



Economy and Society >

Volume 41, 2012 - Issue 3

2,658 | 101 | 1
Views | CrossRef citations to date | Altmetric

Original Articles

From dissonance to resonance: cognitive interdependence in quantitative finance

Daniel Beunza & David Stark

Pages 383-417 | Published online: 25 Jun 2012

Cite this article <https://doi.org/10.1080/03085147.2011.638155>



Full Article

Figures & data

References

Citations

Metrics

Reprints & Permissions

Read this article

Share

Abstract

This study explores the elusive social dimension of quantitative finance. We conducted three years of observations in the derivatives trading room of a major investment bank. We found that traders use models to translate stock prices into estimates of what their rivals think. Traders use these estimates to look out for possible errors in their own models. We found that this practice, reflexive modelling, enhances returns by turning prices into a vehicle for distributed cognition. But it also induces a dangerous form of cognitive interdependence: when enough traders overlook a key issue, their positions give misplaced reassurance to those traders that think similarly, disrupting their reflexive processes. In cases lacking diversity, dissonance thus gives way to resonance. Our analysis demonstrates how practices born in caution can lead to overconfidence and collective failure. We contribute to economic sociology by developing a socio-technical account that grapples with the new forms of sociality introduced by financial

models – disembedded yet entangled; anonymous yet collective; impersonal yet, nevertheless, emphatically social.

Keywords:

financial models

cognitive interdependence

quantitative finance

performativity

risk

arbitrage

Acknowledgements

We are grateful to Michael Barzelay, Michael Jensen, Katherine Kellogg, Jerry Kim, Bruce Kogut, Ko Kuwabara, Peter Miller, Michael Power, David Ross, Susan Scott, Tano Santos, Stoyan Sgourev, Olav Velthuis, Josh Whitford, Joanne Yates, Francesco Zirpoli and Ezra Zuckerman for comments on previous versions of the paper. Please address all correspondence to Daniel Beunza.

Notes

1. See also Callon ([1998](#), [2007](#)), MacKenzie and Millo ([2003](#)), MacKenzie ([2006](#)); for reviews, see Fligstein and Dauter ([2007](#)), Fourcade and Healy ([2007](#)), Ferraro et al. ([2005](#)). A related stream of work (Dodd, [2011](#)) has examined the sociology of money, especially in the context of the quantitative revolution and more recent rise of credit derivatives.
2. The merger was successfully completed on 1 July 2003, and produced an annualized return of 17 per cent for Max and his team.
3. Khandani and Lo ([2007](#)) explain the crisis of August 2007 by the similarity in strategy across hedge funds.

Additional information

Notes on contributors

Daniel Beunza

Daniel Beunza is Lecturer in Management at the London School of Economics. He has taught at Universitat Pompeu Fabra (Barcelona) and at Columbia University. He has studied derivatives traders, securities analysts and his current research is on financial exchanges and responsible investment. Along with others, Beunza's research has led to the development of the social studies of finance

David Stark

David Stark is Arthur Lehman Professor of Sociology and International Affairs at Columbia University where he directs the Center on Organizational Innovation. Stark's most recent book, *The sense of dissonance: Accounts of worth in economic life* (Princeton 2009) examines the perplexing situations in which organizations search for what is valuable

Related research

People also read

Recommended articles

Cited by
101

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources
by email

 Sign me up

  

  

Copyright © 2026 Informa UK Limited Privacy policy Cookies Terms & conditions

Accessibility



Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG