

Alexander Outkin developed an interest in complex self-organizing systems while studying Theoretical Physics at the Moscow State University, and then at the Russian Academy of Science under the guidance of Academician V V Struminsky. He received a Muskie Fellowship to study Economics in the US and started his research in complexity and emergent behaviours in socio-economic and financial systems, including his work in Game Theory with Hans Haller. He defended his doctoral thesis “Local Interactions, Learning and Automata Networks in Games” and received his PhD in Economics in 1998. He joined the Bios Group the same year, where he worked with Nasdaq on research described in this book. At present, Alexander works as a scientist at the Los Alamos National Laboratory, where he leads a multi-year effort to build a model of the financial system that incorporates individual agent behaviours, payment systems, markets, telecommunications systems, and interactions between them. This effort is endorsed and supported by various government agencies and private institutions.