Preface

The essays appearing in this volume were presented at the international workshop entitled "Econophys-2015" held at the Jawaharlal Nehru University and University of Delhi, New Delhi, from November 27, 2015, to December 1, 2015. The workshop commemorated two decades of the formal naming of the field called "Econophysics." Prof. H.E. Stanley (Boston University, USA) first used the word in 1995 at the Statphys-Kolkata Conference, held at Kolkata, India. Econophysics-2015 was held in continuation of the "Econophys-Kolkata" series of conferences, hosted at Kolkata at regular intervals since 2005. This event was organized jointly by Jawaharlal Nehru University, University of Delhi, Saha Institute of Nuclear Physics, CentraleSupélec, Boston University, and Kyoto University.

In this rapidly growing interdisciplinary field, the tools of statistical physics that include extracting the average properties of a macroscopic system from the microscopic dynamics of the system have proven to be useful for modeling socioeconomic systems, or analyzing the time series of empirical observations generated from complex socioeconomic systems. The understanding of the global behavior of socioeconomic systems seems to need concepts from many disciplines such as physics, computer science, mathematics, statistics, financial engineering, and the social sciences. These tools, concepts, and theories have played a significant role in the study of "complex systems," which include examples from the natural and social sciences. The social environment of many complex systems shares the common characteristics of competition, among heterogeneous interacting agents, for scarce resources and their adaptation to dynamically changing environments. Interestingly, very simple models (with a very few parameters and minimal assumptions) taken from statistical physics have been easily adapted, to gain a deeper understanding of, and model complex socioeconomic problems. In this workshop, the main focus was on the modeling and analyses of such complex socioeconomic systems undertaken by the community working in the fields of econophysics and sociophysics.

The essays appearing in this volume include the contributions of distinguished experts and their coauthors from all over the world, largely based on the presentations at the meeting, and subsequently revised in light of referees' comments. For

completeness, a few papers have been included that were accepted for presentation but were not presented at the meeting since the contributors could not attend due to unavoidable reasons. The contributions are organized into three parts. The first part comprises papers on "econophysics." The papers appearing in the second part include ongoing studies in "sociophysics." Finally, an "Epilogue" discusses the evolution of econophysics research.

We are grateful to all the local organizers and volunteers for their invaluable roles in organizing the meeting, and all the participants for making the conference a success. We acknowledge all the experts for their contributions to this volume, and Shariq Husain, Arun Singh Patel, and Kiran Sharma for their help in the LaTeX compilation of the articles. The editors are also grateful to Mauro Gallegati and the Editorial Board of the New Economic Windows series of the Springer-Verlag (Italy) for their continuing support in publishing the Proceedings in their esteemed series.[1] The conveners (editors) also acknowledge the financial support from the Jawaharlal Nehru University, University of Delhi, CentraleSupélec, Institut Louis Bachelier, and Indian Council of Social Science Research. Anirban Chakraborti and Dhruv Raina specially acknowledge the support from the University of Potential Excellence-II (Project ID-47) of the Jawaharlal Nehru University.

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[1]Past volumes:

1. Econophysics and Data Driven Modelling of Market Dynamics, Eds. F. Abergel, H. Aoyama, B. K. Chakrabarti, A. Chakraborti, A. Ghosh, New Economic Windows, Springer-Verlag, Milan, 2015.
2. Econophysics of Agent-based models, Eds. F. Abergel, H. Aoyama, B. K. Chakrabarti, A. Chakraborti, A. Ghosh, New Economic Windows, Springer-Verlag, Milan, 2014.
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4. Econophysics of Order-driven Markets, Eds. F. Abergel, B. K. Chakrabarti, A. Chakraborti, M. Mitra, New Economic Windows, Springer-Verlag, Milan, 2011.
5. Econophysics & Economics of Games, Social Choices and Quantitative Techniques, Eds. B. Basu, B. K. Chakrabarti, S. R. Chakravarty, K. Gangopadhyay, New Economic Windows, Springer-Verlag, Milan, 2010.
6. Econophysics of Markets and Business Networks, Eds. A. Chatterjee, B. K. Chakrabarti, New Economic Windows, Springer-Verlag, Milan 2007.
7. Econophysics of Stock and other Markets, Eds. A. Chatterjee, B. K. Chakrabarti, New Economic Windows, Springer-Verlag, Milan 2006.
8. Econphysics of Wealth Distributions, Eds. A. Chatterjee, S. Yarlagadda, B. K. Chakrabarti, New Economic Windows, Springer-Verlag, Milan, 2005.

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