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Data-Driven Strategies between Financial and Non-Financial Industries *Kotaro Kuwazu* 15

Big data, supported by IoT, AI, and 5G, is increasingly impacting all areas of society and industry. Until now, the financial field, having a close affinity for information as it does, has been at the forefront of data-driven activities.

However, non-financial data is gaining importance, offering business opportunities and industrial sophistication. The question is how to balance competition and cooperation between the strengths of finance and the new models offered by other industries.

Using Big Data Analysis for Solving Practical Problems..... *Daisuke Miyakawa* 22

There are many practical applications of big data analysis. In this paper, we present two examples of prediction exercises and one example of causal inference, both of which employ a huge amount of data and advanced techniques including machine learning. Given the advancement of such research and practical application, we also indicate two possible research agendas to pursue in this context, namely, causal inference of the impact associated with the introduction of machine-based models to practical tasks and the allocation of tasks among machines and humans.

Understanding Consumer Sentiment from Purchasing Patterns of Premium Goods; Leveraging Private Sector Data to Transform Economic and Investment Analyses *Takeshi Ito / Daigo Tashiro / Yukihiro Aiba, CMA* 32

With the wide availability of a large amount and variety of digital data produced by increasingly digitalized private corporations, both the financial industry and public service sectors (particularly those providing governmental statistics) are keen on leveraging this source of rich data. In a joint project with the Ministry of Economy, Trade and Industry, we have developed novel indicators of consumer sentiment using consumer transaction data from the largest Japanese POS dataset. These indicators exhibit patterns similar to the official Japanese Consumer Sentiment Index, and we found that they are correlated with, and in some cases leading, existing economic indicators and even stock indices. Although governmental statistics have always been the predominant tools to

understand the economic outlook, greater availability of alternative data from the private sector could transform the field, as we produce more timely, detailed, and multi-faceted analyses.

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| Customer Momentum Strategy: Empirical Study of the Japanese Stock Market | <i>Takaaki Yoshino, CMA / Mitsuru Morita / Hiroshi Tsuda / Takayuki Ohira, CMA</i> | 63 |
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This study tests Cohen and Frazzini's (2008) customer momentum strategy on Japanese companies, expanding their corporate network globally at the secondary level. In some cases, network expansion was not effective in terms of returns. Therefore, further testing and theoretical research are required for practical application. However, global expansion with more significant association with returns than domestic/first-level expansion has been observed. This study consists of a main text and appendix. Parts appearing in the appendix have been annotated throughout the main text.

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| Mutual Fund Flows and Market Structure in Japan | <i>Hiroyuki Aman / Yoji Takahashi</i> | 76 |
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We examine how the supply-side market structure of mutual funds affects the purchases and sales of retail investors by using fund flow data in Japan. The findings are consistent with the information signaling hypothesis that high performance increases fund purchase. On the other side, we find evidence that fund selling increases with high performance. For a cause of this pattern, the fund transfer hypothesis based on affiliations among financial institutions is supported.

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