

Variance Bounds and Excess Volatility

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May 1993

Abstract

The motivation for studying volatility in stock prices is (to quote Shiller, 1989, p.1) to find out "what ultimately, is behind day-to-day movements in prices? Can we trace the source of movements back in a logical manner to fundamental shocks affecting the economy...? Or are price movements due to changes in opinion or psychology, that is, changes in confidence, speculative enthusiasm...?" The literature on excess volatility took off with the seminal papers by Shiller (1981) and Leroy and Porter (1981) which found evidence that stock prices appeared to be more volatile than fundamentals (i.e. dividends) could explain. These results were subsequently challenged in a number of papers which criticised the statistical methods adopted by the first papers. In response to this criticism the literature developed more robust techniques that were valid even in the presence of, say, a non-stationary dividend process. In these lecture notes we will go through the debate on excess volatility of stock prices and analyse the econometric aspects of the techniques used in the literature.