

## Chapter 2

# An Empirical Investigation on Equity Market Integration of ASEAN–India

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### ABSTRACT

*This empirical study investigates the symmetric and asymmetric dynamic correlations and volatility linkages between ASEAN-5 and the Indian equity markets. Granger causality test results reveal that bidirectional causal relation between the pairs of India-Indonesia, and India-Singapore. However, India-Phillippines and India-Thailand have a unidirectional causal relationship. Variance decomposition results show that India's equity market volatility contributes moderate fluctuations in the variance of Indonesia, Phillippines, Singapore Thailand. Finally, the Markov regime transition probabilities show that the high transition probabilities of p11 and p22 for India-Malaysia, India-Philippines and India-Thailand indicates a high degree of regime stability. The study on financial integration provides important inputs to investors in sharing risk internationally since restrictions on investment are removed. This study provides an essential insight to policymakers, portfolio managers, domestic and international investors, risk analysts and financial researchers in an emerging market.*

### INTRODUCTION

Financial development and globalization are significantly dependent on integrated stock markets around the world. Stock market integration plays a vital role in emerging markets' development. The degree of stockmarket interdependence and integration can explain the accessibility of capital flows across the international capital markets to firms. The higher degree of interdependence and integration provides higher access to international capital markets to firms with a lower cost of equity. It also provides an

DOI: 10.4018/978-1-7998-1566-2.ch002

exposure to local markets from global and regional shocks. The degree of market comovements is a critical factor for assessing the diversification opportunities across national and international financial markets. Few studies revealed that the market comovements are strongly influenced by the international trade channel (Frankel and Rose, 1998; Pentecôte et al., 2015) and financial market integration (Baele et al., 2004; Wälti, 2011; Aloui et al., 2011). Dewandaru, Masih, and Masih (2016) studied the contagion amongst the Asia-Pacific equity markets (Japan, Hong Kong and Australia) during twelve major crises around the world. They found that shocks were transmitted via excessive linkages, with the Asian crisis as the most influential in relation to a sudden stop. Finally, they found low co-movements in the short run, suggesting a partial convergence across the markets. Chowdhury, Haque, and Islam (2017) Due to increased globalization and economic integration in the global economy, contagion effects have been considered an important matter for the investors and policymakers. Dewandaru, Masih, and Masih (2018) prior to the subprime crisis, contagion effects generated short-term shocks and their study provided an evidence of increasing short-run and long-run stock market integration of Economic and Monetary Union (EMU). They found evidence of structural breaks in the volatility of time series for the majority of markets.

ASEAN-India trade and investment relations have been growing gradually. ASEAN is India's fourth largest trading partner. According to the Asian Development Bank Report (2018), Singapore, India, Indonesia and Malaysia are listed among Asia's top 10 FDI recipients in 2017. Singapore Foreign Domestic Investment (FDI) Receipts stands at the US \$ 62.0 billion, followed by India at the US \$ 39.9 billion, Indonesia at US\$ 23.1 billion and Malaysia at US\$ 9.5 billion. India's trade with ASEAN stands at US\$ 81.33 billion which is 10.6% of India's overall trade. Investment flows are also substantial in both the ways, with ASEAN accounting for approximately 18.28% of investment flows into India since 2000. FDI inflows into India from ASEAN between April 2000 to March 2018 was about the US \$ 68.91 billion, while FDI outflows from India to ASEAN countries, from April 2007 to March 2015 was about US\$38.672 billion, as per data maintained by the Department of External Affairs (DEA). The India-ASEAN Free Trade Agreement (FTA) which was signed on 13 August 2009 after six years of negotiation was a benchmark to mark how India-ASEAN relation has taken to a higher level. In September 2014 India signed an agreement on India-ASEAN FTA in Services and Investments with all the ASEAN members which came into force in April 2015. Hence, there will be huge scope for investing in financial markets in ASEAN-India. It is also essential to investigate and examine the interrelationship between ASEAN-Indian financial markets, for asset allocation and diversifying portfolio risk.

On the other hand, Southeast Asian nations have endorsed far-reaching commitments to economic advancement and financial integration in the region. Areas covered under the region's financial integration framework including financial services, payments & settlement, and capital markets. Moreover, the ASEAN trading link was launched in 2012 to integrate equity markets in Malaysia, Singapore, and Thailand. Hence, it is essential to understand the financial integration among ASEAN countries. The investigation of the cross-market time-varying relations of return and volatility transmission is crucial to investors, fund managers and policymakers. Strong interdependence across markets around the world may effectively lead to high exposure to contagious effects. In this paper study attempt to evaluate the degree of market interdependence and shock transmission between stock markets of India and selected ASEAN-5 countries for portfolio investment and public policy purpose.

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