VOLATILITY SPILLOVERS IN HONG KONG FINANCIAL MARKETS

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ABSTRACT

This paper examines the volatility spillover and linkages between four financial markets in Hong Kong, namely the stock, government bond, interbank money and HKD forward exchange markets, since 1990. The understanding of the links among these asset markets is important because: i) the study on the volatility and cross-market correlation between different assets can provide useful information for the purpose of hedging or portfolio management against shocks emanating across markets., and ii) to policy makers, such understanding has implications for developing more co-ordinated and effective policies for cross market monitoring.

The ARCH/GARCH models have been very successful in providing a close and parsimonious approximation to many typical financial time series. Two types of ARCH/GARCH model are applied in this study. First, to examine the return and volatility spillovers, a bivariate GARCH model allowing for exogenous influences in the conditional mean and the conditional variance equations is used. Second, to investigate volatility linkages in the presence of structural shift, a regime switching ARCH (SWARCH) model is applied. This model allows us to date period of high volatility and to explore the question of whether periods of "high volatility" coincide across different financial markets.

Preliminary results from the bivariate GARCH model suggest that while the link in the mean return (or changes) among different assets is mostly absent, there exist significant volatility spillovers between some of these financial markets. From the SWARCH model, it is found that structural shift is common and the expected duration of a "high volatility" state in most markets can be at least as long as five weeks.