ORIGINAL ARTICLE

Portfolio choice with high frequency data: CRRA preferences and the liquidity effect

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Abstract This paper suggests a new approach for portfolio choice. In this framework, the investor, with CRRA preferences, has two objectives: the maximization of the expected utility and the minimization of the portfolio expected illiquidity. The CRRA utility is measured using the portfolio realized volatility, realized skewness and realized kurtosis, while the portfolio illiquidity is measured using the well-known Amihud illiquidity ratio. Therefore, the investor is able to make her choices directly in the expected utility/liquidity (EU/L) bi-dimensional space. We conduct an empirical analysis in a set of fourteen stocks of the CAC 40 stock market index, using high frequency data for the time span from January 1999 to December 2005 (seven years). The robustness of the proposed model is checked according to the out-of-sample performance of different EU/L portfolios relative to the minimum variance and equally weighted portfolios. For different risk aversion levels, the EU/L portfolios are quite competitive and in several cases consistently outperform those benchmarks, in terms of utility, liquidity and certainty equivalent.

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