THE ACCURACY OF TIME-VARYING BETAS AND THE CROSS-SECTION OF STOCK RETURNS

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Abstract

This paper provides new evidence about two questions that have been investigated separately in the literature so far. It compares the accuracy of time-varying betas estimated with different techniques and assesses their impact on the results of cross-sectional tests of the CAPM. Tests are performed with monthly data from US industry portfolio over the period 1980-2005. The modeling techniques considered are the rolling regressions, GARCH models, the Kalman filter, the SCHWERT and SEGUIN model, a macroeconomic variables model and an asymmetric beta model. Our results indicate that in times-series tests, the Kalman filter with beta being specified as a random walk provides the most accurate results. Moreover, these betas provide supportive evidence on the validity of the conditional CAPM as they are statistically related to the cross-section of stock returns. All others specifications of betas, including the widely used rolling regressions, do not produce a significant beta-return relationship.

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