

# STATISTICS COLLOQUIUM

MONDAY, MAY 07, 2007

TALK: 4:00 PM — SCIENCE CENTER RM. B-10

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

## **“Horizon Effects on Hedge Funds Neutrality”**

Francis In<sup>a</sup>, Byoung Uk Kang<sup>b\*</sup>, Gunky Kim<sup>c</sup>, Tong Suk Kim<sup>b</sup>

<sup>a</sup> *Department of Accounting and Finance, Monash University,  
Clayton, Victoria, 3168, Australia*

<sup>b</sup> *Graduate School of Management, Korea Advanced Institute of Science and Technology, 207-43,  
Cheongyangri 2-dong, Dongdaemoon-gu, Seoul, 130-722, Republic of Korea*

<sup>c</sup> *Department of Econometrics and Business Statistics, Monash University,  
Caulfield East, Victoria, 3145, Australia*

## ABSTRACT

This paper investigates time horizon effect on dependent structure between stock market returns and hedge fund returns. The key question is whether or not tail risk of hedge fund is time-diversifiable. This is an important issue in the context of hedge funds because, unlike traditional mutual funds, an investment in hedge funds involves a significant lock-up period. Based on the non-parametrically simulated return series, we find that asymmetric correlations, where monthly returns on certain hedge fund strategies go more often down than up with the monthly stock market returns, are resolved on longer investment horizons. Moreover, analysis on monthly market returns and hedge fund returns generated from Clayton copula with parameters calibrated to Long short equity and Event driven strategies reveals that dependence structures are indeed horizon-dependent and lower tail dependence on market returns diminishes as with increasing investment horizons.

\*Corresponding author. Tel.: +82-2-958-3689; fax: +82-2-958-3618