PREFACE

Preface to the special issue

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The current volume is a special issue that includes papers contributed to the Applications of Physics in Financial Analysis (APFA7) & Tokyo Tech—Hitotsubashi Interdisciplinary Conference on the topic of "New Approaches to the Analysis of Large-Scale Business and Economic data".

APFA is a series of conferences held around the world. APFA1 was held on 1999 in Dublin, APFA2 in Liege on 2000, APFA3 in London on 2001, APFA4 in Warsaw on 2003, APFA5 in Torino on 2006, and APFA6 in Lisbon on 2007. APFA7 is the first meeting held outside Europe and was attended by 223 researchers in physics and economics from 23 countries world-wide.

The conference was organized as a joint effort by Tokyo Institute of Technology and Hitotsubashi University. It was held in Tokyo on March of 2009. The event received support from the Research Institute of Economy, Trade, and Industry (RIETI), Physical Society of Japan, the Japanese Economic Association, Information Processing Society of Japan, Japanese Society for Artificial Intelligence, and Japan Association for Evolutionary Economics.

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The papers in this volume contain new results of research employing massive amounts of business-related data. Due to the rapid development of information and communication technology, vast amounts of financial/non-financial data, such as tick-by-tick data in financial markets, point-of-sale (POS) data on individual household's purchasing activity, and inter-firm network data describing relationships among firms in terms of suppliers/customers transactions and ownerships, have accumulated as business data. This growth in the scope and amount of business data available to researchers has led to a far-reaching expansion in research possibilities. Researchers not only in social sciences but also in physics, mathematics, and information sciences have recently become interested in such datasets, conducting empirical investigations about various aspects of economic activities. Specifically, they have searched for regularities and 'laws' akin to the ones in natural science, successfully yielding fascinating results.

Each paper selected for inclusion in this volume has undergone an exhaustive refereeing process. As part of the selection process we have evaluated the comments and discussions related to each, including comments from at least two independent anonymous referees. We extend our deepest gratitude to all our colleagues involved in this process for their careful and expedited reviews.