

---

## Can Investors Profit from the Prophets? Security Analyst Recommendations and Stock Returns

**Brad Barber, Reuven Lehavy, Maureen McNichols, and Brett Trueman**

*Journal of Finance*

vol. 56, no. 2 (April 2001):531–563

Can investors use publicly available stock recommendations made by Wall Street analysts to generate positive risk-adjusted excess returns? Using data from 1986 through 1996, the authors show that a significant difference in returns exists between the most highly rated and the least favorably rated stocks. Unfortunately, after accounting for transaction costs, a strategy of buying the most highly rated and selling the least favorably rated stocks fails to produce a net risk-adjusted excess return greater than zero.

---

The authors test the semi-strong form of market efficiency by examining whether publicly available analyst stock recommendations can be used to generate risk-adjusted excess returns. The authors devise an investment strategy based on analyst recommendations and measure its risk-adjusted performance before and after accounting for transaction costs.

The authors begin by collecting analyst recommendations from Zacks Investment Research for the period from 1986 through 1996 for approximately 3,600 listed companies. Each observation in the Zacks database includes the name of the stock, the identity of the analyst or broker/dealer making the recommendation, the recommendation date, and the rating given on a 5-point scale: 1 (strong buy), 2 (buy), 3 (hold), 4 (sell), and 5 (strong sell). Overall, the authors produce a final sample size of approximately 360,000 observations from more than 4,300 analysts. Interestingly, for all stocks in the database, the average analyst rating fell from 2.37 in 1986 to 2.04 in 1996, indicating that analysts' recommendations improved over time. Of

---

Brad Barber is at the University of California at Davis. Reuven Lehavy and Brett Trueman are at the University of California at Berkeley. Maureen McNichols is at Stanford University. The summary was prepared by Bruce D. Phelps, CFA, Lehman Brothers, Inc.

all observations, 54 percent were buys (rating equaled 1 or 2) but only 7 percent were sells (rating equaled 4 or 5), which may reflect the analysts' reluctance to make sell recommendations.

On a given day, a stock may have ratings from several analysts (on average, five analysts). For each stock, the authors calculate a daily consensus recommendation, defined as the average of the analysts' ratings for the stock. As analysts change their ratings or as new analysts initiate coverage, the stock's consensus recommendation may change.

To test whether analyst recommendations contain profitable information, the authors construct portfolios by sorting stocks according to their consensus recommendations. On a given day, stocks with a consensus recommendation of 1.0–1.5 comprise the first portfolio, those rated 1.5–2.0 the second, and so on. The fifth, and last, portfolio contains those stocks rated greater than 3.0. These five portfolios are created each day, and their daily returns, using market value weights, are calculated. Because of changes in a stock's consensus recommendation, the composition of the five portfolios also changes, producing turnover. For each portfolio, the daily returns are compounded each month to produce a monthly return. The five monthly returns are then risk adjusted, using, among others, a four-factor model that controls for market risk, size, book-to-market, and price momentum effects.

The authors consider the following investment strategy: buy stocks in the first, most favorably rated, portfolio and sell stocks in the fifth, least favorably rated, portfolio. The average monthly risk-adjusted performance for the first portfolio was 34 basis points (bps), whereas for the fifth portfolio it was –41 bps. Consequently, the strategy produced excess risk-adjusted returns of 75 bps a month, or roughly 900 bps a year. Assuming that investors react to analyst recommendations with various lags, the authors also examine the profitability of this strategy.

Unfortunately, rating changes produce a great deal of turnover in the five portfolios. On average, a given company changes portfolios 3.8 times a year. This turnover produces a large number of transactions for the investor who buys the stocks in the first portfolio and sells those in the fifth. Using an estimate of a round-trip transaction cost

of 1.31 percent from Keim and Madhavan (*Financial Analysts Journal*, 1998), the authors find that a strategy of buying the most highly rated stocks produces a negative net annual return ranging from -3.6 percent to -1.8 percent. The authors then examine the strategy using less frequent rebalancing. Although this approach lowers transaction costs, it also reduces returns; the investor fails to garner the initial price move when a stock moves to a new portfolio. Overall, the investment strategy with less frequent rebalancing also fails to produce net excess returns greater than zero.

The authors conclude that the market is not semi-strong efficient. Buying stocks with the highest analyst ratings generates positive abnormal returns. Furthermore, a supplemental test by the authors reveals that the abnormal returns are most favorable for small and medium-sized companies. This result is also consistent with a semi-strong inefficient market.

Because of transaction costs, however, this market inefficiency cannot be profitably exploited by investors because the strategy requires a substantial amount of trading. The authors acknowledge that other strategies based on analyst recommendations might produce net positive excess returns. Finally, the authors' results do provide some practical value: For investors planning to buy or sell stocks anyway (and thereby incur transaction costs), they would do well to buy stocks in the first portfolio and sell those in the fifth portfolio.

*Keywords:* Equity Investments: fundamental analysis and valuation models; Investment Theory: efficient market theory; Portfolio Management: equity strategies