*Quantitative Finance*, 2012, 1–10, iFirst

# On the role of risk in the Morningstar rating for mutual funds

FRANCESCO LISI*† and MASSIMILIANO CAPORIN‡

†Department of Statistical Sciences, University of Padova, Via C. Battisti 241, 35122 Padova, Italy
‡Department of Economics and Management "Marco Fanno",
University of Padova, Via C. Battisti 241, Padova 35122, Italy

(*Received 5 March 2010; in final form 8 February 2012*)

In the mutual funds industry the rating process is very important, and Morningstar is the most influential international rating agency. In this work we consider the problem of evaluating if the procedure adopted by Morningstar in deriving its ratings, ranking mutual funds within a given peer group, takes the risk component completely into account. To tackle this problem we compare the ratings produced, giving different weights to the risk component. The focus of the analysis is on testing the hypothesis that two similar rating procedures using this performance measure with different risk parameters (or, in statistical terms, two raters) are equivalent. To that end, first the notion of $\beta$-equivalence is introduced and then a Monte Carlo test for the hypothesis of the $\beta$-equivalence is described. Finally, to answer the question concerning the role of risk in the Morningstar rating, we analyse 1763 monthly return time series of US mutual funds. The results show that, in the current Morningstar rating system, the risk component, and particularly the idiosyncratic component, plays only a marginal role.

*Keywords*: Mutual funds; Empirical finance; Statistical methods; Monte Carlo methods; Performance evaluation

*JEL Classification*: C1, C15

## 1. Introduction

A rating is a score given to some subject by a rater that can be either a person, i.e. a judge or an expert, or a tool, such as a diagnostic test or a performance measure, among others. The rating, which in some ways is similar to a classification system, is a matter of great interest in finance, where ratings are assigned to countries, to credits, to bonds, to managed portfolios, etc. (Blake and Morey 2000, Jewell and Livingston 2002, Krink *et al*. 2007, Krishnan and Lawrence 2007). In the mutual funds industry, the rating is particularly important because the score given to funds by rating agencies affects and leads the investment decisions of both private and institutional financial agents (Knuutila *et al*. 2006, Del Guercio and Tkac 2008).

The number of agencies providing managed portfolio evaluation is not large. Among them, Morningstar, Standard & Poor, Lipper and Fitch stand out.§ Some independent proposals have also appeared in the financial economics literature (see, for instance, Bechmann and Rangvid (2007)). Each rating system produces a rating differing with respect to the characteristics and the methodologies used, making them partially subjective. Among these, the Morningstar rating system is certainly the most widespread and the most influential, so much so that a 'Morningstar effect' on fund flows has been widely documented in the financial literature (Knuutila *et al*. 2006, Del Guercio and Tkac 2008).

Morningstar classifies funds into peer groups and, within the peer groups, it ranks funds in five categories, giving them from one to five stars according to a specific performance measure called the Morningstar Risk-Adjusted Return (MRAR). Such a measure considers risk-adjusted and load-adjusted returns so that, in principle, the final evaluation is affected by the level of risk

*Corresponding author. Email: francesco.lisi@unipd.it
§See, respectively, http://www.morningstar.com, http://www.funds-sp.com, http://www.lipperweb.com and http://www.fitchratings.com

*Quantitative Finance*
ISSN 1469–7688 print/ISSN 1469–7696 online 
http://www.tandfonline.com
http://dx.doi.org/10.1080/14697688.2012.665999