EQUITIES

An Analysis of Covariance Risk and Pricing Anomalies

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Much research has focused on the relation between firm characteristics and mean returns, but this article examines the link between welll known asset pricing "anomalies" and the covariance structure of returns.

Using both statistical and economic measures of this link, while allowing for time variation in the covariance matrix of asset returns, we find a size factor to be most closely linked to future volatility and covariation risk, both in and out of sample. This relationship may improve the efficiency of investment strategies. These effects are amplified in recessions.

Book-to-market equity exhibits a weaker link. Momentum factors appear unrelated to return second moments. These findings may shed light on explanations for these premia and present a challenging set of facts for future theory.

The economic significance of these findings is examined from an investment perspective. Accounting for covariation with a size and book-to-market factor improves the out-of-sample performance of efficient portfolios, even more so when combined with the market portfolio. Including information from covariation with momentum factors, however, does not improve efficiency.

Furthermore, these results are more acute during recessions, when investors presumably care most about the efficiency of their portfolio.

eliminate the risk of experiencing investment losses.

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