ABSTRACT

This thesis consists of three papers that focus on risk modelling and empirical asset pricing. In the first paper, we introduce a new model for multivariate volatility modelling and forecasting. By building a system of seemingly unrelated heterogenous autoregressions, we obtain more precise and efficient estimates of the covariance matrices. The complex forecasting exercise carried out on data from the turbulent period of the global financial crisis 2007-2008 demonstrates direct economic benefits of our approach. The second paper moves our research from expected utility to quantile preferences. We concentrate on commonalities in the volatility series that influence the distribution of asset returns. Specifically, we develop a Panel Quantile Regression Model for Returns that can control for otherwise unobserved heterogeneity among financial assets, and allows us to exploit common factors in the panel of volatilities. Results of our empirical application highlights the benefits of our newly proposed model from an economic and statistical point of view. The last paper generalizes our previous results. We show that quantile Euler equation can be transformed into a basic quantile pricing equation and has a stochastic discount factor/pricing kernel representation. We also provide an important link to quantile factor models. The empirical part of this paper demonstrates the validity of our theoretical findings using data of the US and German Treasury futures contracts.