



**Research Note**  
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## **Fund Performance**

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### **Abstract**

This note reviews the literature on fund performance. A practical way of gauging market efficiency is to attempt to identify above-average risk-adjusted returns from one or more market participants that are the result of skill, as opposed to luck. If any such returns are identified, then the market is not efficient. In practice, such a test is best performed by seeking persistence in the returns of fund managers; if persistence is identified, then markets are not efficient. From the articles reviewed, around 18 papers found evidence of manager skill/persistence in fund manager returns, whilst around 7 supported market efficiency. Of the five papers that explicitly mentioned market timing, none of them found that fund managers were able to time the market. It appears that stock picking is a worthwhile activity, whilst market timing is not. This bodes well for fundamental analysis, but poorly for technical analysis.

A practical way of gauging market efficiency is to attempt to identify above-average risk-adjusted returns from one or more market participants that are the result of skill, as opposed to luck. If any such returns are identified, then the market is not efficient. In practice, such a test is best performed by seeking persistence in the returns of fund managers; if persistence is identified, then markets are not efficient. This note reviews the literature on fund performance in general, with a particular focus on performance persistence, and spans over 40 years of research.

Sharpe (1966) looked at the performance of open-end mutual funds and found that to a major extent the capital market is highly efficient, but there is some evidence of persistence in performance. Jensen (1968) evaluated the performance of mutual funds in the period 1945–1964 and found no evidence of manager skill.

Henriksson (1984) evaluated the performance of open-end mutual funds and concluded that their empirical results do not support the hypothesis that mutual fund managers are able to follow an investment strategy that successfully times the return on the market portfolio. Ippolito (1989) looked at mutual fund data and found evidence that is consistent with optimal trading in efficient markets. He concluded that risk-adjusted returns in the mutual fund industry, net of fees and expenses, are comparable to returns available in index funds. Grinblatt and Titman (1989) looked at mutual fund performance and tests indicated that the risk-adjusted gross returns of some funds were significantly positive.

Sharpe (1992) described an asset class factor model, which makes it possible to determine how effectively individual fund managers have performed their functions and the extent (if any) to which value has been added through active management. Brown et al. (1992) showed that survivorship bias can give the false impression of persistence in mutual fund performance. Grinblatt and Titman (1992) looked at mutual fund data and found evidence that differences in performance between funds persist over time and that this persistence is consistent with the ability of fund managers to earn abnormal returns. Hendricks et al. (1993) found that in the period 1974–1988 relative performance of no-load, growth-oriented mutual funds persisted in the near term, with the strongest evidence for a one-year evaluation horizon. Coggin et al. (1993) examined the investment performance of US equity pension fund managers. They found that pension fund managers were good at picking stocks, but poor at timing the market. The best managers produced substantial risk-adjusted excess returns.

Brown and Goetzmann (1995) explored equity mutual fund data and found clear evidence of *relative* risk-adjusted performance persistence; however, the persistence was mostly due to funds that lag the S&P 500, depends upon the time period observed and is correlated across managers. Elton et al. (1995) found that bond funds underperformed the returns predicted by a relative pricing model that they developed by the amount of expenses, on average. They note that there is no evidence that managers, on average, can provide superior returns on the portfolios they manage, even if they provide their services free of cost. Grinblatt et al. (1995) found that mutual funds which bought past winners (followed a momentum strategy) realized significantly better performance than other funds. Brown et al. (1996) looked at growth-oriented mutual funds and demonstrated that mid-year losers tend to increase fund volatility in the latter part of an annual assessment period to a greater extent than mid-year winners. Elton et al. (1996a) provide estimates of survivorship bias that can be used as benchmarks to determine the amount of bias in studies that do not take survivorship bias into account. Elton et al. (1996b) found persistence in risk-adjusted stock mutual fund returns. Ferson and Schadt (1996) advocate conditional mutual fund performance evaluation in which the relevant expectations are conditioned on public information variables. This method made the average performance of the mutual funds in their sample look better. Gruber (1996) sought to solve the puzzle as to why investors buy actively managed open end mutual funds when their performance on average has been inferior to that of index funds. He suggests that the solution to the puzzle is that if managers have skill, future performance is in part predictable from past performance, and this management ability may not be included in the price. Ferson and Warther (1996) modified classical performance measures to take account of well-known market indicators (interest rates, dividend yields and other commonly available variables). This conditional performance evaluation makes mutual funds' performance look better. Goetzmann and Peles (1997) presented evidence that cognitive dissonance explains mutual fund investor inertia. That is, investor aversion to switching from poor performers may be explained by overly optimistic perceptions of past mutual fund performance. Carhart (1997) considered the persistence in equity mutual funds' mean and risk-adjusted returns. He concluded that the results do not support the existence of skilled or informed mutual fund portfolio managers. Daniel et al. (1997) looked at the performance of equity mutual funds. Their results showed that mutual funds, particularly aggressive-growth funds, exhibit some selectivity ability, but that funds exhibit no characteristic timing ability. Indro et al. (1999) reported that fund size (net assets under management) affects mutual fund performance and found that, in effect, 20% of nonindexed US equity funds were too small and 10% too large. Ackermann et al. (1999) examined hedge fund data from 1988–1995 and found that hedge funds consistently outperform mutual funds, but not standard market indices. However, hedge funds are more volatile than both mutual funds and market indices. Incentive fees explained some of the higher performance, but were not correlated with total risk. Chevalier and Ellison (1999) found that mutual fund managers who attended higher-SAT undergraduate institutions have systematically higher risk-adjusted excess returns. Liang (1999) looked at hedge fund performance.

'Funds with "high watermarks" (under which managers are required to make up previous losses before receiving any incentive fees) significantly outperform those without. Hedge funds provide higher Sharpe ratios than mutual funds, and their performance in the period of January 1992 through December 1996 reflects better manager skills, although hedge fund returns are more volatile. Average hedge fund returns are related positively to incentive fees, fund assets, and the lockup period.' Edelen (1999) showed that the common finding of negative return performance at open-end mutual funds is attributable to the costs of liquidity-motivated trading: open-end equity funds provide diversified equity positions with little direct cost to investors for liquidity. Blake et al. (1999) analysed a data set on UK pension funds. Their main finding was that strategic asset allocation accounts for most of the ex post variation of UK pension funds' returns. Moreover, the vast majority of funds had negative market-timing estimates.

Wermers (2000) examined mutual fund databases and concluded that their evidence supported the value of active mutual fund management. Liang (2001) studied hedge fund performance and risk from 1990 to mid-1999. Hedge funds had an annual return of 14.2 per cent in this period, compared with 18.8 per cent for the S&P 500 Index, although the S&P 500 was much more volatile. Kothari and Warner (2001) argue that standard mutual fund performance measures are inadequate for detecting abnormal fund performance. They suggest using event-study procedures that analyse a fund's stock trades. Berk and Green (2004) derived a parsimonious rational model of active portfolio management. They state that '[t]he lack of persistence in returns does not imply that differential ability across managers is non-existent or unrewarded or that gathering information about performance is socially wasteful.' Bollen and Busse (2005) examine daily mutual fund data, consider quarterly returns and conclude that superior performance is a short-lived phenomenon that is observable only when funds are evaluated several times a year. Huij and Verbeek (2007) investigated the persistence in mutual fund performance using monthly return data of more than 6400 US equity mutual funds over the period 1984–2003. Their results clearly support the idea that past performance of mutual funds has predictive power for future performance. Cuthbertson et al. (2008) used a 1975–2002 data set for UK equity mutual funds and found the existence of stock picking ability among the top 5–10% of funds, whilst most poor performing funds were not merely unlucky, but demonstrated 'bad skill'. Agarwal et al. (2009) examined the role of managerial incentives and discretion in hedge fund performance. First, they found that funds with better managerial incentives (higher total deltas, higher option deltas, greater managerial ownership, and the presence of a high-water mark provision in the hedge fund contract) are associated with better performance. Second, they observed that funds with greater managerial discretion (longer lockup and restriction periods) generate higher returns.

Barras et al. (2010) analysed monthly returns of 2,076 actively managed US open-end, domestic equity mutual funds that existed at any time between 1975 and 2006. They found that 75% of funds exhibit zero alpha (net of expenses). Further, they found that the proportion of skilled (positive alpha) funds declined from 22% in 1993 to just 1% in 2006. Jagannathan et al. (2010) considered hedge fund returns from 1996 until 2005, and found significant performance persistence among superior funds but little evidence of persistence among inferior funds. Busse et al. (2010) examined the performance and persistence in performance of 4,282 active US equity institutional products managed by 1,384 investment management firms between 1991 and 2007. They found little to no evidence that performance persists.

In summary, the only way of gauging market efficiency from fund returns is to identify persistence in the returns of fund managers; if persistence is identified, then markets are not efficient. From the articles above, around 18 papers found evidence of manager skill/persistence in fund manager returns, whilst around 7 supported market efficiency. Of the five papers that explicitly mentioned market timing (Henriksson, 1984; Coggin et al., 1993; Daniel et al., 1997; Blake et al., 1999; Cuthbertson et al., 2008), none of them found that fund managers were able to time the market. To conclude, it appears that stock picking is a worthwhile activity, whilst market timing is not. This bodes well for fundamental analysis, but poorly for technical analysis.

## References

- Ackermann, C., McEnally, R. and Ravenscraft, D. (1999), The performance of hedge funds: risk, return, and incentives, *The Journal of Finance* **54**(3), 833–874.
- Agarwal, V., Daniel, N. D. and Naik, N. Y. (2009), Role of managerial incentives and discretion in hedge fund performance, *The Journal of Finance* **64**(5), 2221–2256.
- Barras, L., Scaillet, O. and Wermers, R. (2010), False discoveries in mutual fund performance: Measuring luck in estimated alphas, *The Journal of Finance* **65**(1), 179–216.
- Berk, J. B. and Green, R. C. (2004), Mutual fund flows and performance in rational markets, *Journal of Political Economy* **112**(6), 1269–1295.

- Blake, D., Lehmann, B. N. and Timmermann, A. (1999), Asset allocation dynamics and pension fund performance, *The Journal of Business* **72**(4), 429–461.
- Bollen, N. P. B. and Busse, J. A. (2005), Short-term persistence in mutual fund performance, *The Review of Financial Studies* **18**(2), 569–597.
- Brown, K. C., Harlow, W. V. and Starks, L. T. (1996), Of tournaments and temptations: An analysis of managerial incentives in the mutual fund industry, *The Journal of Finance* **51**(1), 85–110.
- Brown, S. J., Goetzmann, W., Ibbotson, R. G. and Ross, S. A. (1992), Survivorship bias in performance studies, *The Review of Financial Studies* **5**(4), 553–580.
- Brown, S. J. and Goetzmann, W. N. (1995), Performance persistence, *The Journal of Finance* **50**(2), 679–698.
- Busse, J. A., Goyal, A. and Wahal, S. (2010), Performance and persistence in institutional investment management, *The Journal of Finance* **65**(2), 765–790.
- Carhart, M. M. (1997), On persistence in mutual fund performance, *The Journal of Finance* **52**(1), 57–82.
- Chevalier, J. and Ellison, G. (1999), Are some mutual fund managers better than others? Cross-sectional patterns in behavior and performance, *The Journal of Finance* **54**(3), 875–899.
- Coggin, T. D., Fabozzi, F. J. and Rahman, S. (1993), The investment performance of U.S. equity pension fund managers: An empirical investigation, *The Journal of Finance* **48**(3), 1039–1055.
- Cuthbertson, K., Nitzsche, D. and O’Sullivan, N. (2008), UK mutual fund performance: Skill or luck?, *Journal of Empirical Finance* **15**(4), 613–634.
- Daniel, K., Grinblatt, M., Titman, S. and Wermers, R. (1997), Measuring mutual fund performance with characteristic-based benchmarks, *The Journal of Finance* **52**(3), 1035–1058.
- Edelen, R. M. (1999), Investor flows and the assessed performance of open-end mutual funds, *Journal of Financial Economics* **53**(3), 439–466.
- Elton, E. J., Gruber, M. J. and Blake, C. R. (1995), Fundamental economic variables, expected returns, and bond fund performance, *The Journal of Finance* **50**(4), 1229–1256.
- Elton, E. J., Gruber, M. J. and Blake, C. R. (1996a), Survivorship bias and mutual fund performance, *The Review of Financial Studies* **9**(4), 1097–1120.
- Elton, E. J., Gruber, M. J. and Blake, C. R. (1996b), The persistence of risk-adjusted mutual fund performance, *The Journal of Business* **69**(2), 133–157.
- Ferson, W. E. and Schadt, R. W. (1996), Measuring fund strategy and performance in changing economic conditions, *The Journal of Finance* **51**(2), 425–461.
- Ferson, W. E. and Warther, V. A. (1996), Evaluating fund performance in a dynamic market, *Financial Analysts Journal* **52**(6), 20–28.
- Goetzmann, W. N. and Peles, N. (1997), Cognitive dissonance and mutual fund investors, *Journal of Financial Research* **20**(2), 145–158.
- Grinblatt, M. and Titman, S. (1989), Mutual fund performance: An analysis of quarterly portfolio holdings, *The Journal of Business* **62**(3), 393–416.
- Grinblatt, M. and Titman, S. (1992), The persistence of mutual fund performance, *The Journal of Finance* **47**(5), 1977–1984.
- Grinblatt, M., Titman, S. and Wermers, R. (1995), Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior, *The American Economic Review* **85**(5), 1088–1105.
- Gruber, M. J. (1996), Another puzzle: The growth in actively managed mutual funds, *The Journal of Finance* **51**(3), 783–810.
- Hendricks, D., Patel, J. and Zeckhauser, R. (1993), Hot hands in mutual funds: Short-run persistence of relative performance, 1974–1988, *The Journal of Finance* **48**(1), 93–130.

- Henriksson, R. D. (1984), Market timing and mutual fund performance: An empirical investigation, *The Journal of Business* **57**(1), 73–96.
- Huij, J. and Verbeek, M. (2007), Cross-sectional learning and short-run persistence in mutual fund performance, *Journal of Banking & Finance* **31**(3), 973–997.
- Indro, D. C., Jiang, C. X., Hu, M. Y. and Lee, W. Y. (1999), Mutual fund performance: Does fund size matter?, *Financial Analysts Journal* **55**(3), 74–87.
- Ippolito, R. A. (1989), Efficiency with costly information: A study of mutual fund performance, 1965–1984, *The Quarterly Journal of Economics* **104**(1), 1–23.
- Jagannathan, R., Malakhov, A. and Novikov, D. (2010), Do hot hands exist among hedge fund managers? An empirical evaluation, *The Journal of Finance* **65**(1), 217–255.
- Jensen, M. C. (1968), The performance of mutual funds in the period 1945–1964, *The Journal of Finance* **23**(2), 389–416.
- Kothari, S. P. and Warner, J. B. (2001), Evaluating mutual fund performance, *The Journal of Finance* **56**(5), 1985–2010.
- Liang, B. (1999), On the performance of hedge funds, *Financial Analysts Journal* **55**(4), 72–85.
- Liang, B. (2001), Hedge fund performance: 1990–1999, *Financial Analysts Journal* **57**(1), 11–18.
- Sharpe, W. F. (1966), Mutual fund performance, *The Journal of Business* **39**(S1), 119–138.
- Sharpe, W. F. (1992), Asset allocation: Management style and performance measurement, *The Journal of Portfolio Management* **18**(2), 7–19.
- Wermers, R. (2000), Mutual fund performance: An empirical decomposition into stock-picking talent, style, transactions costs, and expenses, *The Journal of Finance* **55**(4), 1655–1695.