

Estimating and Forecasting Volatility with GARCH Models for Chinese Equity Markets

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The relatively new Chinese Stock Markets show encouraging trends, the number of Chinese people buying shares is estimated to about sixty million at the end of 2000². Furthermore, after being accepted as a member of the World Trade Organization on 12th November 2001, China ought to open its domestic stock market to international capital in five years time and consequently being very likely to become an important player in the future global financial market.

A commonly held view of emerging stock markets is that they are characterised by high returns and high volatility. The volatility is the key for any quantitative modelling in financial markets, a better understanding of this parameter being crucial for pricing financial products or taking investment decisions. For China the average return is 1.2% and the average volatility is 7.9% per month respectively. In this highly volatile environment investors seem to have been compensated for bearing the risk. Moreover, the Chinese market provides investors with a better return-to-risk ratio than World Index or Far East Index.

The case of the two Chinese markets is particularly interesting because it is possible that the dynamics of prices on the two markets to be different. Moreover, one is entitled to ask whether there is any transmission process of volatility from one market to another. Even more fundamental is the question whether the two markets are weak efficient and if not, what type of GARCH model is more suitable for each market. Is it the same type of model or different models will emerge? This series of question has a profound implication for investment decisions and risk management. In this paper we reveal some interesting empirical findings about the volatility of the Chinese equity markets that contradict some of the previous results in the literature. A series of GARCH models are fitted to data series representing Shenzhen and Shanghai markets. The results presented here include also spill-over effect tests between the two Chinese markets. Although the two markets are in the same country, from the volatility point of view they are quite different considering the type of GARCH models that is suitable for each market.

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² www.stockstar.com/statistics