TWO- AND THREE-FUND SEPARATION THEOREMS UNDER GENERAL ASSUMPTIONS

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Abstract

The two-fund separation theorem is a central result in portfolio theory. It is consistent with expected utility maximization under the assumption that returns are multivariate elliptically distributed. Unfortunately, real world returns exhibit skewness and cannot be accurately modeled by elliptical distributions. By contrast, the multivariate generalized hyperbolic distribution is known to provide an excellent fit to returns. In this context, we provide a three-fund theorem that is valid for any investor who maximizes an objective function that reflects risk aversion. As a special case, we recover the traditional two-fund separation theorem.