Boltzmann–Gibbs distribution of fortune and broken time reversible symmetry in econodynamics PING AO, University of Washington — Within the framework of stochastic differential equations it is demonstrated that the existence of Boltzmann–Gibbs type distribution in economy is independent of the time reversal symmetry in econodynamics. Both power law and exponential distributions can be accommodated naturally. The demonstration is based on a mathematical structure discovered during a study in gene regulatory network dynamics. Further possible analogy between equilibrium economy and thermodynamics is explored, suggesting that statistical physics methods can indeed play an important role in the study of complex systems.

Ref:
1. P. Ao, **Commun. Nonlinear Sci. Num. Sim. (online September 8, 2005)** Arxiv: physics/0506103

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