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Myopic risk-taking in tournaments[☆]

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ABSTRACT

There is a common notion that incentive schemes in the financial industry trigger myopia and risk-taking. In some sense this contrasts with the concept of myopic loss aversion (MLA), which implies that myopia mitigates risk-taking. A number of experimental studies support the MLA-hypothesis by showing that people take less risk the more frequently their investments are evaluated. In this paper we show experimentally that if subjects are exposed to tournament incentives, the standard MLA effect disappears. Rather, there is a tendency towards more risk-taking the more frequently investments are evaluated.

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1. Introduction

An interesting aspect with the analyses of the 2007/2008 financial crisis is the notion that incentive schemes in the finance industry trigger both myopia and risk-taking. For instance, Tabellini (2008) argues that management compensation schemes "reward myopic risk-taking behavior" and Buiter (2008) states that "One of the key drivers of the excesses of the most recent (and earlier) financial crisis has been the myopic and asymmetric reward structure in many financial institutions. (...) Poorly structured reward systems encourage excessive risk-taking and the pursuit of short-term profits".

There are indeed several incentive models that separately can account for both excessive risk-taking and myopic behavior. It is well known that option contracts and tournament incentives may trigger risk (see Haugen and Senbet, 1981; Bronars, 1986, respectively), and of course, if incentive contracts are short-term, they may also create a myopic "pursuit of short-term profits". Hence, incentives may clearly create a positive correlation between myopia and risk-taking. But could there also be a causal relationship?

In the outset, one should not expect so. In fact, from the concepts of loss aversion and mental accounting, we have learned that myopia mitigates risk-taking. Loss aversion implies that the disutility from suffering a loss is higher than the utility from receiving an equally high gain (see Kahneman and Tversky, 1979; Tversky and Kahneman, 1992), while mental accounting implies that people evaluate their investments frequently and independently (see Kahneman and Tversky, 1984; Thaler, 1985). By combining these two behavioral hypotheses, Benartzi and Thaler (1995) introduced the concept of myopic loss aversion (MLA). MLA's clear implication is that people take less risk the more often they evaluate their investments. In other

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words, myopia reduces risk-taking. Behavior consistent with MLA is supported by a number of experiments, see Gneezy and Potters (1997), Thaler et al. (1997), Gneezy et al. (2003), Haigh and List (2005), Sutter (2007), Langer and Weber (2008), and Fellner and Sutter (2009). But in all these experiments, subjects are exposed to simple individual incentives.

In this paper we investigate experimentally how myopia – or narrow framing – affects risk-taking when subjects are exposed to tournament incentives in which subjects are evaluated and rewarded on the basis of their relative performance (relative performance evaluation – RPE). It is well documented that money managers have relative performance objectives, not only since bonuses are partly based on relative performance, but more importantly because investors allocate money into funds according to their past relative performance (see e.g. Goriaev et al., 2003). Both theoretically and empirically it is shown that tournament schemes may increase risk-taking (Bronars, 1986; Hvide, 2002), but we do not know how this relates to myopia. The notion that incentives in the financial industry create "myopic risk-taking behavior" calls for an experimental study into whether the standard framing effects also apply when subjects are exposed to tournament incentives, or whether frequent evaluation may actually increase risk-taking.

Our experimental design is based on Gneezy and Potters (1997). Subjects could invest in a risky lottery for nine rounds. In the "frequent treatment" subjects could choose how much to invest in each round, and they also received information about the returns after each round. In the "infrequent treatment" subjects had to choose their investment amount in blocks of three rounds. After each block they then received information of their aggregated returns. In these baseline treatments, subjects were exposed to independent incentives² and we attained the standard result with lower risk-taking in the frequent treatment.

To investigate our main research question we ran similar treatments, but where subjects were exposed to tournament incentives. Subjects were exposed to the same manipulation of feedback frequency as in the baseline treatments, but here subjects were randomly matched into groups of three, and only the one with the highest payoff after nine rounds received a prize. An important aspect of such tournament schemes is that subjects must take into account the behavior of their opponents, i.e. they must behave strategically. And since they learn about their opponents' investments during the experiment, they may also feel losses and gains from comparing themselves with their opponents. We constructed the tournament scheme in such a way that without any such learning effects or social comparison, simple narrow framing should produce the same result as in baseline; lower risk-taking under frequent evaluation.

But interestingly, we do not find a standard MLA effect under tournament incentives. Rather, we find a tendency towards more risk-taking in the frequent treatment, in particular in the first rounds. To further investigate time trends, we ran two extra treatments where the time horizon was doubled from 9 rounds to 18 rounds. Like in the 9 round treatments we do not observe the standard MLA result. But in contrast to the 9 round treatments we do not find any indication of the opposite pattern of higher investments under frequent evaluation.

We basically see two potential explanations for our findings. One explanation is that subjects do not frame narrowly when playing the tournament game. This is possible since the tournament scheme underscores the importance of the final ranking. However, absence of myopia can remove the treatment effects under RPE, but will not create the opposite results that we tend to find. Moreover, if subjects do not frame narrowly we should expect higher general investment-levels. An alternative explanation is thus that learning and social comparison plays a role, and that narrow framing affects *how* it plays a role. We discuss this in Section 5.

Related to this, we also study how risk-taking is affected by whether subjects are trailing or leading the tournament. Tournament theory conjectures that front runners should reduce risk-taking, while trailing parties should "gamble for resurrection". In the empirical literature on mutual funds' investment strategies, there is mixed evidence on whether funds that underperform during the first part of the year actually increase risk in the second part of the year in order to try to catch up (see Brown et al., 1996; Koski and Pontiff, 1999; Busse, 2001). Our controlled experiment supports the catching-up hypothesis. Trailing subjects take significantly more risk than the front runners, and distance to front runner has a significant positive effect on risk-taking. This pattern is clearest in the frequent treatments.

In addition to the literature on myopic loss aversion, our paper is related to the extensive literature on tournaments. Since the seminal article of Lazear and Rosen (1981), most tournament papers have focused on optimal effort choices. However, the recognition of relative performance objectives in the finance industry has increased focus on risk-taking in tournaments. Starting with Bronars (1986), more recent theoretical papers include Hvide (2002), Hvide and Kristiansen (2003), Taylor (2003) and Kräkel and Sliwka (2004). There is also an extensive empirical literature on tournament incentives in finance, e.g. Brown et al. (1996), Chevalier and Ellison (1997) and Goriaev et al. (2003). Tournaments have been investigated in laboratory experiments as well (e.g. Bull et al., 1987; Harbring and Irlenbusch, 2003; Eriksen et al., 2011), but except for recent papers by Nieken (2010) and Nieken and Sliwka (2010), all the existing contributions focus on effort rather than risk-taking. Additionally, no one considers the effect of myopia and feedback frequency under tournament incentives, which is the main focus of our paper.

The rest of the paper is organized as follows: In Section 2 we present the experimental design and procedure. In Section 3 we offer some theoretical predictions, while in Section 4 we present the results. In Section 5 we discuss the results, while in Section 6 we conclude.

² With "independent incentives" we here mean incentives that do not depend on the performance of peers or competitors.

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