The Safe Investor: Research Findings

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Overview

Advisor Partners recently completed a research study in connection with a soon-to-be published book, The Safe Investor, by Tim McCarthy. The initial thrust of the study was performance-oriented, as we intended to examine whether top performing mutual funds as identified by Morningstar star ratings could sustain their performance in subsequent periods. Prior research into this topic by Morningstar examining mutual fund performance and by pension consultants examining institutional performance calls into question the common assumption that today's performance winners will also be tomorrow's winners. Given the continuing tendency of institutional and retail investors to chase performance, we thought it relevant to update and extend the research.

Our initial intent was to extend research to include more recent data than we've seen in prior studies. We also set out to evaluate a wider universe of asset classes to determine whether performance persistence differs among asset classes. By examining a wide range of asset classes, we assessed performance persistence while validating widely held notions about the relative merits of active management in asset classes perceived to be less efficient than large cap U.S equities. Our findings about performance largely reinforced prior research conclusions, though some of the asset class conclusions deviated from our expectations.

The study changed dimensions as a result of our early findings. Although we identified interesting findings arising from the primary thrust of research, we also identified an intriguing and unexpected set of issues. In reviewing several years of mutual fund data, we found that survivorship of mutual funds was strikingly low and that investors are likely to outlive many of their mutual funds. Consequently, we extended the study to examine mutual fund survivorship.

Morningstar Star Ratings

As explained by Morningstar, their ratings system provides a transparent view of past performance while providing little insight into future performance. Morningstar's recent addition of subjective fund ratings organized by gold, silver and bronze categories is a tacit admission of the limitations of the star rating process. Our study confirmed the findings of Morningstar's prior work, while examining the persistence of performance among a wider range of asset classes. It is interesting to note that the star system provides little in the way of positive predictive benefit across asset classes, and in some asset classes is actually a contrarian indicator.

We looked at all star-rated funds available in 2002. For each Morningstar category, we percentile-ranked funds from 1, representing the top 1% of fund performance in the category, to 100, representing the bottom 1% of funds in the category. After five years, the 5-star funds were only 11 percentage points ahead of 1-star funds, a statistically insignificant difference. However, after ten years, they were on average 24 percentage points ahead of 1-stars, a more significant finding. See Table 1.

Table 1: Stars Predicting Future Performance of Funds in General

All Funds Dec 2002 Rating	Dec 2007 5 Year Average Perf. Percentile (1-100)	Dec 2012 10 Year Average Perf. Percentile (1-100)
★★★★★	42	39
★★★★	47	45
★★★	50	50
★★	54	56
★	53	63
★ minus ★★★★★	11	24

Among high yield funds, though, the star ratings were much less helpful. After five years, it was the 1-star funds that were out-performing the 5-star funds by 38 ranks! By the ten year, the star ratings seemed to have no predictive power at all, with 1- and 5-star funds performing very similarly. See Table 2.

Table 2: Stars Were Unable To Predict Future Performance of High Yield Funds

High Yield Funds Dec 2002 Rating	Dec 2007 5 Year Average Perf. Percentile (1-100)	Dec 2012 10 Year Average Perf. Percentile (1-100)
★★★★★	79	45
★★★★	55	50
★★★	45	44
★★	38	56
★	41	43
★ minus ★★★★★	-38	-2

Asset Class Performance

The widespread adoption of ETFs highlights the growth in usage of traditional and alternative forms of indexing. As part of our research into star ratings, we examined historical performance of different asset classes, comparing the performance of top and bottom performing funds relative to one another and relative to the median performer. This aspect of our research was aimed at identifying asset classes in which it makes sense to seek active management – in essence, identifying the asset classes in which an investor can be rewarded for taking on the additional risk and cost associated with active management.

We weren't surprised to find that U.S. large and small cap equities have performance that's reasonably tightly clustered. Nor were we surprised to find that non-U.S. strategies such as foreign large blend, emerging markets equity and debt appear to offer greater opportunities for active managers to add value.

In addition, the performance differences between liquid alternative strategies highlight the importance of manager selection. We were most surprised to observe more tightly clustered performance in the high yield fixed income category, calling into question our preference for active management. See Tables 3 and 4.

The bottom 10% of each category is to be avoided regardless of the asset class. We observed a tendency of poorly rated funds (1-star funds) in Morningstar's rating system to continue to perform poorly in subsequent measurement periods. So, perhaps using the ratings system to identify the funds to avoid may be a superior approach than using the ratings system to identify what funds to buy!

Table 3: Emerging Markets Managers Have the Widest Range of Outcomes among Traditional Asset Classes

	U. S. Large Cap	U. S. Small Cap	Foreign Large Blend	Emerging Market Equity	Inter-mediate Bonds	High Yield Bonds	Emerging Market Debt
Tenth Percentile	11.34	14.31	8.44	10.68	8.58	13.04	11.14
Median	9.43	11.27	5.96	6.33	6.44	11.25	9.64
Ninetieth Percentile	7.05	8.83	3.42	3.77	4.69	9.13	5.92
10th-90th	**4.28**	**5.47**	**5.02**	**6.91**	**3.88**	**3.91**	**5.22**

Table 4: Manager Selection Is Even More Important In Liquid Alternative Categories

	Long-Short Equity	Event-Driven	Long-Short Bond	Macro
Maximum	18.13	5.90	8.89	14.45
Median	-0.38	3.70	5.94	2.49
Minimum	-43.75	3.10	3.34	-4.36
Best minus Worst	**61.88**	**2.79**	**5.55**	**18.80**

Mutual Fund Survivorship

We were surprised to discover how many funds fail to stand the test of time. We looked at multiple periods of time, finding the same trends in each period. The longest period of time covered was from January 1, 1995 through March 31, 2013. Of the funds in operation in 1995, less than 40% still existed in 2013. The remaining funds were either closed or merged into other funds.

We narrowed our time horizon, examining the ten year period from the end of 2002 to the end of 2012 in order to closely examine trends between such factors as performance, Morningstar ratings and assets under management. The trends over the ten year period were similar to those identified over the longer period we evaluated: after five years, nearly one-third of the funds had been closed or merged into other funds. After ten years, nearly half had been closed or merged!

Industry insiders may be casual in their acceptance of these findings, viewing fund closures and mergers as business as usual and downplaying the implications for investors. In our view survivorship matters, as fund closures and fund mergers are rarely positive events for investors. When a fund is closed or merged out of existence, there are very real direct and indirect costs imposed on the fund's investors. At best, closure or merger of a fund is an inconvenience that forces the investor to make a new investment decision. Oftentimes, the new investment decision is forced at an inopportune time. At worst, the fund closure or merger may lead to adverse consequences. Fund closures and mergers can create tax consequences or transaction costs that the investor doesn't control. Mergers are typically better than closures, but can still create undesired consequences.

When a fund is merged out of existence, the "surviving" fund is often different than the fund originally purchased. In many cases, additional costs are absorbed by the fund in connection with the merger or closure. If a merger is considered to be in the best interests of shareholders, a test that is relatively easy to meet, some of the reorganization costs may be passed along to the shareholders. When a fund is liquidated, transaction costs associated with the liquidation can reduce the returns of the funds. Often these costs at the individual shareholder level can be relatively small, but any drag on returns in a low return environment can be meaningful. The transition process often creates hidden costs or inefficiencies for investors, as portfolio managers reposition the fund for closure by raising cash. In the case of a merger, the portfolio managers often reposition the fund pre-merger to look more like the fund it is merging with, which can create a subtle but meaningful change in the fund's risk and performance profile.

Predicting Survival of Mutual Funds

For investments that are designed to be short-term in nature, the tendency of funds to close or merge isn't a major consideration for an investor. Funds that are purchased for tactical reasons, such as country funds, sector funds, or inverse/leveraged funds, aren't intended to be held for long periods of time. A fund may be designed to have a finite life, which isn't necessarily a bad thing as long as the investor is aware of that intention before purchasing the fund.

We're concerned more with the longevity of funds that are designed to be part of a long-term strategic investment program, as an ill-timed closure or merger may create unintended consequences for the investors. Accordingly, we reviewed historical data to identify patterns among funds that survive compared with funds that fail to meet the test of time. The primary factors we observed included size, performance, star ratings, and parent company stability.

Size: Larger funds are more likely to stay in business, a simple matter of economics. If a fund is large enough to be profitable, then the fund management company is more likely to leave it alone! Funds with less than $100 million of assets, however, have a higher likelihood of being liquidated or merged away. Large fund companies (those with greater than $100 billion of assets under management) may have even higher asset requirements, with funds less than $250 million of assets being seen as potential candidates for closure or merger.

Performance: Funds with good performance track records are more likely to survive. Funds can survive periods of underperformance, but the longer the stretch of underperformance the higher the risk to the fund. Bottom quartile three and five year performance combined with sub-optimal asset levels is at least a yellow light that indicates that the fund is at risk.

Star ratings: The star system is in many respects a stronger proxy measure for survivorship than it is for identifying future top performing funds! In most asset classes the star system does provide predictive guidance across two dimensions: what losers to avoid and which funds will survive! In many asset classes, 1-star funds are shown to be likely to continue to be underperformers, while 4- and 5- star funds may not be outperformers, but are likely to be survivors. 90% of funds that had a 5-star rating in 2002 were still in existence in 2007, 78% in 2012. In stark contrast, 63% of funds that had a 1-star rating in 2002 were still in existence in 2007, only 39% in 2012. See Table 5.

Table 5 Higher Rated Mutual Funds Tend to Have Longer Lives

Dec 2002 Rating	Dec 2007 5 Year Rate of Survival	Dec 2012 10 Year Rate of Survival
★★★★★	**90%**	**78%**
★★★★	**85%**	**69%**
★★★	**77%**	**57%**
★★	**66%**	**43%**
★	**63%**	**39%**
★★★★★ minus ★	**27%**	**39%**

Parent company stability: The fund's parent company is an important, but harder to evaluate factor in survivorship. Stable, well-funded parent companies are less likely to be bought, which can lend some stability to a fund complex. Often, when a fund's parent company is acquired or merges with another fund company, weaker funds are merged or closed in the rationalization process. Size isn't always a good proxy for parent company stability, as some very large fund companies are incredibly stable and disciplined in their approach while others have launched and closed numerous funds. Some focused small and mid-sized fund companies are among the most stable in the industry.

Case Studies

The following case studies taken from actual events over the past 15 years may help investors to recognize recurring patterns.

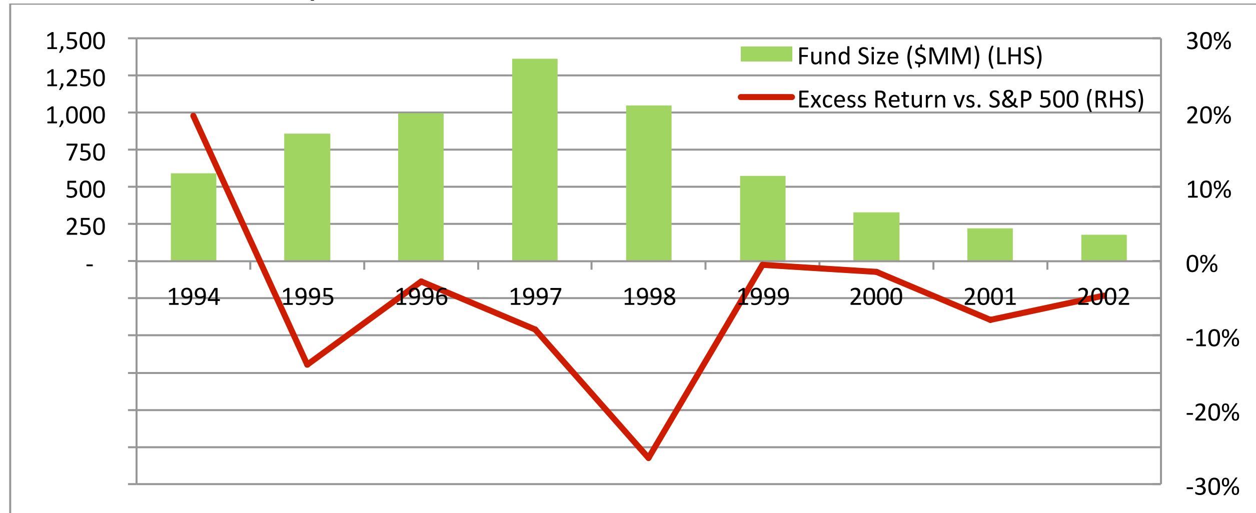
Performance:

Mutual funds are sometimes "one hit wonders" reminding us of bands that had one hit song, only never to be heard from again! Mutual funds can become one hit wonders by making a well-timed market call, or by employing investment techniques that work while the fund is small but aren't sustainable after the fund reaches a certain size.

A mutual fund that started in the 1990s is a good example, having built a sizable asset base from one magical year of performance that was never to be repeated. The fund was the top performer in its category for one year, garnered considerable praise in the press, using the one-year performance as the foundation necessary to earn a 5-star rating from Morningstar after its three-year anniversary. The fund

reached a peak level of assets at nearly $1.5 billion. See Chart 1. After that magical first year, the fund never outperformed its benchmark again. After years of poor performance and a "death spiral" of asset outflows, the fund was merged out of existence.

Chart 1: One Year of Outperformance Leads to $1B+ Fund

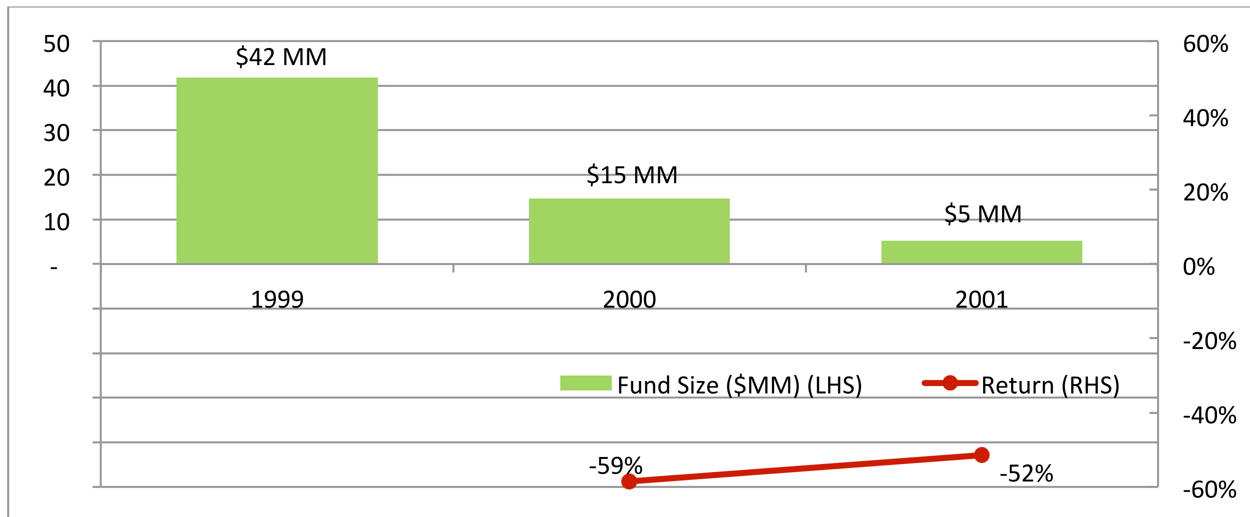


Investment Fads

Remember the height of the dot com era? Companies such as etoys, Excite@home, Webvan, Go, Kozmo and theGlobe went public at a dizzying rate. Fund companies launched mutual funds to invest in these speculative stocks as well as more mature businesses that provided the infrastructure to the burgeoning internet industry. We've identified about 70 technology-focused mutual funds that closed as a result of the bursting of the Internet Bubble. One fund in particular was launched in mid-1999 with the boom in full swing. The firm decided that the public was ready for an internet index fund. With Y2K looming, the diversification and impartiality that are implied by indexing was thought to be an attractive alternative for individual investors.

The fund quickly raised over $40 million in a few months. See Chart 2. With a portfolio loaded with popular stocks such as Cisco, Broadcom, VeriSign, Yahoo and Ariba, it looked like an attractive fund for the discerning technology investor. But history tells a different story. Buying many of its holdings near their all-time highs, the fund lost more than 50% of its value in each of the next two years, under-performing the vast majority of its technology fund peers. In an act of mercy, with just $5 million in assets, it was merged into a larger global growth fund at the same company in early 2002.

Chart 2: The Downhill Slide of an Internet Fund



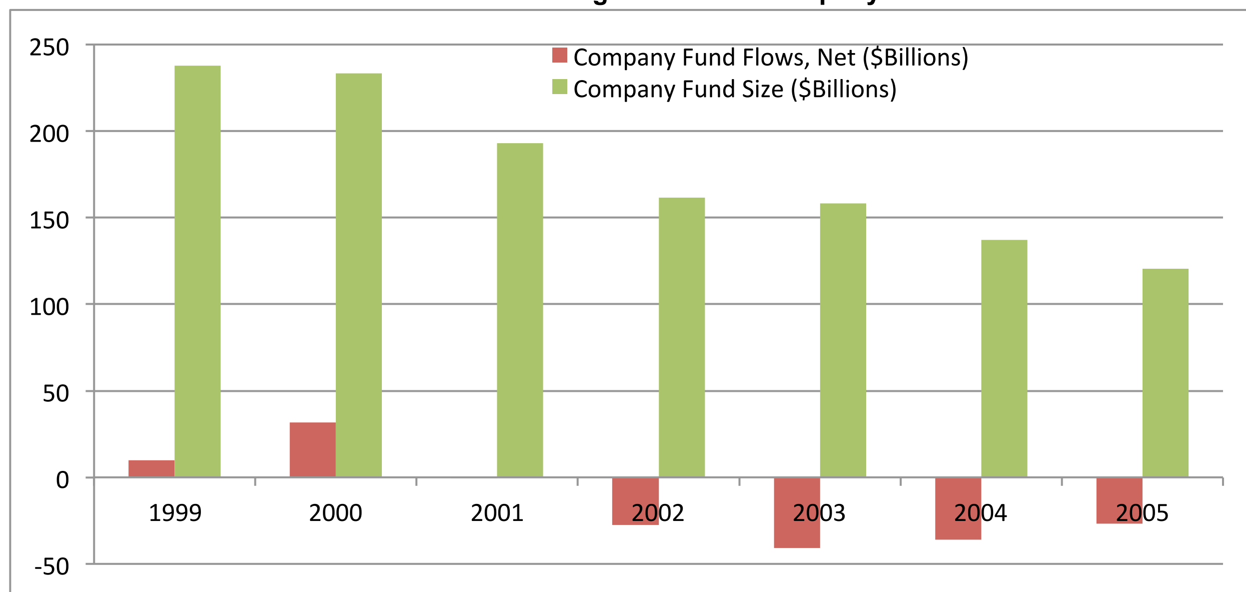
Parent Company Distress

Scandals and regulatory issues can also be catalysts for fund closures and mergers. Asset flight after the market timing and late trading scandals of 2003 led to a series of mergers, closures and performance impairment. Awareness of the broader environment is critical to navigating a turbulent environment, as is decisive action when news breaks about a scandal that affects your fund or fund company.

Even large investment firms can liquidate and merge funds if they fall prey to firm-wide difficulties. In the early 2000s, one such fund company admitted to allowing some of its portfolio managers and investors to market time its funds over the previous four years. The portfolio managers were exploiting inefficiencies in the ways in which mutual funds used to price their portfolios, in effect taking advantage of stale prices recorded in their mutual funds to create arbitrage profits in their personal trading account. The company paid over $100 million in compensation and penalties to settle charges with regulators. That sum was just the beginning of their troubles, however. Investors revolted and began a multi-year flood of withdrawals that totaled about $40 billion per year. See Chart 3.

This massive outflow of investor dollars led to 23 fund liquidations and mergers, including merging away of the three international funds managed by the market timing portfolio managers. Investors who stayed with the funds hoping for a turnaround were burned multiple times: once when the portfolio managers market timed their fund, again while the funds experienced massive outflows and a final time when the fund they had invested in was merged into another fund.

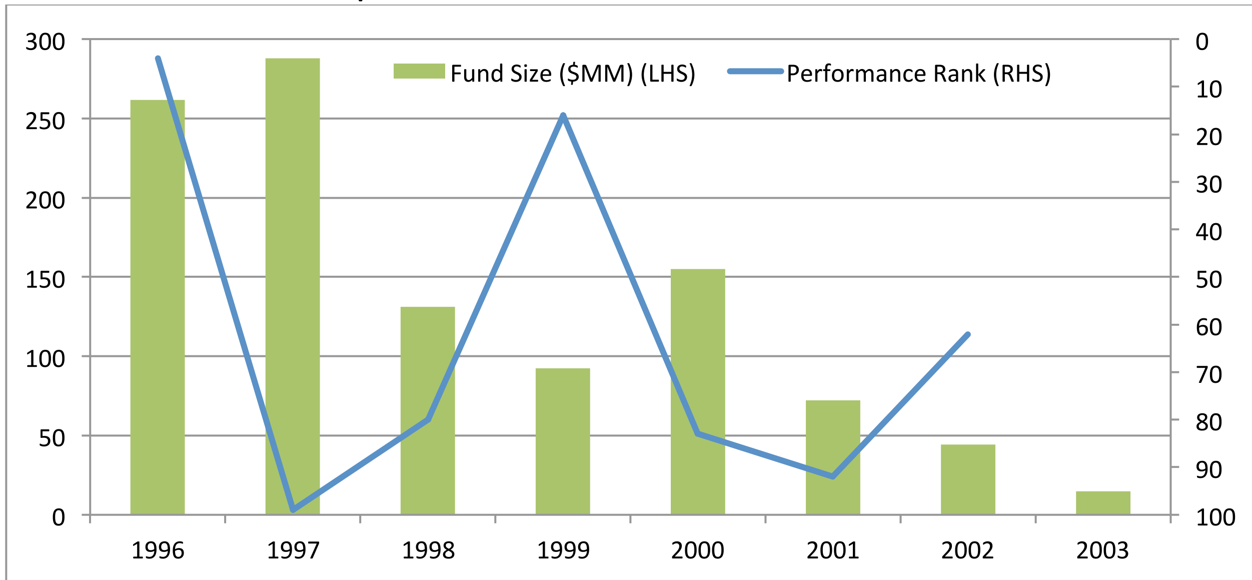
Chart 3: Massive Investor Outflows from a Disgraced Fund Company



Another fund company implicated in the market timing scandal was run by high-flying media-darling owners who benefited directly from agreements that reportedly cost investors about $1 billion. A hedge fund partly owned by one of the fund company owners was provided non-public information about fund holdings, allowed to front run fund trades, and was granted preferential treatment allowing the hedge fund to trade the mutual funds more frequently than other investors. When news of this scandal broke, the company's mutual funds started to die a slow death caused by an extended period of outflows. The mutual fund complex ultimately was shut down. Clients, particularly those who hung around hoping for a turnaround, suffered significant losses.

While it can be almost impossible for an outsider to detect outright crimes occurring within a mutual fund, in this case there were other warning signs, even in the absence of suspicion of wrong-doing. Assets under management grew 250% in one year in the early 1990s. Such rapid growth can make it difficult to sustain the approach that made the company successful. The rapid growth was followed by a dramatic fall in 1998 when the flagship fund's assets dropped by 50% after under-performing most of its peers. See Chart 4. Not only are wild performance swings difficult for some clients to handle, but the drop in asset size is a warning sign because massive withdrawals force a portfolio manager to sell when they don't want to and can negatively impact performance for the remaining investors.

Chart 4: 1998's Dramatic Drop in Fund Size after Poor Relative Performance

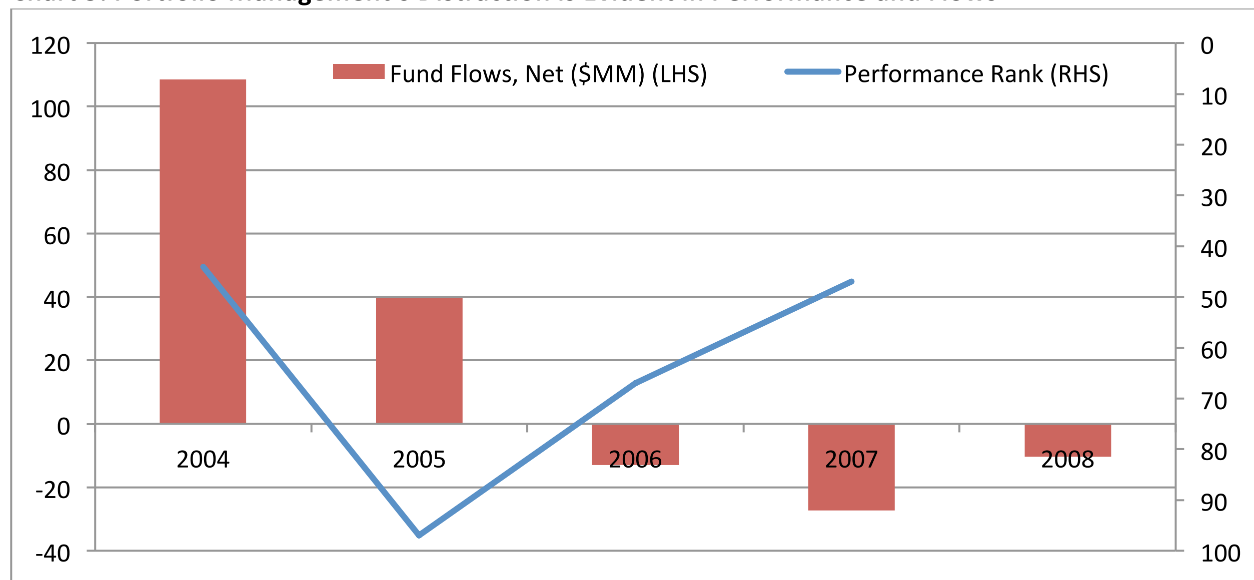


Parent company instability

One mutual fund complex moved from one parent to another during the 2000s. The organizational and cultural issues surrounding the parent company were well known in the industry, and created major distractions for portfolio managers whose livelihoods were driven as much by corporate politics as by the performance of their funds.

One fund was launched in 2003, designed to be a product extension building on the popularity of another fund managed by the investment team. The fund was launched with some fanfare, but soon became an afterthought for the fund company and investment team. The fund's performance was mediocre at best, and the combination of weak performance and corporate indifference led many clients to find their way to the exit. See Chart 5. After the parent company was sold, the fund was ultimately merged out of existence in a consolidation implemented by the new parent company.

Chart 5: Portfolio Management's Distraction is Evident in Performance and Flows



What to do if your fund is being closed or merged?

In most cases, there is no reason to stick around if a fund is being closed. The fund will incur transaction costs during the liquidation process and in many cases will be managed by distracted portfolio managers who are serving as caretakers under the supervision of a team of lawyers. We've observed several examples in our career of funds drifting from their mandate during a wind-down process. Better to leave the fund than risk an unexpected outcome. The one exception to this rule relates to taxes. If the investor wants to minimize gain realization, it may make sense to delay redemption if doing so converts a short term gain to long term status or defers the gain to the next year.

In the event of a fund merger, the decision-making process is different. The key decision involves evaluating whether the merged fund fits your portfolio and is of a quality that you are looking for. An investor should decide what role the fund should play in the asset allocation, identifying whether it fills the same role as the fund originally purchased. Ultimately, the due diligence process employed must reexamine the questions originally asked:

- *What is the manager's edge?* In other words, what does the portfolio manager do that provides a competitive advantage?
- *Is the manager's edge sustainable?* Will the manager continue to have an advantage over the market? Identifying an historic advantage is of little use if the advantage won't persist into the future.
- *How will the manager perform in different investment environments?* No product does well in every environment. Understanding patterns of performance are critical to identifying whether the product will fulfill the role it is assigned.

About the Authors

Daniel Kern, CFA, President, Chief Investment Officer, Advisor Partners

Daniel is responsible for establishing and driving the overall company strategy for Advisor Partners, and oversees all aspects of company operations. As CIO, he establishes the investment philosophy and process for Advisor Partners. Prior to joining Advisor Partners, he was Managing Director and Portfolio Manager for Charles Schwab Investment Management. His leadership positions at Schwab prior to October 2008 included heading product development and serving as CFO of a fund company. Prior to Schwab, he was Managing Director and Principal for Montgomery Asset Management.

Daniel is a graduate of Brandeis University and earned his MBA in Finance from the University of California, Berkeley. He is a CFA Charterholder and a former President of the CFA Society of San Francisco.

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Gerard develops asset allocation models and assists in the ongoing oversight of portfolios, including construction, risk management, and cash management. Previously, he was a research analyst at Charles Schwab Investment Advisory, where he performed manager due diligence for separately managed accounts and mutual funds. Prior to his investment career, Gerard worked in the computer hardware and environmental services industries.

Gerard holds a BS in Civil Engineering from Carnegie Mellon University (CMU) and an MBA from CMU's Tepper School of Business. He is a CFA Charterholder and teaches ethics and private wealth management in the CFA Society of San Francisco's exam review program.