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Stock market correlations between China and its emerging market neighbors

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ABSTRACT

We examine interlinkages of stock return behavior for China and three emerging market neighbors from the Asia Pacific region from November 1993 to July 2008. Results are based on a VAR model. Impulse responses and vector decomposition of VAR are also utilized. Evidence suggests that the aggregate markets are mostly not interrelated. However, we observe relations between China and the other markets when foreign investor returns are specifically accounted for. In addition, a shock originating in China is significantly felt in the other equity markets. Stock market characteristics and macroeconomic conditions of these countries may help explain the observed relations.

1. Introduction

Global equity markets in general and regional markets in particular are often correlated with one another especially in times of financial crises when contagion and spillover effects are prominent. Even in relatively calm periods, we may observe similar trending behavior across equity markets. A study of how interrelated equity markets are could provide useful insight for foreign investors who search for diversification opportunities abroad. This is because interlinkages of stock markets imply that markets tend to move together and, therefore, the potential gains from international diversification will be reduced. We have in fact observed over the years that correlations among markets, both developed and developing, have increased due to reasons such as equity market liberalization policies and efficient information processing resulting from advancement in technology. Nevertheless, developing markets in emerging

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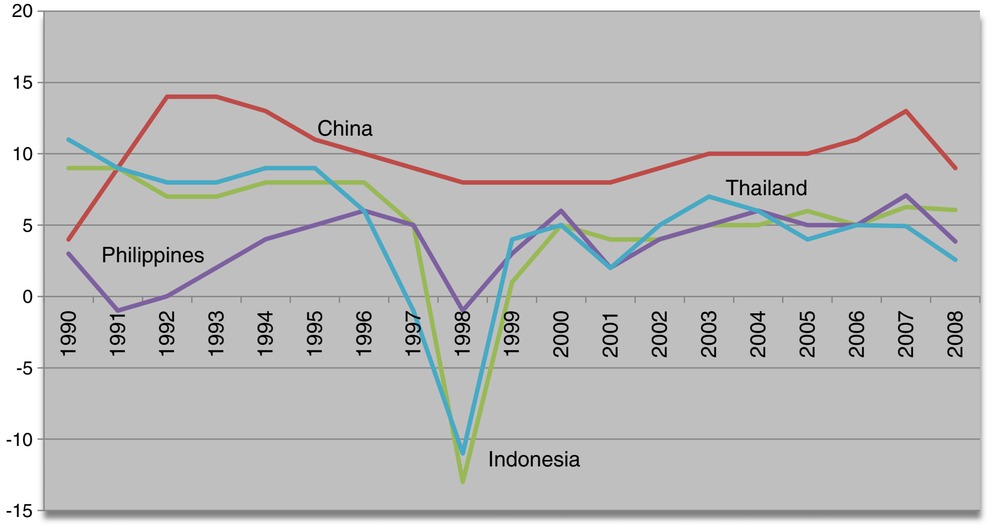

Fig. 1. GDP growth rate (annual%) from 1990 to 2008.
Source: World Development Indicators (WDI) online database.

economies with relatively high and stable growth rates such as those in the East Asia and Pacific region are often good choices for market participants looking to diversify their portfolios internationally.

This paper examines the interlinkages of stock return behavior for China and three of its emerging market neighbors in the East Asia and Pacific region including Thailand, Indonesia and Philippines. We focus on China because it is one of the fastest growing economies of the world today with an annual growth rate of about 9 percent reported in 2008.[1] This is a remarkable growth rate by any standard and one that far exceeds the economic growth rates reported for many of China's neighbors. The World Bank categorizes China as a lower middle-income country in the East Asia and Pacific region. Among thirteen other countries, Thailand, Indonesia and Philippines are also categorized in the same income group as China.[2] The similar level of income is in fact the underlying basis for selecting this group of countries as income is likely to be a key factor that determines investor participation in stock markets. In addition, the online World Trade Organization (WTO) data shows that China is an important trade partner for each of the three neighbor markets that we have selected. For example, China is among the top 5 export destinations for all three and China is also among the top 5 import origins for all except Philippines. Maintaining strong trade relations with China also adds to our basis for selecting these neighbor markets.

Fig. 1 plots the annual growth rates for the four countries and highlights the impressive growth that has occurred in China in the recent years. Interestingly, the growth rates appear to be closely related for Thailand, Indonesia and Philippines especially in the aftermath of the Asian currency crisis of July 1997. China remains isolated from its counterparts even in the midst of the crisis. This observation in fact motivates us to investigate the equity market correlations for the four countries. Equity market behavior often reflects the real economic conditions of an economy, and the evidently close correlations of economic growth rates observed for some of the countries of the sample leads us to suspect that there may be close relations among the equity markets as well. Furthermore, given the economic strength of China relative to

[1] This data is reported by the online World Development Indicators (WDI) database. The WDI database also reports that the 2008 annual growth rates for Thailand, Indonesia and Philippines are 3, 6, and 4 percent, respectively.

[2] Based on the WDI database, the complete list contains fourteen countries that include China, Indonesia, Kiribati, Marshall Islands, Micronesia, Mongolia, Papua New Guinea, Philippines, Samoa, Solomon Islands, Thailand, Timor-Leste, Tonga, and Vanuatu.