

# OPTIMALITY OF BUY AND SELL TIMING DECISIONS BY INVESTMENT FUND MANAGERS

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## ABSTRACT

We analyze a transaction-level proprietary data set to evaluate the timing of fund managers' buying and selling activities. Comparing traded stocks' performance prior and subsequent to each transaction, we find that fund managers buy at a low price and sell at a high price. Unlike individual investors influenced by behavioral biases, fund managers seem not to be affected by biases such as disposition or endowment effects in making efficient timing decisions when trading stocks. For our sample data, we also find that the fund managers' actual trading activity performs better than simple contrarian or momentum based strategies.

Timing decision is very important for active fund managers. Fund managers who are unable to time their buy and sell transactions are likely to be driven out by competitive market forces. However, prior behavioral finance studies document that investment decision makers may deviate from efficient timing. Disposition effect and endowment effect are psychological factors that may induce biased investment decisions. In addition, the propensity to pursue a momentum based or contrarian investment strategy may lead to inefficient decisions in an efficient market. Whether fund managers make trading decisions that time the market well is an empirical question. Previous studies have relied on public data on fund managers' portfolio holdings to evaluate overall fund performance. In this study, we use a proprietary dataset to examine fund managers' timing decisions at the transaction level.

High liquidity and frequent trading activities are key features of equity markets. Fund managers play an important role in this competitive market and their performance draws great attention from both practitioners and academics.<sup>1</sup> Efficient timing decision is likely to help fund managers survive in this competitive market. Moreover, fund managers' short-term compensation is also directly or indirectly based on assessment of managers' investment performance (Korschot (1978), Smith (1978)). Performance benchmarks constitute an important element of fund managers' incentive contracts as their compensation is determined by comparing fund performance to that of a benchmark portfolio, such as the Standard and Poors 500 (Schultz (1996)). Efficient timing

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<sup>1</sup> In October 2007, there were 8,015 mutual funds with combined assets of \$12.356 trillion that were members of the Investment Company Institute (ICI), a national trade association of investment companies in the United States.

decisions may assist fund managers generate portfolio return in excess of the benchmark. From an academic perspective, these incentives suggest that fund managers who survive are likely to have a superior ability to time their trades.

Psychological biases, however, may detract from efficient timing of trades. The disposition effect is an anomaly documented in behavioral finance (Shefrin and Statman (1985)). It is the tendency of investors to sell winners too early and hold losers too long. If fund managers are influenced by the disposition effect, their portfolios are more likely to hold losers (negative momentum stocks) too long resulting in underperformance. Several previous studies have shown that the disposition effect prevails among individual investors. Some studies (e.g., Jin and Scherbina (2011)) even suggest that professional money managers such as mutual fund managers exhibit the disposition bias. In addition to the disposition effect, the endowment effect may also influence fund managers. The endowment effect is the phenomenon that people place a higher value on objects they own relative to objects they do not. If fund managers are affected by the endowment effect, they may hold winners too long. Both the disposition effect and the endowment effect may induce fund managers to make inefficient timing decisions.

Does the trading strategy of experienced fund managers outperform strategies that have been documented to be successful in previous research? Postulating that stock prices under-react to information, Jegadeesh and Titman (1993) show that momentum strategy can generate positive returns by buying stocks that have performed well in the recent past and selling stocks that have performed poorly in the recent past. Alternatively, if stock prices overreact to information, a contrarian strategy can outperform the market by buying stocks that have performed poorly in the recent past and selling stocks that have performed well in the recent past (De Bondt and Thaler (1985, 1987)).

To evaluate portfolio managers' performance, Fama (1972) suggests that two distinct components of skills should be considered: stock selection and market timing. Stock selection is based on prediction of company-specific events and forecasts of price movements of selected individual stocks. Previous studies term it as microforecasting. On the other hand, market timing refers to forecasts of price movements of the general stock market. It is called macroforecasting.

In this study, we examine fund managers' timing decisions of their stock selection ability. Stock selection requires the identification of individual stocks that are under- or overvalued relative to equities in general. Most prior literature uses "alpha" to capture fund managers' stock selection talent.<sup>2</sup> Passive strategies that randomly buy and hold securities or simply replicate a market portfolio is expected to yield zero "alpha".

Some studies evidence that fund managers have significant stock selection ability (Grinblatt and Titman (1989, 1993), Wermers (1997)). For example, Wermers (1997) finds that fund managers have stock picking ability enabling them to outperform benchmarks, especially for growth-oriented funds. However, most studies investigating fund managers' stock selection ability relies on portfolio returns

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<sup>2</sup> For example, Jensen's alpha (Jensen, 1968) is a common performance measure for fund managers' stock selection ability.

which are an average effect during certain period. In this study, we examine fund managers' timing decisions of their stock selection ability at the transaction level. We argue that timing decisions are critical to actively managed funds. Efficient timing decisions enable fund managers at least to cover transaction costs due to frequent trading, and even add value to their managed portfolio. If fund managers can time each trade well, their portfolio should be able to generate profits. We want to know if the stock selection ability documented in prior studies could result from fund managers' efficient timing decisions.

Timing of trades in specific stocks requires both an ability to select stocks and also predict movements in the price of these stocks. To gain a better understanding of the fund managers' timing decision, we obtained access to a proprietary data set over a year from a mutual fund company that records its fund managers' selling and buying activities over a year. Unlike other mutual fund databases that focus on portfolio performance over a period, our data set is from one mutual fund company at the transaction level for each buy and sell trade made by several fund managers. Compared to fund or portfolio level data, our transaction level data can provide direct tests of fund managers' timing decisions.<sup>3</sup>

We find fund managers in our sample exhibit on average the ability to buy low and sell high. This efficiency of buy and sell timing decisions suggests that fund managers are not overly influenced by psychological biases, such as the endowment effect or the disposition effect. Additionally, restricting consideration to the same set of traded stocks, fund managers outperform both the momentum strategy which generates profits from the delayed stock price reactions and the contrarian strategy which generates profits due to possible overreactions in market price.

The remainder of this paper is organized as follows. Section I reviews some of the related literature and develops the principal hypotheses. Section II describes the data and the empirical tests used to analyze fund managers' timing decisions. Section III reports our main findings and Section IV concludes the paper.

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<sup>3</sup> While data from only one firm may raise concerns about the generalizability of our results, our research site is an average sized mutual fund firm with asset portfolios principally in NYSE-AMEX stocks.