What Drives Anomaly Returns?

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Executive Summary

Despite decades of research, there is no widely accepted explanation for observed differences in stocks' average returns. For example, the fact that value stocks outperform growth stocks, even though these stocks have similar exposure to overall market risk, is widely regarded by academics as an "anomaly." To exploit such anomalies, investors can form long-short factor portfolios (e.g., long value and short growth) with high average returns and near-zero market risk. These long-short anomaly portfolios form an important part of the mean-variance efficient (MVE) portfolio and thus the stochastic discount factor (SDF) that prices all assets. For instance, in the five-factor Fama and French (2015) model such non-market factors account for 85 percent of the variance in the model's implied SDF. Researchers sharply disagree about the source of these non-market factors and which models best explain why long-short portfolios based on valuation ratios and other characteristics earn high average returns.

Lars Lochstoer and Paul Tetlock provide new evidence on anomaly portfolios by decomposing their returns into cash flow and discount rate shocks as in Campbell (1991). Cash flow shocks represent permanent changes in stocks' values, whereas discount rate shocks are temporary. The researchers decompose the returns of five well-known anomalies—value, size, profitability, investment, and momentum—into cash flow and discount rate news. They uncover three common patterns across all anomaly portfolios and their mean-variance efficient (MVE) combination.

First, the main source of anomaly return variation is news about cash flows. In other words, anomaly portfolio returns are not mainly driven by noise traders or irrational expectations of future cash flows. Instead, co-movement in firms' long-run cash flows accounts for much of the variation in anomaly portfolios' returns. Second, anomaly cash flow and discount rate components are strongly negatively correlated. Bad news to expected long-run cash flows of anomaly portfolios is associated with an increase in the discount rate. This relation could arise from investors overreacting to long-run earnings news or from firms becoming riskier when long-run cash flow news is negative. Third, anomaly cash flow (discount rate) news is approximately uncorrelated with market cash flow (discount rate) news. The fact that discount rate shocks to the market are, if anything, slightly negatively correlated with discount rate shocks to the MVE combination of anomaly portfolios casts doubt on theories that rely on common variation in the price of risk (or sentiment) across pricing factors.

These rich empirical patterns hold across a broad array of empirical specifications. They can guide specifications of asset pricing models and help evaluate myriad theories of anomalies. Any model with a cross-section of stocks has implications for the variance decomposition of the MVE portfolio return and thus the SDF that prices all assets. Forcing models to match these empirical moments restricts the shocks that drive investors' marginal utility and behavioral biases. Based on the evidence, the most

promising theories of anomalies are those that emphasize the importance of firm-level long-run cash flow shocks as drivers of changes in firm risk or errors in investors' expectations.