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Assessing financial market integration in Asia – Equity markets ☆

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ABSTRACT

Financial integration has strong implications for financial stability. On the one hand, financial integration among economies helps to improve their capacity to absorb shocks and foster development. On the other hand, intensified financial linkages in a world of increasing capital mobility may also harbour the risk of cross-border financial contagion. This paper provides a survey of high-frequency indicators to monitor the development of equity market integration in Asia. The results show that after slowing down between 2002 and 2006, the equity market integration process picked up again in 2007–08. Nevertheless, the process is not complete and the degrees of integration between mature and emerging equity markets are different. The divergence may be attributed to the difference in the political, economic and institutional aspects across jurisdictions in Asia.

1. Introduction

Eleven years after the Asian financial crisis of 1997–1998 that devastated the Asian financial markets and economies, several regional initiatives, including the Chiang Mai Initiative and the Asian Bond Markets Initiative, have been put in place to strengthen the financial cooperation and integration in the region.[1] The Chiang Mai Initiative (CMI) is part of the initiatives under the ASEAN+3 framework to promote regional financial cooperation.[2] The CMI, launched in May 2000, aims to create a network of bilateral swap arrangements among ASEAN+3 countries to address short-term liquidity difficulties in the region and to supplement the existing international financial arrangements. Recently, the ASEAN+3 finance ministers committed to multilateralise the CMI by creating a self-managed reserve pooling arrangement governed by a single contractual agreement that allows its members to tap a regional pool of foreign exchange reserves to better fend off a financial crisis.[3] Besides the CMI, two important capital market initiatives with the aim to help develop regional bond markets and enhance financial resilience for the region are in place. The first is the Asian Bond Market Initiative (ABMI). The ABMI, launched in August 2003, is also under the ASEAN+3 framework and aims to develop efficient and liquid bond markets in Asia, for better use of local savings for regional investments by focusing on the following two areas: (i) facilitating access to the market through a wider variety of issuers and types of bonds and (ii) enhancing market infrastructure to foster bond markets in

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[1] In addition to these initiatives, ideas of an Asian Currency Basket and Asian Currency Union for intra-regional exchange rate stability have been proposed as the mid- and long-term policy objective for the region (Institute for International Monetary Affairs, 2006).

[2] The ASEAN+3 countries include members of Association of Southeast Asian Nations (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam), Mainland China, Japan and South Korea.

[3] The initial size of this new CMI multilateralisation fund was said to be US$120 billion, drawn from the currency exchange reserve of CMI members as well as Hong Kong SAR.

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Asia. The second one – the Asian Bond Fund (ABF) initiative, launched in 2002, lays the foundation for promoting the development of regional and domestic bond markets in the Asian region by developing regional bond funds.[4] Apart from these regional initiatives, globalisation has made Asia a more integrated region through increase in cross-border trades and economic activities in the 1990s, resulting in an increase in cross-border financial activities. Despite these recent developments, the degree of intra-regional financial integration appears to lag behind the increase in trade (see Danareksa Research Institute, 2004). Such asymmetric development in economic and financial integration may impact on financial stability in the region.

The issue of financial integration has strong implications for financial stability. On the one hand, financial integration would benefit the region through more efficient allocation of capital, a higher degree of risk diversification, a lower probability of asymmetric shocks and a more robust market framework (e.g., Umutlu et al., 2010). These effects would help improve the capacity of the economies to absorb shocks and foster development. On the other hand, intensified financial linkages in a world of high capital mobility may also harbour the risk of cross-border financial contagion, in particular when the region's economies become more inter-dependent (e.g., Beine et al., 2010). In other words, financial instability in one economy could be transmitted to neighbouring economies more rapidly.[5] Against this background, it is essential to have appropriate measures to monitor the development and assess the progress of financial integration in the region.

This study provides a survey of indicators to monitor the development, measure progress and assess the state of equity market integration in the region. While Asian economies witness economic integration into regional and global markets in recent decades, empirical evidence of the extent of financial integration in the Asia region has been limited and inconclusive.[6] This paper intends to fill this gap. In particular, the study attempts to address the following questions:

- To what extent are the equity markets in the region integrated?
- What is the evolution and the current level of equity market integration? Is it progressing, at a standstill, or even regressing?[7]
- What is the relative importance of regional (within Asia) vs. global (mainly the US) factors in intra-regional equity market integration?

Policymakers are interested in equity market integration because (i) the equity market is a major alternative channel of corporate financing in the region; and (ii) shocks that impact on one equity market may potentially spread to others more rapidly when the markets are more integrated. For the purpose of assessing and monitoring the progress of equity market integration in the region, the indicators in this study are mostly of high frequency and permit an assessment of the dynamic evolution of equity market integration.[8] As other measures in the literature, they vary in the scope and focus. A combined use of these indicators provides information on different dimensions of integration and thus gives regulators a more balanced picture regarding the general trend of equity market integration in Asia. Having said that, one should interpret the empirical results from these indicators with caution as all these indicators are statistical or model-based measures which are subject to technical limitations and modelling assumptions. For monitoring purposes these indicators should be supplemented by other integration measures such as the size of capital flows or cross-border holdings of financial assets.[9]

The remainder of this paper is organised as follows. In Section 2 we provide a brief review on the current issues related to financial integration in Asia and the traditional approaches of assessing financial integration. Section 3 presents the methodology and interpretation of the various indicators used in this study. Section 4 discusses the data and some preliminary analyses of the data series. Section 5 presents the estimation results from the integration indicators and examines their behaviours. Section 6 provides a summary and discussion.

2. Recent studies on financial integration and their measures

As an important subject, there are vigorous debates on the degree of financial integration in Asia. Some suggest that the financial markets in the region are less integrated, while others believe that financial integration in the region has increased.

Among the studies that suggest a lack of financial integration in the region, for example, Danareksa Research Institute (2004) finds that financial integration in the region is still far behind that in Europe prior to its unification in the 1990s. By estimating the gravity model of bilateral financial asset holdings and the consumption risk sharing model, Kim et al. (2006) conclude that the East Asian financial markets are relatively less integrated with each other than to the global market. Cavoli et al. (2004) show evidence of limited extent of financial market integration. Lee (2008) finds out that the degree of regional financial integration lags real (trade) integration in East Asia.

On the other hand, some studies find a higher degree of financial integration in East Asia. Jeon et al. (2006) show that the degree of financial integration in East Asia has increased recently, but it is due to the integration with the global market rather than regional counterparts. Kawai (2005) notes that the rise in Asian newly industrialised economies' investment contributes to the integration of the East Asian economies through foreign direct investment (FDI) and FDI-driven trade. McCauley et al. (2002) show that East Asian investors and banks have on average allocated half of the funds in bonds underwritten and loans syndicated to borrowers in East Asia. Based on this measure, they assert that the financial markets of East Asia are more integrated than is often suggested. Chi et al. (2006) show that the level of financial efficiency and the integration of East Asian equity markets is high and has improved significantly during 1991–2005. More recently, Guillaumin (2009) reveals a high degree of financial integration for selected East Asian countries based on a modified Feldstein–Horioka model. Overall, the empirical evidence on financial integration in East Asia is mixed.

There is, in general, no universal definition of financial integration. Financial openness, free movement of capital and integration of financial services are part of a broad range of definition frequently cited in literature. One commonly used definition of finan-

[4] In particular, the ABF initiative promotes product innovation, helps improve financial market infrastructure, serves as a catalyst for regulatory and tax reforms, and helps standardise and harmonise documentation.

[5] The study by Guillaumont-Jeanneney and Kpodar (2006) shows that while financial development has a positive effect on economic growth, it is also positively correlated with financial instability. Thus, the strengthening of financial cooperation and integration in the regional may, on the one hand, promote financial development, but on the other hand trigger more financial instability.

[6] Section 2 provides a survey of empirical evidence on financial integration in East Asia.

[7] For detailed discussion, see Eichengreen (2006) and Takeuchi (2006).

[8] Traditional measures of financial market integration such as the savings-investment correlation proposed by Feldstein and Horioka (1980) are not suitable for continuous monitoring on a regular basis.

[9] These alternative measures such as data on capital flows and holding of cross-border financial assets may only be available with a time lag or at a low frequency. Therefore, they may not be as timely and frequent as the indicators proposed in this paper. Nevertheless, given the information these alternative measures provide on financial integration, they can be used alongside with the indicators proposed in this paper for monitoring purposes.