

Feature Articles

This month's focus: **Stock Market Anomalies**

[An overview of anomalies in securities markets](#)

Masashi Toshino, CMA

Anomalies in securities markets include a variety of phenomena that are inconsistent with the efficient market hypothesis, which is the basis of the Modern Portfolio Theory (MPT) developed in the 1950s, and ones inconsistent with the Capital Asset Pricing Model (CAPM), which is one of the representative MPT models. There are two types of approaches to deal with anomalies; the behavioral finance focuses on various cognitive biases of economic entities such as investors, while researchers working within the MPT framework try to improve their models in order to solve anomalies. There is still no consensus on which side provides us with better explanations for the causes of anomalies.

[Construction Uncertainty of Japanese Equity Anomalies: A Specification Curve Analysis of 63 Factors and 5,832 Specifications](#)

Akitada Kasahara and Katsuhiko Muramiya

Contact point: akitadak@econ.osaka-u.ac.jp

To what extent do anomaly returns depend on portfolio construction choices? We conduct a specification curve analysis of 63 known anomaly factors in the Japanese equity market by combining eight construction dimensions to generate 5,832 specifications per factor. Our results reveal that the sign of both monthly raw returns and Fama-French three-factor alphas reverses across specifications for many factors. The primary sources of this construction uncertainty are the minimum price filter, rebalancing frequency, and sort quantile. Notably, several globally established premia, including momentum, high beta, and ROE, are reversed in Japan across the vast majority of specifications. In contrast, the book-to-market factor maintains positive returns across all 5,832 specifications. These findings demonstrate that non-standard errors (Menkveld et al.[2024]) constitute a severe problem for anomaly portfolio construction, extending the scope of Soebhag et al. [2024] from a small set of U.S. benchmark factors to 63 individual anomalies in the Japanese equity market.

[Understanding the Volatility Anomaly: Investor Behavior Behind Low Returns on High-Volatility Stocks](#)

Seiichiro Iwasawa

Contact point: siwasawa@nucba.ac.jp

This article reviews recent behavioral finance research on the volatility anomaly, the empirical tendency for stocks with higher volatility to earn lower subsequent returns. In traditional finance theory, investors should require higher expected returns for bearing higher risk. The volatility anomaly is therefore puzzling because it suggests the opposite: high-risk stocks often underperform low-risk stocks.

The article argues that this phenomenon is better understood not as compensation for some hidden risk, but as a form of mispricing generated by investor demand and limits to arbitrage. When certain investors have strong demand for high-volatility stocks, their buying pressure can push prices above fundamental values. If arbitrageurs cannot fully correct this mispricing because of short-selling constraints, benchmark risk, or noise-trader risk, these stocks may subsequently earn negative abnormal returns as prices revert.

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The article separates the volatility anomaly into two related but distinct phenomena: the beta anomaly and the idiosyncratic volatility anomaly. The beta anomaly refers to the tendency for high-beta stocks, which are more sensitive to market movements, to underperform low-beta stocks. The idiosyncratic volatility anomaly refers to the tendency for stocks with high firm-specific volatility to earn low subsequent returns. Although both anomalies involve low returns on high-risk stocks, the article emphasizes that their underlying mechanisms are different.

For the beta anomaly, the article focuses on excess demand for high-beta stocks. One important source of this demand is institutional investors who are evaluated relative to market benchmarks. Such investors may prefer high-beta stocks because these stocks offer a convenient way to outperform the benchmark in rising markets. Investors facing leverage constraints may also choose high-beta stocks as a substitute for leveraged positions in low-beta stocks. In addition, some investors with a preference for lottery-like payoffs may be attracted to high-beta stocks because of their potential for large upside returns.

The article also highlights that demand for high-beta stocks is not constant over time. It tends to strengthen when investor sentiment is high, when disagreement among investors is large, and when the relative performance of high-beta and low-beta stocks appears stable. Recent research on the volatility of the Betting Against Beta, or BAB, factor shows that benchmark-constrained institutional investors increase their demand for high-beta stocks when BAB volatility is low, but retreat toward benchmark-like portfolios when BAB volatility rises. This state-dependent demand helps explain why the beta anomaly varies over time.

For the idiosyncratic volatility anomaly, the article places greater emphasis on lottery demand. Stocks with high idiosyncratic volatility, high skewness, or extremely large recent daily returns are often perceived as lottery-like investments. Investors who overweight small probabilities and hope for large upside gains may overpay for such stocks. As a result, these stocks become overpriced and subsequently earn low returns.

The article discusses several proxies for lottery-like characteristics, including idiosyncratic volatility, skewness, and MAX, which measures a stock's maximum daily return over the previous month. While these measures are conceptually different, they are closely related in practice. Among them, MAX is especially useful because it directly captures the kind of extreme positive payoff that attracts lottery-seeking investors.

The article reviews evidence that individual investors tend to overweight lottery-like stocks. However, it also cautions against viewing lottery demand as limited to unsophisticated retail investors. Recent research suggests that wealthy households and some aggressive institutional investors may also seek lottery-like payoffs, especially when large upside returns are associated with wealth mobility, status, or speculative opportunities.

Lottery demand is also shown to be context-dependent. It becomes stronger when market sentiment is high, when firm-specific investor sentiment is optimistic, when idiosyncratic volatility has recently increased, when a stock is far below its 52-week high, when investors hold the stock at a loss and seek recovery, and just before earnings announcements. In these situations, investors are more likely to chase stocks that appear to offer a chance of a large payoff, which temporarily inflates prices and leads to subsequent underperformance.

The article concludes that the volatility anomaly should be understood as a behavioral and institutional phenomenon. High-volatility stocks do not underperform simply because investors rationally demand compensation for risk. Rather, they often underperform because particular groups of investors demand them for reasons unrelated to standard risk-return tradeoffs. In the case of the beta anomaly, benchmark-constrained institutional demand plays a central role. In the case of the idiosyncratic volatility anomaly, lottery demand among individual and other speculative investors is especially important. Together, these findings show how investor preferences, institutional constraints, sentiment, and limits to arbitrage shape asset prices in ways that depart from traditional finance theory.

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An Analysis and Consideration of the Practical Application of Stock Market Anomalies

Takaaki Yoshino, CMA

Contact point: takaaki_yoshino@monex.co.jp

This paper examines the empirical validity and practical implications of stock market anomalies in the Japanese equity market, specifically focusing on their relationship with the Fama-French six-factor model (FF6).

Through time-series regression analysis, the study reveals that value-oriented indicators, such as B/P, and shareholder yield metrics continue to generate significant excess returns even after adjusting for the FF6 risk factors.

These findings suggest that such anomalies remain robust sources of idiosyncratic alpha that are not fully captured by established asset pricing models.

Conversely, factors such as ROE and price momentum exhibit a high degree of alignment with existing risk premiums, indicating that their independent contribution as anomalies has diminished within the current market framework.

Furthermore, the research explores the potential of machine learning for multifactor synthesis. Comparative analysis between different methods demonstrates distinct performance characteristics: while XGBoost provides superior return-generating capabilities through its ability to capture non-linear relationships, the LSTM (Long Short-Term Memory) model offers exceptional signal stability, making it highly suitable for low-turnover investment strategies.

The paper concludes that for effective practical application, investment managers should move away from reliance on single indicators. Instead, it is essential to construct diversified alpha portfolios that integrate the dynamic characteristics of various anomalies with advanced machine learning-based synthetic techniques.

Articles

Do Poorly Performing Funds Exit? Determinants of Mutual Fund Liquidation in the Japanese Market

Anju Anan, CMA / Kei Nakagawa, CMA

Contact point: an2anju555@gmail.com

This study investigates the determinants of mutual fund liquidation in the Japanese market. We find that fund size is a primary driver, with smaller funds exhibiting a significantly higher probability of liquidation. Notably, the inverse relationship between performance and liquidation documented in prior international studies is absent in the Japanese context. Furthermore, small funds do not exhibit inferior performance, which suggests the presence of diseconomies of scale. We also find no evidence that reducing the number of funds through liquidation enhances the performance of existing funds. Collectively, these findings suggest that a performance-based selection mechanism does not function effectively in the Japanese mutual fund market.
