

Risk Aversion, Volatility Risk Premium, and the Cross-Section of Stock Returns

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Abstract

In this paper, we examine whether aggregate risk aversion and the volatility risk premium is priced in the cross-section stock returns. Our proxy for the risk aversion is estimated by linking the pricing kernel given by the appropriate utility function to the diffusive volatility risk premium implicit in Bates (2000) and in Pan (2002). Our data sample consists of S&P 500 index European options from January 1996 to July 2008. Using a one-way-sorted portfolio analysis, we document a negative price for aggregate volatility risk and for aggregate risk aversion. The finding is consistent with the previous literature. In addition, we show that risk aversion (based on the variations in the price of risk, determined by changing states of the economy), rather than aggregate volatility risk (quantity of risk), is the dominant component of the aggregate volatility risk premium. Our two-way-sorted portfolio analysis suggests that assets whose returns covary negatively with both aggregate volatility risk and risk aversion are the riskiest, and they provide higher premiums and expected returns. Specifically, investors require an extra return of 1.88% per month on a portfolio, which longs stocks with the lowest exposure to both factors (aggregate volatility risk and risk aversion) and shorts stocks with the highest exposure to both factors. However, a portfolio which longs stocks in the smallest aggregate volatility risk loadings and shorts stocks in the largest loadings will require an additional return of only 1.19% per month on average.