Journal of Statistical Mechanics:
Theory and Experiment

ERRATUM • **OPEN ACCESS**

Erratum: A tale of two (and more) altruists (2021 *J. Stat. Mech.* 103405)

To cite this article: B De Bruyne *et al J. Stat. Mech.* (2022) 019901

OPEN ACCESS

Journal of Statistical Mechanics: Theory and Experiment
An IOP and SISSA journal

ERRATUM

Erratum: A tale of two (and more) altruists (2021 *J. Stat. Mech.* 103405)

B De Bruyne[1], J Randon-Furling[2,3] and S Redner[4,*]

[1] LPTMS, CNRS, Univ. Paris-Sud, Université Paris-Saclay, 91405 Orsay, France
[2] SAMM, Université Paris 1—FP2M (FR2036) CNRS, 75013 Paris, France
[3] MSDA, Mohammed VI Polytechnic University, Ben Guerir 43150, Morocco
[4] Santa Fe Institute, 1399 Hyde Park Rd., Santa Fe, NM 87501, United States of America
E-mail: redner@santafe.edu

Received 14 September 2021
Accepted for publication 20 September 2021
Published 7 January 2022

Online at stacks.iop.org/JSTAT/2022/019901
https://doi.org/10.1088/1742-5468/ac3e6e

Abstract. We introduce a minimalist dynamical model of wealth evolution and wealth sharing among N agents as a platform to compare the relative merits of altruism and individualism. In our model, the wealth of each agent independently evolves by diffusion. For a population of altruists, whenever any agent reaches zero wealth (that is, the agent goes bankrupt), the remaining wealth of the other $N-1$ agents is equally shared among all. The population is collectively defined to be bankrupt when its total wealth falls below a specified small threshold value. For individualists, each time an agent goes bankrupt (s)he is considered to be 'dead' and no wealth redistribution occurs. We determine the evolution of wealth in these two societies. Altruism leads to more global median wealth

*Author to whom any correspondence should be addressed.

at early times; eventually, however, the longest-lived individualists accumulate most of the wealth and are richer and more long lived than the altruists.

Keywords: first passage, stochastic particle dynamics, stochastic processes

This Erratum is to correct typos in equation (8).
The correct equation (8) should read:

$$F_a(x_0,t) = \frac{x_0}{\sqrt{4\pi D_\parallel t^3}}\,\mathrm{e}^{-x_0^2/4D_\parallel t}. \tag{8}$$