

Econophysics and Data Driven Modelling of Market Dynamics

New Economic Windows

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Preface

This proceedings volume is based on the conference entitled ‘Econophysics and Data Driven Modelling of Market Dynamics’ that was held at Saha Institute of Nuclear Physics, Kolkata during 14–17 March 2014. This was the eighth event of the ‘Econophys-Kolkata’ series of conferences, and was organized jointly by Saha Institute of Nuclear Physics, École Centrale Paris, Jawaharlal Nehru University and Kyoto University.

During the past decades, the financial market landscape has been dramatically changing: deregulation of markets, growing complexity of products, etc. The ever-rising speed and decreasing costs of computational power and networks have led to the emergence of huge databases. We chose this particular theme for the conference, as we thought that it would be most appropriate with the availability of these data. Econophysicists, along with many others, have been relying primarily on empirical observations in order to construct models and validate them, or study models that are better empirically founded. Thus, a major part of the efforts of econophysicists have been the study of empirical data and financial time series analyses. Often, the empirics have guided researchers to design more realistic and practical models. The recent turmoil on financial markets and the 2008 crash seem to plead for new models or approaches, and the econophysics community indeed has an important role to play in market modelling in the future years to come.

This proceedings volume contains papers by distinguished experts from all over the world, mostly based on the talks and seminars delivered at the meeting and accepted after refereeing. For completeness, a few articles by experts who could not participate in the meeting due to unavoidable reasons were also invited and these too have been incorporated in this volume. This volume is organized as follows: A first part dedicated to ‘Market Analysis and Modelling’. A second part entitled ‘Miscellaneous’ presents other ongoing studies in related areas on econophysics and sociophysics. We have included in the third part, ‘Reviews’, two reviews which address recent developments in econophysics and sociophysics. We have included in the fourth part, ‘Discussions and Commentary’, an extensive note on the impact of econophysics researches (obtained from responses of leading researchers to

questionnaire). Another write-up in this part discusses the influence of economics research on contemporary researches in social sciences.

We are grateful to all the participants at the meeting and for their contributions. We are also grateful to Mauro Gallegati and the Editorial Board of the ‘New Economic Windows’ series of Springer-Verlag (Italy) for their continuing support in getting this proceedings volume published in their esteemed series.

The conveners (editors) also express their thanks to Saha Institute of Nuclear Physics, École Centrale Paris, Jawaharlal Nehru University and Kyoto University for their support in organizing this conference. The support from J.C. Bose project fund (DST, India) of Bikas K. Chakrabarti is gratefully acknowledged.

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