects vary; (iii) the decoupling and recoupling phenomenon of the conditional correlations also exists in the bond markets during and after the recent global financial crisis. Moreover, we find there is significant increase in time-varying conditional correlations between East Asian bond market pairs (thirteen out of twenty one) after the crisis period. Overall, these results indicate that the integration in East Asian bond markets is still at its early stage compared to European markets, but is moving towards a more integrated market.

Keywords: Bond Markets in East Asia, Co-Integration, Return Spillover, Volatility Spillover, Dynamic Conditional Correlation

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I. Introduction

International financial market linkage has become one of the central topics in international finance, as it is important for both government policy makers and investors that care about international diversification. Starting from early studies such as Eun and Shim (1989), Hamao et al. (1990), and King and Wadhwani (1990), an extensive body of literature has developed especially among equity markets. Unlike most papers that focus primarily on the equity markets and bond markets of developed European countries (for example, Yang, 2005; Kim et al., 2006; Christiansen, 2007; Christiansen, 2014), this paper focuses on the East Asian bond markets.

Since the Asian Financial Crisis, East Asian economies have been argued to be substantially integrated through various regional governments’ efforts such as lowering trade barriers and forming free trade agreements as documented in prior studies (see, for example, Asian Development Bank, 2007; International Monetary Fund, 2007; Kim and Lee, 2012).1) Recent studies, however, show that these economic integration activities can also lead to integration of financial markets. For example, Phylaktis and Ravazzolo (2002) argue that economic integration provides a channel for financial integration. Lee (2008) finds that East Asian financial market integration is largely due to the heavy intra-region trade in goods. Kim and Lee (2012) find that financial market integration lags real economic integration among East Asian countries.

Additional to these economic efforts that could indirectly affect financial integration, East Asian governments also directly reduced restrictions and controls on capital flows by deregulating domestic financial markets, liberalizing restrictions on foreign direct investment, and improving their economic environment and prospects through the introduction of market-oriented reforms (Vo, 2009).2) These efforts have also been argued to promote financial market integration in the region (Agénor, 2003; Yu et al., 2010; etc.). In fact, Yang (2005) also argues that substantially deregulated financial markets

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1) See detailed discussion in the next section on the development of bond markets in East Asian region.
2) These efforts were started since Chiang Mai Initiative (CMI) launched in 2000 and accompanied by Asian Bond Fund initiative (ABF, launched in 2002) and Asian Bond Market Initiative (ABMI, launched in 2003) for bond markets.