

Backward/forward optimal combination of performance measures for equity screening

Monica Billio^a, Massimiliano Caporin^{b,*}, Michele Costola^a

^a*University Ca' Foscari Venezia, Department of Economics*

^b*University of Padova, Department of Economics and Management "Marco Fanno"*

This version: April 2, 2015.

Abstract

We introduce a novel criterion for performance measure combination designed to be used as an equity screening algorithm. The proposed approach follows the general idea of linearly combining selected performance measures with positive weights and combination weights are determined by means of an optimisation step. The underlying criterion function takes into account the risk-return trade-off potentially associated with the equity screens, evaluated on a historical and rolling basis. By construction, performance combination weights can vary over time, allowing for changes in preferences across performance measures. An empirical example shows the benefits of our approach compared to naive screening rules based on the Sharpe ratio.

Keywords: performance measures, combining performance measures, portfolio allocation, equity screening, differential evolution.

JEL codes: C44, C58, C61, G11, G17.

*Corresponding author: University of Padova, Department of Economics and Management "Marco Fanno", Via del Santo, 33, 35123 Padova, ph. +39-049-827-4258

Email addresses: billio@unive.it (Monica Billio), massimiliano.caporin@unipd.it (Massimiliano Caporin), michele.costola@unive.it (Michele Costola)

Authors acknowledge financial support from the project MIUR PRIN MISURA - Multivariate models for risk assessment and GRI in Financial Services for financial support. The second author acknowledges financial support from the University of Padova grant CPDA073598.