

# “On the (Ab)Use of *Omega*?”<sup>♦</sup>

Massimiliano Caporin<sup>a</sup> Michele Costola<sup>b</sup> Gregory Jannin<sup>c</sup> Bertrand Maillet<sup>d,\*</sup>

November 2013

<sup>a,b</sup> Univ. Padova,

<sup>c</sup> A.A.Advisors-QCG (ABN AMRO), Variances and Univ. Paris-1 *Pantheon-Sorbonne* (PRISM),

<sup>d</sup> A.A.Advisors-QCG (ABN AMRO), Variances, Univ. La Reunion and Orleans (CEMOI, LEO/CNRS and LBI).

---

## ARTICLE INFO

---

This version: Nov. 2013

---

*JEL Classification:*  
C10; C11; G12

*Keywords:*

Performance Measure,  
*Omega*,  
Return Distribution,  
Risk,  
Stochastic Dominance.

## ABSTRACT

---

Several recent finance articles employ the *Omega* measure, proposed by Keating and Shadwick (2002) – defined as a ratio of potential gains out of possible losses – for gauging the performance of funds or active strategies (*e.g.* Eling and Schuhmacher, 2007; Bertrand and Prigent, 2011), in substitution of the traditional Sharpe ratio (1966), with the arguments that return distributions are not Gaussian and volatility is not, always, the relevant risk metric. Other authors also use the same *criterion* for optimizing (non-linear) portfolios with important downside risk. However, we wonder in this article about the relevance of such approaches. First, we show through a basic illustration that the *Omega* ratio is inconsistent with the Strict Second-order Stochastic Dominance (SSSD). Furthermore, we observe that the trade-off between return and risk, corresponding to the *Omega* measure, may be essentially influenced by the mean return. Next, we illustrate in static and dynamic frameworks that *Omega* optimal portfolios can be associated with traditional optimization paradigms depending on the chosen threshold used in the computation of *Omega*. Finally, we present some robustness checks on long-only asset and hedge fund datasets.

---

---

<sup>♦</sup>We thank Philippe Bertrand, Christophe Boucher, Alexis Direr, Georges Hübner, Patrick Kouontchou, Yannick Malevergne, Constantin Mellios and Jean-Luc Prigent for help and suggestions when preparing this article. We are also grateful to the participants to the VII<sup>th</sup> International Finance Conference (Levallois-Perret, March 2013), to the INFER Annual Conference (Orléans, May 2013), to the XXX<sup>th</sup> *AFFI* Conference (Lyon, May 2013), to the XXX<sup>th</sup> “*Journées de Micro-économie Appliquées*” (Nice, June 2013) for valuable comments. The fourth author thanks the Risk Foundation Chair Dauphine-ENSAE-Groupama “*Behavioral and Household Finance, Individual and Collective Risk Attitudes*” for financial supports. The usual disclaimer applies.

\* [massimiliano.caporin@unipd.it](mailto:massimiliano.caporin@unipd.it), [michele.costola@studenti.unipd.it](mailto:michele.costola@studenti.unipd.it), [gregory.jannin@univ-paris1.fr](mailto:gregory.jannin@univ-paris1.fr), [bertrand.maillet@univ-reunion.fr](mailto:bertrand.maillet@univ-reunion.fr). Correspondance to: Pr. Bertrand B. Maillet, Univ. La Reunion, 15 avenue René Cassin – CS 92003 – 97744 Saint-Denis Cedex 9 (France).