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Financial integration of East Asian economies: evidence from real interest parity

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Abstract

In this article, we investigate the financial linkages between the East Asian economies with Japan and the United States. We test for long-run Real Interest-rate Parity (RIP) using an array of panel-data techniques, including recent techniques developed by Breuer et al. (2002) and Carrion-i-Silvestre et al. (2005). This study offers two important results: first, the failure to account for structural breaks in the industrialized countries and Asian emerging economies is likely to provide evidence of nonstationary series that are stationary. Second, we found strong evidence that the parity condition holds in all the Asian countries. The failure of earlier studies to confirm mean reversion of Real Interest-rate Differential (RID) may reflect the choice of estimation/testing procedure rather than any inherent deficiency in the RIP.

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Notes

[1] Chinn and Frankel (1995), for instance, found that although Indonesia and Thailand were integrated with Japan, RIP holds only for US–Singapore, US–Taiwan and Japan–Taiwan. On the other hand, Phylaktis (1997, 1999) found that Asia-Pacific capital markets are considerably integrated but that the results regarding the US's and Japan's leading roles in the regional market are contradictory.

[2] We note that interest rates were under strict control of the People's Bank of China (PBC). It was only recently that the PBC affirmed its commitments to pursue market-based rate reforms. China has been perceived as a country with limited integration with the world economy.

[3] Japan and the US are the most important and influential for the rest of the world in international commerce, finance and economic coordination. The importance of these large economies in terms of trade and investment are discussed in Ogawa and Kawasaki (2003) and Choudhry (2005), among others.

[4] China is now the fourth largest economy in the world, only behind the US, Japan and Germany. It is also the third largest in terms of trade and Foreign Direct Investment (FDI) inflows.

[5] The US and Japan are China's main trading partners and foreign investors. In 2002, total trade (imports plus exports) between China and the US and Japan was recorded at

US$ 100 billion. FDI flows into China from the US were US$ 5.4 billion in 2002, while those from Japan were about US$ 4.2 billion.

[6] Cheung et al. (2006), however, relied on univariate unit root tests (without breaks) to infer on the status of real and financial integration. In this article, the authors concluded that long-run version of parity conditions (RIP, Purchasing Power Parity – PPP and Uncovered Interest Parity – UIP) hold among Greater China economies despite the different types of trade barriers and capital controls in China and Taiwan.

[7] Panel methods have become more prominent in recent years since several authors have documented that even for long-run data the available time series suffer from severe size distortion and low power. It is well known that the power of unit root tests for a given sample size can be increased by exploiting cross-sectional information (Levin and Lin, 1993). As such, panel unit root tests have found wide application in testing PPP. For some application of the various panel unit root tests, see Taylor and Sarno (1998), Wu (1996) and O'Connell (1998). Some serious drawbacks of these panel tests were also investigated in O'Connell (1998), Taylor and Sarno (1998) and Breuer et al. (2002).

[8] Japan began the reform in mid-1970, while the foreign exchange market was liberalized in late 1980. In our sample, China was the last to join the race. It has a slower pace of liberalization of lending and deposit rates that started in 1996. It is difficult to select a date for structural break since financial reforms were not introduced at the same time and intensity.

[9] For more detailed discussion and application of these panel data tests, see a recent paper by CDL (2004).

[10] Taylor and Sarno (1998) demonstrated that these types of panel unit root tests are biased towards stationarity if only one series is strongly stationary.

[11] Since the late 1980s, the East Asian countries have been the largest recipient of capital inflows in the world (Grenville, 2000). The investment boom during 1987–1997 was primarily led by foreign capital.

[12] O'Connell (1998) has shown that these tests suffer from extreme size distortion (rejects a true null too often) when the contemporaneous error terms are correlated across groups (referred to as spatial correlation in the literature). O'Connell further

demonstrates that, once this spatial correlation is controlled, the power of these tests drops significantly.

[13] For more discussions on the power of these panel unit root tests, see two recent papers by Banerjee et al. (2005) and Hlouskova and Wagner (2006). These authors argue that the so called first generation panel unit root tests (e.g. LLC and IPS) are designed for cross-sectional independent panels.

[14] Results of power analysis by Breuer et al. (2001) show that the power of the SURADF are substantially higher in comparison to the commonly used panel unit root test.

[15] There are several other alternative proposals formulated in the literature to overcome the cross-section dependence problem. For more detailed discussion on these tests, see for example Camarero et al. (2009).

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