Record Nr. UNINA9910337882803321 New perspectives and challenges in econophysics and sociophysics // **Titolo** edited by Frédéric Abergel, Bikas K. Chakrabarti, Anirban Chakraborti, Nivedita Deo, Kiran Sharma Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa **ISBN** 3-030-11364-7 Edizione [1st ed. 2019.] 1 online resource (269 pages) Descrizione fisica New Economic Windows, , 2039-411X Collana Disciplina 330.0151 332.015195 Soggetti Statistical physics Game theory Science—Social aspects Economics, Mathematical Big data Statistical Physics and Dynamical Systems Game Theory Societal Aspects of Physics, Outreach and Education Quantitative Finance Big Data Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto 1 -- Acep Purgon, Group identification Analysis using Hybrid Method ((RMT-CN-LPAm+ and RMT-BDM-SA) in Indonesian Stock Market Dynamics 2 -- Alejandro R. H. Montoya, A New Method and new variables to assess symmetry of financial returns time series 3 --Ananya Lahiri, Fractional Brownian markets with time-varying volatility and high-frequency data 4 -- Andreas Flache, Social integration in a diverse society: social complexity models of the link between segregation and the dynamics of opinion polarization 5 -- Anindya S.

Chakarabarti, Executive compensation structure: A spectral graph theoretic formulation 6.-Aparna Mehra, Copula Theory in Portfolio Optimization 7 -- Aparna Sawhney, Tracking Energy Efficiency of the

Indian Iron and Steel Industry 8 -- Bikas K. Chakrabarti, Fat tailed distributions for deaths in conflicts and disasters 9 -- Bruce M. Boghosian, Criticality and Duality in an Asset-Exchange Model of Inequality 10 -- Cheong Siew Ann, From the Knowledge of Physics to the Physics of Knowledge 11 -- Damien Challet, Empirical properties of the opening and closing auctions of US equities 11 -- Dipyaman Sanyal, Effect of Tobin Tax in an Experimental Minority Game Market 12 -- Frédéric Abergel, Optimal placement of limit orders in order-driven markets 13 -- Ioane Muni Toke, Estimation of ratios of intensities in a Cox-type model of limit order books 14 -- Irena Vodenska, Networkbased modeling of systemic risk propagation in global financial systems 15 -- Kiran Sharma, Financial Market "States": correlations & complexity 16 -- Kousik Guhathakurta, How closely are the Asia Pacific market related to the developed market: a network analysis, 17 -- M. S. Santhanam, Extreme events in time series and on networks 18 -- Nils Bertschinger, Volatility dynamics: Towards early warning signs of financial turmoil?19 -- Pradeep Bhadola, Spectral and Network analysis of financial systems 20 -- Rituparna Sen, High Dimensionality Effects on the Efficient Frontier 21 -- Sanjay Jain, Network anatomy of innovation: Growth and creative destruction in an evolutionary model 22 -- Soumya Datta, Exchange rate dynamics under limited arbitrage and heterogeneous expectations 23 -- Sujoy Chakravarty, Experimental analysis of The Kolkata Paise Restaurant Problem 24 -- Sunil Kumar, Effect of Crisis on the structure and Dynamics of the Indian Financial Network 25 -- Taisei Kaizoji, Efficiency of Bitcoin Market and Prediction of Bitcoin Price Movements.

Sommario/riassunto

This book presents results on the latest perspectives and challenges within the interrelated fields of econophysics and sociophysics, which have emerged from the application of statistical physics to economics and sociology. Economic and financial markets appear to be in a permanent state of flux. Billions of agents interact with each other, giving rise to complex dynamics of economic quantities at the micro and macro levels. With the availability of huge data sets, researchers can address questions at a much more granular level than was previously possible. Fundamental questions regarding the aggregation of actions and information and the coordination, complexity, and evolution of economic and financial networks are currently receiving much attention in the econophysics research agenda. In parallel, the sociophysics literature has focused on large-scale social data and their interrelations. In this book, leading researchers from different communities – economists, sociologists, financial analysts, mathematicians, physicists, statisticians, and others – report on their recent work and their analyses of economic and social behavior. .