

# Abstract

**Abstract of thesis entitles Transmission of equity returns and volatility in Asia-Pacific markets: a multivariate GARCH analysis, submitted by Zhou Jinshun(M-A6-6809-1) for the degree of Master of Social Sciences in Economics at the University of Macau in July 2009.**

In 27<sup>th</sup> Feb 2007, the Chinese stock markets experienced a so called little crisis. The Shanghai A share index plunged nearly 9 percent and the Shenzhen index dropped 8.5 percent. And we recorded significant drops in major indices around the world in the following days. Many analysts attributed the worldwide shocks to the Chinese stock market's influence on international markets. This study is to examine the extent of international linkage among those selected Asia-Pacific markets.

To testify the international linkage among those markets, we conduct the Diagonal VECM model to address the second moment distribution. For the first moment estimation, we found that the biggest stock exchange – New York Stock Exchange – has the greatest influential power among those countries. The ARCH term indicates the level of spillover effect. The result suggests that lagged-domestic shock has the most explanatory power across these nine countries including all emerging markets. GARCH terms measure the persistency of the innovation over time. We have the coefficients cluster and range from 0.7741 to 0.9774. That indicates a strong GARCH effect suggested by the estimated results.

We also employ a lower frequency data series to test that international linkage. However, the outcomes suggest that the weekly data may fail to capture effect of news which only last for few days. We also examined the international connection of China's Shanghai Composite Index in my study. But we can only conclude a weak linkage between Shanghai Composite Index and the Hang Seng Index. Such low degree of linkage supported by the conditional covariance estimated by the DVECH model suggests that the interaction between mainland's A share index and the Hang Seng index is rather limited. Taking the advantages of the independence of China's capital market, investors can diversify the risk of their asset portfolios by including China's shares.