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# Enter the dragon: Interactions between Chinese, US and Asia-Pacific equity markets, 1995–2010☆

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ABSTRACT

This paper applies a variety of short-run and long-run time series techniques to data on a broad group of Asia-Pacific stock markets and the United States extending to 2010. Our empirical work confirms the importance of crises in affecting the persistence of equity returns in the Asia-Pacific region and offers some support for contagion effects. Post-Asian financial crisis quantile regressions yield substantial evidence of long-run linkages between the Shanghai market, the US market and many regional exchanges. Cointegration is particularly prevalent at the higher end of the distribution. Our results suggest that the enormous growth of the Shanghai market in the new millennium has been accompanied by a meaningful level of integration with other regional and world markets in spite of ongoing capital controls.


For the past several hundred years, China has been either a "sleeping dragon" or on the rise. Many people might prefer the sleeping mode …
(Buruma, 2005)

## 1. Introduction

Not very long ago developments in most Asian markets other than Japan were little more than an afterthought to western observers. The People's Republic of China did not even have operating stock

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markets until December 1990 and most other Asian exchanges seemingly remained too limited in size to exert any meaningful influences on the United States or other major western financial centers. The 1997–1998 Asian financial crisis brought home how interconnected the world had become, however, as the collapse of the Thai baht's peg with the US dollar in July 1997 exerted shockwaves around the world. Although the most devastating moves occurred in neighboring East Asian economies like Indonesia and Malaysia, which had shared Thailand's reliance upon a dollar peg, major market moves were also seen in the United States and other western markets. Mainland China's own financial markets were aided by capital controls that helped shield the economy from the worst of the Asian financial crisis. [1] The extraordinary growth since that time is reflected in the Shanghai Stock Exchange ranking sixth in the world (based on domestic market capitalization) in 2009, just behind the London Stock Exchange. In May 2007 former Federal Reserve Chairman Alan Greenspan was already expressing concern that there had been too much of a good thing, stating that the Chinese market gains were becoming "unsustainable" and that a "dramatic correction" was inevitable (see Lima and Kennedy, 2007). While Greenspan's view actually seemed to receive some initial vindication a few months later, it is telling that the market was garnering such worldwide attention in the first place.

Although Authers (2010, p. 2) refers to the "Shanghai Surprise" to describe what happened in world stock markets on February 27, 2007, when the Shanghai Composite Index fell by over 9% in a day while the S&P 500 fell by more than 3%, he is surely incorrect in arguing that this event "marked the start of the worst global financial crisis for at least 80 years, …". On the contrary, the Shanghai Stock Exchange went on to enjoy a 96% rise in 2007 (after having already doubled in 2006), peaking at the end of October 2007 months after most western stock markets had begun falling in the face of the credit crunch that manifested itself over the summer. Indeed, while the subsequent collapse of the Shanghai market index from above 6000 in October 2007 to below 2000 in October 2008 was even more dramatic than the declines seen in most major world markets, the broad sequence of events hardly suggests the Shanghai market played any part in signaling the start of the global financial crisis. [2] Nevertheless, there is something to be said that the events in China represented a 'wake-up' call to financial markets worldwide. [3]

The integration of mainland China's financial markets with other world markets remains very much an open question. For example, continued capital controls and restrictions on foreign entry into China's financial markets and limitations on purchases of offshore securities by local Chinese investors have been associated with ongoing price differentials between the share prices of mainland Chinese companies in Shanghai vs. their prices in Hong Kong and New York (cf, Arquette et al., 2008). Such differentials have persisted even for the sizeable, and highly liquid, large Chinese state-owned banks that had IPOs in Hong Kong during 2005–2006 (Burdekin and Yang, in press), seemingly lending support to ongoing claims that the Shanghai market is segmented even from Hong Kong (cf, Wang and Jiang, 2004; Chong and Su, 2006).

This paper seeks to shed new light on the degree of Asia-Pacific financial market integration, and the actual extent to which Shanghai has become more linked with other markets, by examining short-run and long-run relationships between stock returns. Although there is already a large literature bearing on the question of financial market integration, past work has generally neither offered a comprehensive examination of the group of Asia-Pacific markets nor included data extending through the onset of the

[1] Some have argued that China not only fared relatively well during the Asian financial crisis but also played a role in initiating it through the 1994 currency devaluation that secured export advantages vis-à-vis other Asian economies. While export competition from China almost certainly played a role in the problems experienced elsewhere in the region (Khan and Islam, 2008), it is unlikely that the exchange rate devaluation by China was itself the key trigger as the weighted average effect on prevailing Chinese exchange rates at the time amounted to only around 10% (Lardy, 2005). The 1994 depreciation, in fact, merely capped off a gradual move towards more market-determined exchange rates in the post-1978 period (see Burdekin, 2008, chapter 1).

[2] To be fair Authers (2010, chapter 17) uses the February 2007 event in Shanghai as a pretext for pointing out that it may have led investors to wake up to the fact that many economies around the world were over-leveraged and that a major correction in several asset markets was in the offing.

[3] Bekaert et al. (2011) formally consider the scope for information in one market prompting investors to reassess risks and returns elsewhere, thereby fuelling the spread of a crisis. They conclude, using a rather different approach based on measures of excess returns in equity portfolios relative to factor-determined fundamental values, that there was relatively little US led contagion during the 2007–2008 phase of the global financial crisis, a conclusion not at odds with the results of this study.