

Feature Articles

This month's focus: **Alternative Data in Asset Management—Current and Future Use**

POS Data Analysis and Potential Application in Fund Management

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When we apply alternative data in practice, there are three important tasks to be performed: (1) capture the features of the data, (2) clarify the use of the data and (3) define the targets.

After identifying these issues, we show examples using POS data. We present a method of estimating sales amounts for equity analysts and conclude with an empirical analysis of the relationship between the variance coefficient of the amount of Japanese Article Number and the stock return for quantitative portfolio managers. There are some points of attention for using POS data. However, alternative data has enormous potential to generate huge active returns. Efforts should be made to address the points of notice and advance the development of POS data models.

Analysis of Firms' R&D Activities Based on Patent Data

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While prior studies have reported a positive relationship between firms' R&D expenditures and stock returns, many firms do not disclose their R&D expenditures. This paper identifies firms that do not disclose R&D expenditures and analyzes those firms based on patent data. The result of the analysis confirms the robustness of the relationship between firms' R&D expenditures and stock returns, suggesting that the use of alternative data may extend existing financial data analysis.

Practical Use of Alternative Data for Engagement: GAP Analysis of Cost of Capital for Engagement and the Application of Materiality Evaluation in Integrated Reports

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The "Action to Implement Management that is Conscious of Cost of Capital and Stock Price" requested by the Tokyo Stock Exchange has triggered a major debate on how companies should understand their cost of capital and how they should implement cost of capital into their corporate management. This paper presents a method for estimating the cost of capital using a residual income model and a method for visualizing a company's strengths and weaknesses by breaking down the estimated value into various factors, including financial and non-financial factors. Furthermore, we provide evidence that a lengthy treatment of materiality in integrated reports contributes to reducing the cost of capital.

Feature Articles

How Language Could Contribute to Financial Engineering: A Blind Spot of Recent AI Technology

Kumiko Tanaka-Ishii

Recent data science studies have incorporated language to improve the quality of financial engineering. Language and finance have a common structure of being systems in which an exchange of value—in the form of meanings or asset values—takes place. Both systems have been analyzed in terms of efficiency, and recent physical approaches have revealed common power laws. Such commonalities provide opportunities to exchange analysis methods across fields, and to reconsider fundamental theories. By overviewing recent machine learning approaches in data science, this essay conjectures how language could contribute to financial engineering.

Articles

Research on Intraday Momentum on the Tokyo Stock Exchange

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This study examines intraday momentum between the opening and closing returns on the Tokyo Stock Exchange (TSE). The results reveal that TSE's intraday momentum has become apparent after the 2008 financial crisis, with a notable concentration on days characterized by high opening returns or uncertainty. Additionally, it becomes evident that the Bank of Japan's ETF purchases, as part of its monetary easing measures, impact intraday momentum. However, despite the potential profitability of investment strategies based on intraday momentum, our research highlights the persistent challenge posed by trading costs, warranting further investigation and optimization for effective implementation.

On the Persistence of Japanese Equity Mutual Fund Performance: An Analysis Using Stock Holding Data

Toshihiro Shimada, CMA

This paper investigates the performance of Japanese equity mutual funds using stock holding data. We found that: (1) on average, style-adjusted stock selection skills are evident in the before-cost-deduction performance of these funds; (2) the mid and small cap funds are the high performers; and (3) performance does persist. Thus it is important to select funds exhibiting high style-adjusted stock selection skills and to manage their investment styles accurately in order to enhance investment portfolio performance stability.