

## Foundation for the Advancement of Research in Financial Economics

### “Mutual Fund Flows and Performance in Rational Markets”

by Jonathan B. Berk and Richard C. Green

The fifth Stephen A. Ross Prize in Financial Economics has been awarded to “Mutual Fund Flows and Performance in Rational Markets,” published in the *Journal of Political Economy* in 2004, by Jonathan B. Berk of Stanford University and the late Richard C. Green of Carnegie Mellon University.<sup>1</sup> The prize committee chose this paper for its important contribution to our understanding of the equilibrium behavior of mutual fund returns and mutual fund flows.

Empirical analyses of mutual fund returns have generally found that, on average, actively-managed mutual funds do not outperform passive benchmarks (e.g., Jensen (1968), Malkiel (1995), Gruber (1996), and Wermers (2000), among others). Moreover, the evidence that mutual funds’ risk-adjusted returns are persistent is mixed and fairly weak. That is, a fund’s past performance has little or no predictability for its future performance on a risk-adjusted basis (e.g., Gruber (1996), Carhart (1997) and Zheng (1999)). Alone, these two findings are consistent with markets being relatively efficient – picking stocks is hard and most fund managers can’t do it and differences in performance across fund managers can be attributed to luck. Market efficiency, however, seems at odds with a third empirical regularity, namely, that investors “chase” returns, moving their money from poor performing mutual funds to high performing mutual funds (e.g., Ippolito (1992), Chevalier and Ellison (1997), Sirri and Tufano (1998)). If actively-managed mutual funds do not beat passive benchmarks and if their returns are not persistent, then why are investors reallocating their money toward funds that have performed well in the past?

The Berk and Green article provides a simple and intuitive benchmark framework for explaining these findings as well as thinking about the money management industry more generally. Their framework is based on an efficient and competitive market for mutual funds. The explanation that they develop relies on two key premises, both of which are eminently reasonable. The first premise is that there are in fact talented mutual fund managers, some more so and some less. And the more talented can be expected to outperform the less talented. Investors, however, are uncertain about who is talented and who is not and thus exploit observed fund performance to update their beliefs about managerial talent. The second premise is that money management by talented managers exhibits decreasing returns to scale. Intuitively, managers of larger funds may face higher information gathering costs, larger price impact of trades, and higher execution costs. Under this premise, a manager may be limited in how much he can invest in the opportunities that his talent can uncover. Assuming that assets above this limit are invested to earn a fair risk-adjusted return, it then follows that the greater the assets under management, the lower the fraction of funds invested in the

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<sup>1</sup> Richard C. Green passed away in October 2015.

promising opportunities that are uncovered by the manager's talent and the lower the risk-adjusted return of the overall fund.

With these two premises, how should flows between funds relate to past fund performance and what should we expect regarding future fund performance? Investors will update favorably (unfavorably) about managers with superior (poor) fund performance. Given this updating, investors will reallocate their money from those managers who they now believe are less talented to those managers who they now believe to be more talented. But because of the decreasing returns there will be a limit to these fund flows. In equilibrium, we should expect the fund flows to continue until the expected risk-adjusted returns, net of fees, are equal across funds and equal to the expected returns available through passive benchmarks. Investors rationally chase returns even though in equilibrium, there will be no persistence in returns. This is a simple, yet powerful idea.

The Berk and Green article also goes on to analyze several other implications of the model, such as the survivorship bias of mutual funds (whose biases are widely documented in the empirical literature, e.g., Brown, Goetzmann, Ibbotson and Ross (1992), and Carhart, Carpenter, Lynch, and Musto (2002)) and the age-related relation between fund performance and fund flows (as documented by, e.g., Chevalier and Ellison (1997)).

More generally, the Berk and Green article has reoriented the questions asked in mutual fund studies. As shown by Berk and Green, in an efficient market for mutual funds we should observe that: (i) actively-managed funds do not outperform passive benchmarks; (ii) investors reallocate their money to the better performing funds; and (iii) there is no persistence in mutual fund performance. Previously it was deemed puzzling that researchers found evidence consistent with (i), (ii) and (iii). Now it seems puzzling when researchers find evidence that contradicts these three predictions.

## References:

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