

Magnetic spin models of speculation

Stefan Bornholdt ¹

Abstract

Models from Theoretical Physics have been applied to modeling socio-economic phenomena, ranging from improving existing quantitative models of financial theory to more qualitative models of economic phenomena. One phenomenon that attracted much interest in the modelers' community is herding effects in financial markets. A broad range of models has emerged, including a most simplistic class of models based on the theory of magnetism in physics. I will here review magnetic models of markets and discuss how they may teach us, despite their extreme simplicity, about possible mechanisms acting in real markets. I will set them into perspective with classical herding models as well as simulation models of markets, pinpointing the typical research methodology of physicists for approaching complex systems.

¹Stefan Bornholdt
Institute for Theoretical Physics
University of Bremen
Otto-Hahn-Allee, D-28359 Bremen
bornholdt@itp.uni-bremen.de