Does Fund Size Erode Mutual Fund Performance? The Role of Liquidity and Organization

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We investigate the effect of scale on performance in the active money management industry. We first document that fund returns, both before and after fees and expenses, decline with lagged fund size, even after accounting for various performance benchmarks. We then explore a number of potential explanations for this relationship. This association is most pronounced among funds that have to invest in small and illiquid stocks, suggesting that these adverse scale effects are related to liquidity. Controlling for its size, a fund's return does not deteriorate with the size of the family that it belongs to, indicating that scale need not be bad for performance depending on how the fund is organized. Finally, using data on whether funds are solo-managed or team-managed and the composition of fund investments, we explore the idea that scale erodes fund performance because of the interaction of liquidity and organizational diseconomies. (*JEL* G2, G20, G23, L2, L22)

The mutual fund industry plays an increasingly important role in the U.S. economy. Over the past two decades, mutual funds have been among the fastest growing institutions in this country. At the end of 1980, they managed less than $150 billion, but this figure had grown to over $4 trillion by the end of 1997—a number that exceeds aggregate bank deposits (Robert C. Pozen, 1998). Indeed, almost 50 percent of households today invest in mutual funds (Investment Company Institute, 2000). The most important and fastest-growing part of this industry is funds that invest in stocks, particularly actively managed ones. The explosion of newsletters, magazines, and such rating services as Morningstar attest to the fact that investors spend significant resources in identifying managers with stock-picking ability. More important, actively managed funds control a sizeable stake of corporate equity and play a pivotal role in the determination of stock prices (see, e.g., Mark Grinblatt et al., 1995; Paul Gompers and Andrew Metrick, 2001).

In this paper, we tackle an issue that is fundamental to understanding the role of these mutual funds in the economy—the economies of scale in the active money management industry. Namely, how does performance depend on the size or asset base of the fund? A better understanding of this issue would naturally be useful for investors, especially in light of the massive inflows that have increased the mean size of funds in the recent past. At the same time, the issue of the persistence of fund performance depends crucially on the scale-ability of fund investments (see, e.g., Martin J. Gruber, 1996; Jonathan Berk and Richard C. Green, 2002). Moreover, the nature of the economies of scale in this industry may also have implications for the agency relationship between managers and investors and the optimal compensation contract between them (see, e.g., Keith Brown et al., 1996; Stan Becker and Greg Vaughn, 2001). Therefore, understanding the effects of fund size on fund returns is an important first step toward addressing such critical issues.

While the effect of scale on performance is an important question, it has received little research attention to date. Some practitioners

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