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Commonalities in investment strategy and the determinants of performance in mutual fund mergers

Ethan Namvar [a], Blake Phillips [b,*]

[a] Haas School of Business, University of California at Berkeley, Berkeley, CA 94720, USA
[b] School of Accounting and Finance, University of Waterloo, Waterloo, ON, Canada N2L 3G1

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ABSTRACT

This paper examines the determinants of cross-sectional variation in post-merger mutual fund performance. Mergers between funds with similar management objectives, as reflected by average portfolio book-to-market ratio, price–earnings ratio, beta and market capitalization values, outperform mergers between funds with dissimilar strategies. This superior performance transcends lower portfolio rebalancing costs which might be realized between merging funds which hold more assets in common. These results suggest that mutual fund mergers create collaborative benefits between funds with similar strategies. We also examine if fund governance structures influence the fund pairing process, testing if stronger fund oversight mitigates pairing mismatches. We find that less independent boards of trustees and boards with higher compensation are related to greater strategic mismatches between funds. These results suggest that more entrenched boards are more tolerant of fund mismatches which benefit the investment company, yet are not in investor's best interests.

1. Introduction

The extent to which synergies motivate corporate mergers and influence post-merger operating performance has received considerable attention in the finance literature.[1] By combining common and complementary resources, the merged entity is potentially able to operate more efficiently and competitively than the stand alone firms. Despite similarities in purpose and motive between corporate and mutual fund mergers, little consideration has been given to the potential role of commonalities in mutual fund merger success.[2] More broadly, we seek to explain the substantial cross-sectional heterogeneity in mutual fund merger performance. Existing research has studied median post-merger outcomes, but the determinants of variation in performance remain largely unexplained.[3]

We hypothesize that post-merger performance is related to compatibility in the investment strategies between funds. Using portfolio holdings data, we construct measures of the commonality of the merging funds' investment objectives and strategies and then relate those measures to merger success. We also seek to explore the factors which influence the fund pairing process, which determines the synergistic potential between funds. To our knowledge, this is the first paper to examine the determinants of cross-sectional variation in merger outcomes and the significance and determinants of the fund pairing process in mutual fund mergers.

As a concrete example of this empirical analysis, consider two potential matches in a merger; one between two small-cap, growth funds and the second between a small-cap, growth and large-cap, value fund. In the first case, similarities in asset characteristics minimizes non-discretionary portfolio rebalancing triggered by acquiring assets inconsistent with the merged entity's investment objective. The acquiring fund manager gains insights into the investment strategy of the target fund and may utilize these insights to improve his current investment strategy. Considering that fund managers typically specialize in specific asset types and investment strategies, the acquiring manager has the necessary expertise to make effective and knowledgeable portfolio rebalancing decisions. In the second case, significant portfolio rebalancing costs are realized with few potential benefits, beyond economies of scale. From this perspective, mergers between funds with strategy commonalities are most likely value enhancing for investors.

* Corresponding author. Tel.: +1 519 888 4567; fax: +1 519 888 7562.
E-mail addresses: namvar@haas.berkeley.edu (E. Namvar), brphilli@uwaterloo.ca (B. Phillips).

[1] See, for example, Bernile and Bauguess (2010), Hoberg and Phillips (2010) and Jovanovic and Rousseau (2002).

[2] For example, management companies may utilize mergers to: (1) replace weak managers and eliminate the performance record of a poorly performing fund, (2) gain expertise in a new investment objective, (3) realize economies of scale via merging funds with similar investment objectives.

[3] For example, Jayaraman et al. (2002) report that target fund investors realize significant improvements in post-merger performance and a reduction in fees. In contrast, acquiring fund investors realize a reduction in performance. Khorana et al. (2007) and Ding (2006) report similar results.

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On the other hand, complementarities between investment strategies may also create value. Differences in managerial regional or industry expertise between funds with broadly compatible investment objectives may strengthen the investment strategy of the merged entity. From this perspective, while broad commonalities are desirable, secondary complementary differences may also enhance fund value.

To quantify investment strategy commonalities between funds, we utilize a novel variable set constructed from portfolio holdings. We calculate the weighted-average price–earnings ratio (PE), book-to-market ratio (BM), market capitalization (MARCAP) and beta (BETA) for the target and acquirer portfolios and also examine the industry (SIC) and regional (REGION) focuses of each fund. These variables serve as indicators for the common fund objective classifications of growth versus value (PE and BM), risk (BETA), large versus small market capitalization (MARCAP) and sector or regional versus diversified focuses.

While controlling for portfolio rebalancing costs, we find that mergers between funds with greater differences in PE, BM and BETA realize significantly lower post-merger performance. For example, a one standard deviation increase in the difference in portfolio PE between funds results in a 1.4% drop in annualized post-merger performance. Further, in our sample of broadly diversified funds, we also find that variations in industry focus between the acquirer and target funds are performance enhancing. These results suggest that mergers between funds with common management objectives may generate strategic benefits which create value for investors. Additionally, after controlling for the implications of broad objective mismatches, strategic benefits may be realized via complementary differences in industry-level stock weights between funds.

Next we examine the factors which influence the fund pairing process, which we argue are broadly a function of merger incentives, timing and fund governance. First, consistent with motives to expeditiously minimize financial losses and performance history impacts associated with distressed funds, we find that mergers involving target funds with poorer performance and more negative net flows result in lower commonality mergers.

Second, we find evidence to suggest that the quality of the pool of available acquirer funds varies over time. Kapusta (2009) anecdotally suggests that mergers tend to cluster during periods of poor stock market performance. As net asset flows to equity funds similarly vary inversely with the economic cycle (Chalmers et al., 2011), the number of acquirer funds with free cash flows to finance acquisitions is depressed precisely at the time target fund demand is at its peak. Furthermore, as cyclical exposure varies systematically across investment objectives (for example, large relative to small-cap funds), these effects will be more pronounced in specific fund objectives, potentially necessitating across-objective mergers. Consistent with these factors limiting the depth of the acquirer fund pool during market downturns, we find that mergers undertaken following periods of low aggregate net flow to equity funds or undertaken when merger frequency is high, have incrementally lower strategy commonality.

Finally, we argue that more effective boards of governors will intervene on behalf of investors and will be related to higher investment objective commonality mergers. Drawing on proxies for board efficacy in Khorana et al. (2007), we find that funds with stronger governance structures are less tolerant of fund pair mismatches. Specifically, boards with a greater proportion of independent members and which are less entrenched are associated with higher strategy commonality mergers, and as such, are more likely value enhancing for investors.

The remainder of the paper is organized as follows. Section 2 describes the data and sample construction procedure. Section 3 defines the portfolio commonality variables and explores the determinants of post-merger performance. In Section 4 we focus on the determinants of portfolio commonalities, including fund governance considerations and in Section 5 we conclude. Institutional background on mutual fund mergers is provided in Appendix A.

2. Data

We obtain mutual fund data from the Center for Research in Security Prices (CRSP). The database contains monthly return and total net assets by fund share class and also summarizes fees, investment objective classification and the fund family.[4] The Fund ID of the fund which acquired the assets of each target fund is reported by CRSP and we follow Khorana et al. (2007) and identify the merger date as the last date net asset data is reported for the target fund (the end_dt variable).[5] Prior to 1992, merger dates are reported annually, with monthly disclosures thereafter. Less than 4% of the mergers in our sample occur when merger dates were provided annually. Data for funds with multiple share classes is aggregated using a net asset-weighted approach. Mergers between classes of the same fund or mergers missing the acquiring fund identifier are excluded.

Portfolio holdings data is obtained from two databases: the Thomson Reuters Mutual Fund Ownership Database for 1980–2008, and the CRSP mutual fund database for 2003–2008.[6] We link the CRSP and Thomson databases via the Mutual Fund Links file developed by Russ Wermers (Wermers, 2000). Depending on the time-frame, and at the discretion of the fund, portfolio holdings are disclosed either at a semi-annual or quarterly frequency and the month of disclosure varies across funds. We utilize portfolio holdings data preferentially either 3, 2 or 4 quarters (in that order) prior to and following the merger date of each fund pair. These preferences ensure that the holdings characteristics examined are publically available at the time of the merger, and by necessity, we exercise flexibility in the timing of the selected disclosure due to the reporting frequency.

We apply a series of filters to form our sample. First, in order to evaluate annual performance, we require a complete return history for both the target and acquirer funds in CRSP over the 3 years preceding and following the month of the merger.[7] Second, we require portfolio holding data for both the target and acquiring fund in the year preceding the merger. The application of these filters excludes mergers prior to 1981 based on the commencement of the portfolio holdings databases. Likewise, mergers after 2005 are excluded as at the time of data collection the CRSP database ended in 2008. Finally, although holdings data is available for a limited number of bond funds, the CRSP and Thomson portfolio holdings databases focus on domestic, equity funds and thus, by necessity, we do the same. This process yields a sample of 390 target and acquirer portfolio pairings. However, for 30 of those pairings post-merger portfolio data was not available for the acquirer fund. A sample of this size is consistent with Huang (2010) who utilizes the entire Thomson holdings database between 1990 and 2006 and notes a total of 1962 unique fund entities, with a maximum of 1119 unique fund entries in a given year.

The mutual fund merger sample is summarized in Table 1. Panel (a) reports merger frequency, segmented by target fund objective,

[4] Prior to 1991 net asset data are reported in either an annual or quarterly frequency, fee and investment objective classifications are reported in either a quarterly or annual frequency and fund family data is only available from 1993 onward.

[5] Elton et al. (2001) report that merger dates in CRSP may be inaccurate, particularly mergers reported as occurring at the end of the month may actually occur in the middle of the following month. Khorana et al. (2007) check 20% of the CRSP merger dates in their sample and find that, at the median, the CRSP end_dt and the actual merger date vary by only 9 days. While inaccuracies in merger dates are problematic, given that we focus on annual performance, the effect is likely to introduce noise and not any systematic bias.

[6] Given the more comprehensive coverage of the Thomson Database, it is used as our primary holdings source and we supplement that data with the CRSP holdings data.

[7] This window of performance analysis is consistent with Khorana et al. (2007) and Jayaraman et al. (2002).