# Momentum Strategies

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*Journal of Finance*
vol. 51, no. 5 (December 1996):1681–713

Momentum strategies exploit a tendency for a stock's prior returns and prior news about its earnings to predict future returns. The authors confirm momentum for subsequent six-month and one-year periods. Prior returns and prior earnings contribute to predicted future returns after controlling for the other. The authors find that the results are not related to company size or book-to-market ratios. Sluggish response of analysts' earnings forecasts to past news also indicates that the market responds slowly to new information.

The finance literature demonstrates that past stock returns help to predict future returns. Although this literature explains stock price reversals, it does not explain stock price momentum. Potential sources of price momentum are underreaction to earnings-related information, market overreaction resulting from feedback strategies, and earnings momentum. The authors evaluate evidence of stock price momentum and its causes.

The data set includes all primary stocks listed on the New York and American stock exchanges and on the Nasdaq market from January 1977 to January 1993. Earnings and price information are from CRSP, Compustat, and I/B/E/S. The authors test price and momentum strategies by comparing performance of a group of companies for the six months prior to portfolio formation with subsequent performance. The methods used include individual tests of each momentum strategy, multivariate tests of conditional performance (holding other strategies constant), and cross-sectional regressions. Separate tests consider only large companies and adjust for company size and book-to-market ratios.

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The authors compare returns on an equally weighted portfolio during the six months prior to portfolio formation with returns over the subsequent six-month, one-, two-, and three-year periods. Persistence of returns during the later periods provides evidence of momentum. Price momentum tests compare the stock's past six-month compound return with *ex post* returns. Measures of earnings momentum are standardized unexpected earnings, cumulative abnormal return around the most recent earnings announcement date, and revisions of analysts' forecasts of earnings.

Price momentum is evident in that portfolios with high returns (winners) in the prior six months are also winners in the following six months and the year after portfolio formation. This momentum relates positively to portfolios' book-to-market and cash-flow-to-price ratios. Earnings performance, abnormal announcement returns, and revisions in analysts' forecasts help to explain price momentum. The results suggest that stock price momentum partially reflects slow adjustment to information about earnings.

Superior performance of a strategy of investing based on standardized unexpected earnings, at least in the short term, confirms the existence of earnings momentum. Earnings data also indicate gradual adjustment of stock prices to earnings surprises. Stocks with large favorable earnings announcements subsequently tend to outperform those with unfavorable announcements, but the returns tend to be more short lived. Analysts tend to adjust their earnings forecasts with a lag, but these changes in forecasts still influence subsequent prices.

Two-way tests show that returns and earnings news over the six months prior to portfolio formation explain returns in the subsequent periods. Each variable provides incremental predictive power over the other. Thus, each momentum strategy reflects market underreaction to differing information. Again, the impact of earnings surprise is not as long lasting as that of prior return. The authors suggest that this phenomenon occurs because short-term earnings uncertainty is resolved more rapidly than the broader sources of uncertainty that asset prices reflect. Regression analysis confirms that past returns and each earnings measure are statisti-

cally significant in explaining subsequent returns. Similar results follow when only large firms are used in the regressions. Adjusting for size and book-to-market ratios does not alter the results.

The authors consider whether their data support the hypothesis that positive-feedback trading causes market overreaction, which leads to subsequent reversals. Neither the one-way nor the two-way classification indicates that stock prices subsequently correct. A reversal does occur, however, in cases in which high past returns are not supported by subsequent favorable earnings news. The authors conclude that a stock's prior return and each measure of recent earnings surprise help to predict the stock's future price. Stock prices display a delayed reaction to information on past returns and earnings news. A general absence of evidence of subsequent reversals in returns suggests that positive-feedback trading does not account for the success of momentum strategies.