Contents lists available at ScienceDirect



journal homepage: www.elsevier.com/locate/jbf

# Why do fund managers increase risk?\*

## Yeonjeong Ha<sup>a</sup>, Kwangsoo Ko<sup>b,\*</sup>

<sup>a</sup> NRF Research Professor in the Research Institute for Management, Pusan National University, 2, Busandaehak-ro 63beon-gil, Geumjeong-gu, 46241, Busan, Republic of Korea

<sup>b</sup> Department of Business Administration, College of Business, Pusan National University, 2, Busandaehak-ro 63beon-gil, Geumjeong-gu, 46241, Busan, Republic of Korea

#### ARTICLE INFO

Article history: Received 31 August 2015 Accepted 20 January 2017 Available online 23 January 2017

JEL classification: G10 G11

Keywords: Risk increase Net flows Inflows Outflows Agency problem

#### 1. Introduction

A number of studies investigate agency problems between mutual fund managers (or advisory companies) and investors (e.g., Carhart et al., 2002; Gaspar et al., 2006). Because fund managers' compensation is directly connected with total net assets (TNAs) of mutual funds, they do their best to maximize inflows and minimize outflows. Numerous studies discuss the increase in fund risk as a means to increase return; for example, Brown et al. (1996) were the first to examine the phenomenon of an increase in the risk of underperforming funds, known as the tournament behavior of fund managers. Many studies find the presence of such an increase in fund risk to achieve high performance.<sup>1</sup> However, Cullen et al. (2012) and Schwarz (2012) provide evidence that contradicts the tournament behavior of fund managers.

Chevalier and Ellison (1997), Sirri and Tufano (1998), Lynch and Musto (2003), and Huang et al. (2007) clarify the convex flow-

\* Corresponding author.

### ABSTRACT

This paper examines the relationship between the increase in fund risk and subsequent cash flows. We attempt to test the hypothesis that an increase in fund risk actually increases the net flows of equity funds, which is a basic assumption of risk shifting. We find that a change in fund risk has a positive and convex relationship with the fund's net flows. The effect of risk changes on net flows is a natural consequence of its effects on inflows and outflows. This paper's empirical results are robust to return frequency, fund age, and fund size. Our findings create incentives for managers to shift risk as documented in the mutual fund literature.

© 2017 Elsevier B.V. All rights reserved.

performance relationship in which mutual fund investors tend to invest excessively in outperforming funds and do not symmetrically penalize underperforming funds. This convexity motivates mutual fund managers to increase risk as a means to enhance fund performance, thereby attracting more fund flows. More recently, the literature has provided new evidence of the flowperformance relationship. According to Ferreira et al. (2012), the convex relationship is weaker in more developed countries and greater country-level convexity is positively associated with fund managers increasing risk to a certain extent.

Although many studies discuss the risk increase of mutual funds, few of them note its impact on cash flows. Huang et al. (2011) examine the performance of equity funds after risk shift, and show that when managers increase fund risk, their performance gets worse than funds that maintain stable levels of risk over time. However, no study analyzes net flows after an increase in fund risk despite the fact that fund managers' ultimate goal is to increase net flows of mutual funds. To the best of our knowledge, Spiegel and Zhang (2013, section 6.3, p. 521) are the only authors to mention this concept. We fill this gap in the literature by examining the effect of risk increase on cash flows of equity funds.

Huang et al. (2011) suggest that an increase in risk either is an indication of inferior ability or is motivated by an agency issue. If fund investors reduce net flows of underperforming funds that experience a risk increase, it will harm the fund managers because their compensation is closely tied to fund TNAs. However, if fund







 $<sup>\</sup>hat{x}$  This work was initiated when the first author was visiting as a post-doctoral fellow at the Korea Advanced Institute of Science and Technology. The authors thank an anonymous referee for invaluable comments that greatly enhanced the quality of this paper, and Prof. Geert Bekaert (managing editor) for his encouragement.

E-mail addresses: yjee33@pnu.edu (Y. Ha), kks1201@pnu.edu, iloveksri@hanmail.net (K. Ko).

<sup>&</sup>lt;sup>1</sup> See Chevalier and Ellison (1997), Busse (2001), Qiu (2003), Kempf and Ruenzi (2008), Chen and Pennacchi (2009), and Kempf, Ruenzi, and Thiele (2009).