

Offsetting the implicit incentives: Benefits of benchmarking in money management

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Abstract

Money managers are rewarded for increasing the value of assets under management. This gives a manager an implicit incentive to exploit the well-documented positive fund-flows to relative-performance relationship by manipulating her risk exposure. The misaligned incentives create potentially significant deviations of the manager's policy from that desired by fund investors. In the context of a familiar continuous-time portfolio choice model, we demonstrate how a simple risk management practice that accounts for benchmarking can ameliorate the adverse effects of managerial incentives. Our results contrast with the conventional view that benchmarking a fund manager is not in the best interest of investors.

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1. Introduction

The money management industry has been growing at a mind-boggling pace. More and more individual investors' money is put into the care of professional managers. The question of these managers' incentives is thus of utmost importance to households and policymakers. Incentives of individual investors and professional managers are not always perfectly aligned. In particular, contrary to investors' objectives, managers take into account of their performance relative to some index in their portfolio choice. This is because capital inflows into funds follow good relative performance. Therefore, a significant factor in a rational

fund manager's decision problem is an *implicit incentive* that arises from the relationship between fund flows and her performance relative to an index. Previous research has shown that if the manager is unrestricted in her portfolio choice, she has an incentive to boost the riskiness of her portfolio when underperforming her index and lock in her gains upon catching up.³ In this paper, we consider mechanisms aimed at limiting such behavior.

Towards this, we consider risk management practices that account for benchmarking. Establishing an economic role for such widely observed practices is also of independent theoretical interest given the arguments made against them in the academic literature (Roll, 1992; Admati and Pfleiderer, 1997). We focus on a simple constraint, referred to as a "minimum performance constraint" or a "benchmarking restriction," which prohibits a shortfall in the

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³ See Chevalier and Ellison (1997) and Basak et al. (2007) who argue that convexities in the fund flow-performance relationship give rise to such behavior.

manager's return relative to a reference portfolio to exceed a pre-specified level over a certain horizon. If a manager violates the constraint, she incurs a large penalty; in our model, we assume that she simply loses her job.⁴ This simple, yet versatile, constraint is also closely related to some popular risk management practices such as stop-loss limits, portfolio insurance, value-at-risk (VaR) and tracking error limits. Such a constraint can be either explicitly or implicitly imposed on the manager by her superiors. The parameter governing the stringency of the benchmarking restriction in our model is the manager's allowed shortfall relative to the benchmark. We demonstrate that as the (appropriate) benchmarking restriction becomes more stringent, the impact of the fund-flows induced incentives on the manager's policy weakens, and beyond a certain allowed shortfall the convexity in the flow-performance relationship ceases to have an effect on the manager's optimal policy.

Absent the benchmarking restriction, the asset allocation choice of the manager is not necessarily in the best interest of fund investors, who care about the risk and return of their investment and not about attracting capital into the fund. Moreover, the risk tolerance of fund investors need not coincide with that of the fund manager. We compare the manager's policy when acting in the best interest of fund investors with when following an asset allocation policy optimal from her viewpoint. A simple calibration reveals that the costs of misaligned incentives could be quite significant. Most of our cost estimates, measured in units of an investor's initial wealth, are within the 1.4–8.0% range. We show that a benchmark that is less risky than the index can temper deviations from the investors' desired risk exposure in states where the manager is tempted to deviate the most, and hence is beneficial. Across most of our calibrations, the percentage loss recouped (in terms of the investor's initial wealth) by benchmarking the manager ranges from 60% to 80%. Our results thus provide a rationale for benchmarking-type restrictions observed in this industry. Our analysis, however, also demonstrates how complicated fine-tuning the manager's behavior may be in the presence of implicit flow-driven incentives. Indeed, as we illustrate, when the benchmark is (sufficiently) riskier than the index, benchmarking the manager may actually exacerbate her risk exposure.

Our work is related to the literature on (adverse) consequences of benchmarking. In a mean-variance setting, Roll (1992) argues that benchmarking a money manager to an index results in her choosing a portfolio that is not mean-variance efficient. Admati and Pfleiderer (1997), in a similar context but with an asymmetrically informed investor and

portfolio manager, also advocate against benchmarking the manager, and particularly linking compensation to the types of benchmarks observed in practice. The spirit of these results is that, in an economy without fund-flows induced considerations, benchmarking induces a manager to deviate from choosing a mean-variance efficient portfolio that is desired by investors (with mean-variance preferences). Our viewpoint is that money managers are concerned with attracting fund inflows, which we accept as a fact of life. The role of our benchmarking restriction is to (partially) alleviate the adverse effects of the ensuing managerial incentives, thus benefitting investors.

There is a strand of literature, growing out of Bhattacharya and Pfleiderer (1985), investigating optimal contracting in the context of delegated portfolio management, where the manager typically has superior information or ability, or expends costly effort. In this vein is also Starks (1987). Dybvig et al. (2001) consider restrictions on the investment opportunity set (trading strategies) as part of an optimal contract, while Gómez and Sharma (2006) analyze the effect of short-selling constraints on a manager's optimal contract. Also within a static principal-agent framework, Agarwal et al. (2007) study the incentive effects of relative (to a benchmark) performance evaluation in the presence of portfolio constraints. In a dynamic portfolio choice model, Cadenillas et al. (2004) consider a principal-agent problem in which a risk-averse manager compensated with options chooses the riskiness of the projects she invests in. Our focus in this paper is different. Instead of solving for an optimal contract, we look for alternative mechanisms aimed at counteracting the manager's adverse incentives.⁵ In that spirit, Jorion (2003) further analyzes Roll's static setup and considers how imposing additional constraints can move optimal portfolios closer to mean-variance efficiency, while Alexander and Baptista (in press) extends Jorion's work by incorporating a VaR constraint. Brennan (1993) and Gómez and Zapatero (2003) study the equilibrium implications of Roll-type setting and derive a two-beta CAPM.

Closer to our message is van Binsbergen et al. (in press), who also advocate the use of benchmarking in money management. Their way of addressing benchmarking, however, differs from ours in that they model managers as deriving utility from the ratio of their terminal portfolio value over a benchmark. Hence, unlike in our analysis, the managers care only about relative performance, and not absolute. The ensuing effects of the benchmark on the managers' behavior are also different. Since managers are risk averse in van Binsbergen et al., they try to reduce the variability of the portfolio-benchmark ratio even when outperforming the benchmark. In our setting, the manager is affected disproportionately more when her performance relative to the benchmark is poor. Basak et al. (2007) examine fund-flows

⁴ See, for example, Del Guercio and Tkac (2002) and their references to surveys by Greenwich Associates for evidence on underperformance-related manager termination decisions.

⁵ Effectively, instead of altering the manager's compensation structure, we alter her investment opportunity set so as to temper undesirable swings in her risk exposure in the targeted states of the world.

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