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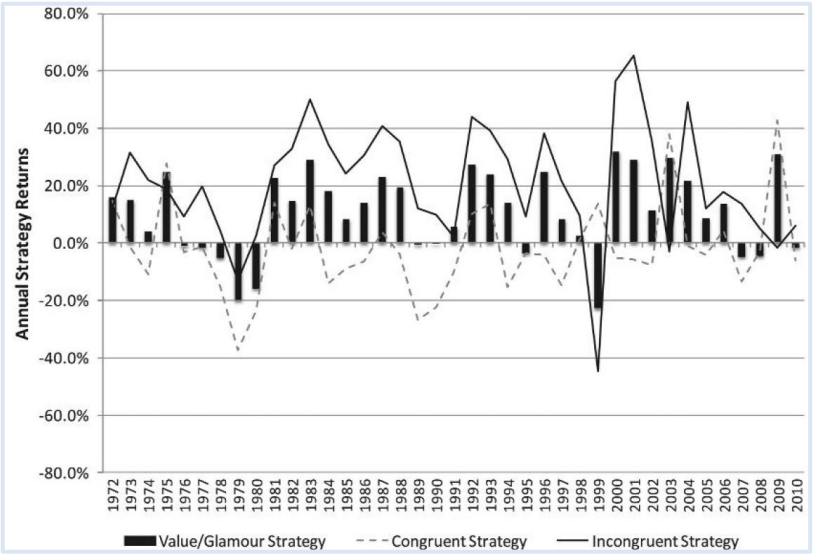
Summary of "Identifying Expectation Errors in Value/Glamour Strategies: A Fundamental Analysis Approach"[1]

A rich literature documents that various measures of relative value, such as book-to-market ratios, earnings-to-price ratios, dividend yields, and cash-flow-to-price ratios, predict future stock returns. The collective evidence highlights the tendency of "value" stocks to outperform "glamour" stocks. Therefore, a value/glamour strategy that longs the former and shorts the latter delivers significant positive return.

A leading explanation for the return differential relies on ex ante identifiable biases in investors' expectation of firms' future fundamentals. For example, Lakonishok, Shleifer, and Vishny (1994) argue that investors over extrapolate historical fundamentals, and thus underweight new information that contradicts past performance trends, and overlook the mean-reverting tendencies of financial ratio and economic performance.[2]

This behavioral explanation suggests that mispricing is concentrated in stocks with the most severe biases in investors' expectation. In this paper, Piotroski and So propose a refined value/glamour strategy that builds on this insight and delivers higher return. From 1972 to 2010, stocks are ranked on two dimensions. First, the strength of fundamental trends is measured by a statistic (FSCORE) aggregating signals reflecting firms' profitability, change in financial leverage/liquidity, and change in operational efficiency.[3] Firms are categorized into low FSCORE (<= 3), middle FSCORE (4 to 6), and high FSCORE (>= 7). Second, the ratio of book equity to the market value of equity (BM) reflects the market's expectation about firms' future performance. As usual, firms are ranked into low BM (below the 30th percentile), middle BM (between the 30th and 70th percentiles), and high BM (above the 70th percentile). The interaction between FSCORE and BM rankings generates nine portfolios. Each firm is allocated to its respective FSCORE-BM portfolio once a year, four months after the release of the financial information.[4]

They define three strategies: incongruent, congruent and value/glamour. The incongruent strategy consists of a long position in value firms (high BM) with high FSCORE and a short position in glamour firms (low BM) with low FSCORE. This is a value/glamour strategy within stocks with strongest incongruence between firm's fundamental strength and performance expectations embedded in market price, i.e. the highest market



expectation biases. In contrast, the congruent strategy longs value firms with low FSCORE and shorts glamour firms with high FSCORE. Value/glamour is the traditional strategy the longs high BM firms and shorts low BM firms without distinguishing their fundamental trends.

The figure above compares the annual returns of the three strategies. The incongruent value/glamour strategy generates positive returns in 35 out of 39 years, with a time-series average return of 20.76% versus 10.54% for the traditional value/glamour strategy. In contrast, the congruent strategy delivers positive returns in only 12 out of 39 years, with a time-series average annual return of -1.92%.[5] After deducting from raw returns the corresponding CRSP-matched size decile portfolio return, the one-year-head size-adjusted return for the incongruent strategy is 22.64%, while the congruent strategy yields only 0.14%.

By regressing the monthly excess returns (raw return minus risk-free rate) on standard four factors, they find that the incongruent strategy has a statistically significant monthly alpha of 1.0% (t-statistic = 5.37), while the incongruent strategy's alpha is negative and indistinguishable from zero (t-statistic = -0.40). [6] The two strategies also have distinct factor loadings; loadings on the BM and momentum factors increase in incongruence, while loading on the size factor decreases in incongruence.

The authors show that the difference between the incongruent strategy's return in high-sentiment and low-sentiment periods is 14.92% (t-statistic = 1.75), while the difference decreases to 4.19% (t-statistic = 0.55) for the congruent strategy. Since high sentiment is associated with more severe behavioral biases, this further confirms the finding that the return to the value/glamour strategy concentrates in stocks subject to biased market expectation. Moreover, by using earnings announcement period return, analyst forecast error, and forecast revisions as proxies for expectation biases, the authors find the most largest negative forecast error (i.e. the most optimistic forecast) in the glamour firms with low FSCORE, while value firms with high FSCORE have much the second least optimistic forecast among the nine portfolios. This suggests that the stock ranking indeed captures expectation biases, and corroborates the initial insight that the mispricing exploited by the value/glamour strategy comes from biases in investors' expectation of firms' future fundamentals.

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[1] Piotroski, Joseph D., and Eric C. So, 2012, *Review of Financial Studies* 25, 2841-2875.

[2] Lakonishok, Josef, Andrei Shleifer, and Robert W. Vishny, 1994, Contrarian investment, extrapolation, and risk, *Journal of Finance* 44, 1541-78.

[3] For more details, please refer to: Piotroski, Joseph D., 2000, Value investing: The use of historical financial statement information to separate winners from losers, *Journal of Accounting Research* 38, 1-41.

[4] The results are robust, if we use standardized unexpected quarterly earnings (SUE) to measure fundamental trends and use earnings-to-price (P/E) cash-flow-to-price, sales growth, and equity share turnover in place of book-to-market.

[5] The result is robust, if we orthogonalize the raw annual returns with respect to firm size (log market cap), momentum (market-adjusted return over the prior six months) and SUE in each cross-section.

[6] The four factors are the monthly market excess return, and returns associated with small-minus-big size, high-minus-low BM, and momentum. For more details, please refer to Prof. Kenneth French's website: *http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html*