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Mutual fund performance evaluation with active peer benchmarks ☆

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ABSTRACT

We propose a simple approach to account for commonalities in mutual fund strategies that relies solely on information on fund returns and investment objectives. Our approach augments commonly used factor models with an additional benchmark that represents an equal investment in all same-category funds, which we call an active peer benchmark (APB). We find that APBs substantially reduce the average time series correlation of residuals between individual funds within a group when added to a four-factor equity model (or to a seven-factor fixed-income model). Importantly, adding this APB significantly improves the selection of funds with future outperformance.

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1. Introduction

The open-end mutual fund industry is now the main venue through which retail investors participate in traded securities.[1] It is widely known that a growing number of their fund managers follow passive strategies, linking their investments to a particular index. The majority, however, still claim that they can add value to investors by actively managing their portfolios. The basic question facing academics, regulators, and investors alike is whether active fund managers deliver superior performance to investors, as they claim, or just aggressively solicit additional funds when they are lucky and downplay their poor performance when they are not. Consequently, the literature on active fund management has been expanding rapidly in its attempt to answer the same basic question: Does active management produce persistent superior investment performance? Among US-domiciled equity funds alone (investing in US or world equities), active management accounts for $4.9 trillion in assets under management at the end of 2012 (Investment Company Institute, 2013).

The academic literature on evaluating active managers has evolved from simple Sharpe ratio comparisons to Jensen's (1968) alpha using a single risk factor, to the Fama and French (1993) three-factor model, to which (Carhart, 1997) added momentum as the fourth factor. Subsequently, the literature modeled α and β as time-varying with observed macroeconomic variables, as in Ferson and Schadt (1996), Christopherson, Ferson, and Glassman (1998), and Avramov and Wermers (2006), or with Kalman filters, as in Mamaysky, Spiegel, and Zhang (2008). This literature, in general, has added more exogenously determined risk factors to better model fund returns, relative to the original Jensen model. In addition, most of the research efforts have focused on US domestic equity mutual funds, as empirical asset pricing research (e.g. Fama and French, 1993) has chiefly focused on exposing new priced factors in US stocks.[2]

A pervasive problem with performance evaluation is the presence of similar strategies among funds, which produces correlated residuals from commonly used models and, therefore, reduces the power of such models to separate skilled from unskilled fund managers. For example, Grinblatt, Titman, and Wermers (1995) find that the majority of mutual fund managers use momentum as part of their stockpicking strategies, and Chen, Jegadeesh, and Wermers (2000) find that fund managers commonly prefer stocks with higher levels of liquidity. Jones and Shanken (2005) and Cohen, Coval, and Pastor (2005) recognize this issue and develop approaches to exploit commonalities in fund returns to improve performance evaluation. However, these papers require fund portfolio holdings data or knowledge about the commonalities that might not be available in practice. In addition, portfolio holdings are disclosed infrequently for mutual funds (each calendar quarter, with a delay of 60 days), limiting their informativeness. For example, Kacperczyk, Sialm, and Zheng (2008) find a substantial gap between actual monthly returns of domestic equity funds and the hypothetical returns of their periodically reported portfolio holdings. Clearly, infrequent holdings data, when available, have important but limited usefulness in measuring commonality in strategies.

In this paper, we propose a simple and easily implementable approach to account for commonalities in fund strategies that uses only information on fund returns and the investment objective of the fund (which can be obtained from a fund prospectus, by comparing recent portfolio holdings with holdings of common market benchmarks or by measuring correlations between fund returns and common market benchmark returns). Our approach is to form an additional benchmark from the return on the group of funds to which a given fund belongs, as each fund manager chooses the peer group with which it intends to compete. By this selection, the fund signals the set of strategies from which it chooses, as well as the subgroup of stocks on which it implements these strategies; i.e., the fund signals how it generates returns, both priced and unpriced by the risk model. Accounting for commonalities using this reference group return is much simpler than trying to identify the potentially numerous exogenous factors that represent the many complex strategies that could be used by funds within a group. As such, some important and intuitive reasons exist for using this variable as an additional factor.[3]

First, let us take the point of view of the investor who has already decided on asset allocation, in terms of choosing the type of funds in which she would like to invest, but needs help in choosing the best funds within the reference group. Even the least sophisticated investor always has a fallback strategy of equally weighting (or value-weighting) all funds in the group every period. This tradable strategy is simple.[4] To deserve a higher (than proportionate) share of an investor's portfolio, the fund manager must convince the investor that the fund can be expected to deliver superior performance, relative to this naive strategy of investing in the entire group. Consequently, it is intuitive to use the group investment as a predetermined benchmark for each fund that belongs to that group.[5] We claim that, by choosing the strategy and advertising herself as managing an active equity fund that

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[1] As of 2010, households hold 37.9% of their total assets in financial assets. Of financial assets, 15% are held in pooled investment funds, not including holdings in retirement accounts or money market funds, and 18.4% are directly held in stocks and bonds. An additional 38.1% is held in retirement accounts, much of which is allocated to mutual funds (Board of Governors of the Federal Reserve System, 2010).

[2] Extensive literature reviews can be found in Fischer and Wermers (2012) and Wermers (2011). Another branch tries to attribute the performance to various types of decisions made by the manager: asset allocation, security selection, and high frequency market- or style-timing. Such analyses generally require data on fund holdings. Examples of papers that use holdings information are Daniel, Grinblatt, Titman, and Wermers (1997), Wermers (2000), and Jiang, Yao, and Yu (2007).

[3] In this paper, we often refer to this active peer benchmark as an additional factor for simplicity in exposition. However, we do not imply that it is necessarily priced (this question is left for future research). In this paper, we use it only to improve the estimation of the parameters of interest.

[4] We consider only no-load funds. Thus, the cost of rebalancing is low.

[5] It is notable that Lipper and Morningstar use simple peer groups alone (without a formal model) in their assessments of fund performance. We propose that this peer adjustment should instead be added to known risk factors in a formal model and demonstrate why this peer

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