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Business Cycle Variability, Stock Market Variability, Asymmetries and the Risk Premium

An important topic for policy makers is the interaction between the macroeconomy and financial markets - financial markets are important because financial variables are forward looking summarising expectations about future development in key economic variables - this motivates a study of how economic and financial news interact. Much work has been done on univariate characteristics of macroeconomic variables and stock returns – univariate models assume limited information sets and to investigate the relation between macroeconomic variables and financial variables we need a multivariate model allowing the variables to interact.

We propose a joint model of the expectation and uncertainty in the stock market and key macroeconomic variables - this involves modelling the conditional expectation of excess return in the stock market, the risk premium. Assuming the factors to be priced in the stock market are macroeconomic a model is developed for the conditional mean of excess return and key macroeconomic variables with justification from the Intertemporal CAPM – with a consistent estimate of the conditional mean of these variables we can identify the unexpected component, news, of macroeconomic variables and stock market excess return and determine the interaction between macroeconomic- and financial uncertainty (measured by variance) and risk compensation (variance and covariance). The paper argues that any modelling of the time varying risk premium need to allow for asymmetries in the conditional covariance matrix since no agreed upon theory tells us how to model it.

The proposed model is estimated using US stock market return and key macroeconomic variables in the period 1960-2002 - we show that the relation between stock market variability and the stock market risk premium is varying with the business cycle, the macroeconomic and stock market volatility have a high comovement and several covariance asymmetries are present.