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Financial development, international trade integration, and stock market integration: Evidence from Asia

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ABSTRACT

This paper provides an analysis of the influence of financial development and international trade integration on stock market integration. Using a panel sample of 15 developed and developing countries in Asia over the period 1985–2013, we show that a country's financial development has a positive effect on its stock market integration with the world's stock market, and that a country's international trade integration is not associated with its stock market integration with the world's stock market. In addition, the degree of bilateral stock market integration cannot be explained by variation in bilateral international trade integration.

1. Introduction

Since the degree of stock market integration among countries is important for investors who want to diversify their portfolio, in this paper, we examine if cross-sectional differences in stock market integration amongst countries in the region can be explained by cross-sectional differences in financial development and international trade integration of the countries. To this end, we construct (1) financial development variables that serve as a proxy for the level of financial development of the countries, (2) international trade integration measures that proxy for the extent to which two countries trade with each other, and (3) stock market integration measures that are used as a proxy for the extent to which the equity market is integrated with the world's equity market and with other equity markets.

Our main hypothesis is that countries with advanced financial markets should exhibit a higher level of stock market integration with the rest of the world, all else being equal. That is, because the development of financial markets in developing

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countries attract foreign investments (e.g., the higher proportion of foreign holdings of bonds and/or equities),[1] thereby increasing the level of integration of local financial markets into world financial markets. Financial development also provides local firms with (1) better access to local and/or international capital markets (Baum et al., 2011; Fisman and Love, 2003), (2) lower costs of capital (Evans and Hnatkovska, 2014), and/or (3) higher asset prices (Shahid Ebrahim and Hussain, 2010), which should result in economic growth. Export-based countries should then be able to improve their international trade performance. Thus, we should observe the positive relation between stock market integration and international trade integration.

Our competing hypothesis is that while a country's financial development may result in the greater integration of its stock markets with other countries, it has no significant effect on the level of international trade integration, after controlling for factors that influence international trade. That is, it is possible that the level of the financial market integration does not necessarily result in the higher level of international trade integration. Suppose that two countries fully open their financial markets, and that local investment opportunities in two different industries are available in both countries. Following the liberalization of financial markets in both countries, local firms in both industries may borrow from banks in another countries, and investors in both countries purchase a portfolio of equities in another country. While financial markets of the two countries become more integrated, it is not a sufficient condition to cause the greater level of trade integration between the two countries. For instance, if new investments in both countries only serve for local markets, then there is no change in exports to each other. However, the greater level of financial integration may, under some circumstance, lead to the lower level of international trade integration. Suppose that these new investments are made in import-competing industries in both countries. In this case, the amount of imports from each other will rather decline following liberalization of financial markets.

Many studies have investigated financial integration. For example, Johnson and Soenen (2003) find some evidence to support the notion that equity markets in the America region is integrated with the US equity markets and that the level of integration is time-varying. In the context of Asia, a recent paper by Yu et al. (2010) provides evidence for the time-varying variation in stock market integration among 10 countries in Asia over the period 1994–2008. Examples of other studies that examine the degree of stock market integration in developed countries include Bekaert et al. (2009) and Baele and Inghelbrecht (2010); however, these studies generally do not examine whether variation in stock market integration is associated with financial development. Nevertheless, in a recent study, Liu (2013) use a sample of 40 countries in Asia and Europe over the period 1996–2010 to show that financial integration, measured as financial openness) is associated with interdependence among developed countries (i.e., high-income countries) as well as with interdependence among developing countries (i.e., middle-income countries) and that interdependence among developed and developing countries is not associated with financial integration.

To test our hypotheses, we use a panel sample of 15 developed and developing countries in Asia over the period 1985–2013. Broadly speaking, our methodology and main economic specification are largely in line with those of recent studies such as Baele and Inghelbrecht (2010), Yu et al. (2010), and Wälti (2011). We rely on panel OLS regressions to test the effect of a country's financial development, international trade integration, and bilateral international trade integration on its stock market integration for an unbalanced panel sample of 15 countries in Asia during the period 1985–2013.

Our empirical findings provide support to the prediction that a country's financial development is positively associated with its stock market integration with the global stock market. These results contribute the literature since prior studies do not examine whether stock market integration can be explained by financial development and provide further support to Liu (2013).

Our results indicate that a country's international trade integration is not related to its stock market integration with the global stock market. In addition, we find that bilateral international trade integration, which is measured as (1) import concentration and (2) export concentration, is not associated with bilateral stock market integration. In a closely related study, Chambet and Gibson (2008) document that countries with a higher level of international trade partner concentration tend to have a higher degree of financial integration. A key difference between theirs and ours is that they focus on the concentration of major trading partners, whereas we focus on bilateral trade integration; therefore, we provide new evidence on whether trade integration between a pair of countries, rather than trade concentration with several major trading partners, is associated with stock market integration. In this sense, our study is closely related to Wälti (2011).

Overall, we find no empirical support to the notion that international trade integration affects stock market integration for our sampled countries. The finding that bilateral stock market integration is not related to bilateral international trade integration is largely consistent with prior studies (see e.g., Evans and Hnatkovska, 2014; Levy Yeyati et al., 2009) that suggest the notion that international capital flows play a more dominant role in determining the level of financial markets integration across countries. However, Wälti (2011) finds that trade integration and financial integration have a positive effect on stock market comovements for a sample of 15 developed countries during the period 1975–2006.

The reminder of the article is structured as follows. Section 2 provides a brief overview of related studies and proposes hypotheses that link financial development, international trade integration, and stock market integration. Section 3 describes

[1] See, e.g., Sarno and Taylora (1999) and Agosin and Huaita (2012) for a discussion of capital flows into developing countries.