Sequential Monitoring of CAPM Betas

Josef G. Steinebach

Despite substantial criticism, variants of the capital asset pricing model (CAPM) remain still the primary statistical tools for portfolio managers to assess the performance of financial assets. In the CAPM the risk of an asset is expressed through its correlation with the market, widely known as the *beta*. There is now a general consensus among economists that these portfolio betas are time-varying and that, consequently, any appropriate analysis has to take this variability into account. Recent advances in data acquisition and processing techniques have led to an increased research output concerning *high-frequency* models. Within this framework, we first discuss a modified functional CAPM, introduced in Aue *et al.* (2011), that incorporates microstructure noise, as well as sequential monitoring procedures to test for the constancy of the portfolio betas in this setting. As our main results we present the large-sample properties of these monitoring procedures. In a second part of our talk, we present some recent results of Chochola *et al.* (2012) on more *robust* procedures for the monitoring of betas in an (ordinary) CAPM. A few simulation results are also shown to illustrate that our methods perform well in finite samples.

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