Two Pillars of Asset Pricing

Lecture for the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel

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Efficient Capital Markets

A. Early Work

B. Event Studies

\[ R_{it} = a_i + b_i R_{Mt} + e_{it} \]
Figure 1 - Cumulative average residuals in the months surrounding a split
C. Predictive Regressions

\[ i_{t+1} = E_t(r_{t+1}) + E_t(\pi_{t+1}) \]

\[ \pi_{t+1} = a + bi_{t+1} + \varepsilon_t \]
D. Time-Varying Expected Stock Returns

\[ R_t = a + bD/P_{t-1} + e_{it} \]

E. “Bubbles”
Asset Pricing Models

A. Fama and MacBeth (1973)

\[ R_{it} = \alpha_t + \alpha_{1t} b_i + \alpha_{2t} MC_{i,t-1} + \alpha_{3t} B/M_{i,t-1} + \epsilon_{it} \]

B. The Fatal Problems of the CAPM
The Three-Factor Model

\[ \text{E}(R_{it}) - R_{Ft} = b_i \left[ \text{E}(R_{Mt}) - R_{Ft} \right] + s_i \text{E}(SMB_t) + h_i \text{E}(HML_t) \]

The regression used to test the model is,

\[ R_{it} - R_{Ft} = a_i + b_i (R_{Mt} - R_{Ft}) + s_i SMB_t + h_i HML_t + \epsilon_{it} \]
Conclusions