

Optimal Bayesian portfolios of hedge funds

Jean-François Bacmann¹ and Saverio Massi Benedetti¹

RMF, a core investment manager of Man Investments

Abstract:

Hedge fund returns are not normally distributed. Hedge fund styles related to arbitrage strategies exhibit negative skewness while more directional styles like managed futures and global macro are more positively skewed. We implement and test a Bayesian framework for portfolio optimisation process, in order to take these characteristics as well as the estimation risk into account. Hedge fund returns are modelled using multivariate skew elliptical distributions. The first three predictive estimates are used in a truncated utility function to obtain sets of optimal portfolios. We show that the choice of the underlying distribution as well as the modelling of co-skewnesses has an important impact on the final optimal portfolios.

Keywords: hedge funds, higher moments, estimation risk, skew elliptical distributions, Bayesian allocation.

JEL code: C11, C61, G11.

¹ Quantitative Analysis, RMF Investment Management, Huobstrasse 16, 8808 Pfäffikon/SZ, Switzerland

Email: Jean-Francois.Bacmann@rmf.ch

Saverio.Massibenedetti@rmf.ch