

The Psychophysiology of Real-Time Financial Risk Processing

In Special Collection: CogNet

Andrew W. Lo, Dmitry V. Repin



Author and Article Information

Journal of Cognitive Neuroscience (2002) 14 (3): 323–339.

<https://doi.org/10.1162/089892902317361877>

Cite Permissions Share ▾

Abstract

A longstanding controversy in economics and finance is whether financial markets are governed by rational forces or by emotional responses. We study the importance of emotion in the decision-making process of professional securities traders by measuring their physiological characteristics (e.g., skin conductance, blood volume pulse, etc.) during live trading sessions while simultaneously capturing real-time prices from which market events can be detected. In a sample of 10 traders, we find statistically significant differences in mean electrodermal responses during transient market events relative to no-event control periods, and statistically significant mean changes in cardiovascular variables during periods of heightened market volatility relative to normal-volatility control periods. We also observe significant differences in these physiological responses across the 10 traders that may be systematically related to the traders' levels of experience.

This content is only available as a PDF.

© 2002 Massachusetts Institute of Technology

You do not currently have access to this content.

Sign in

Don't already have an account? [Register](#)

Client Account

Email address / Username

Sk

Password

[Sign In](#)[Reset password](#)[Register](#)

Sign in via your Institution

[Sign in via your Institution](#)[!\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\) Buy This Article](#)

Email Alerts

[Article Activity Alert](#)[Latest Issue Alert](#)[View Metrics](#)[Latest](#)[Most Read](#)[Most Cited](#)

Ignoring Salient Distractors Inside and Outside the Attentional Window

Brain Dynamics during Architectural Experience: Prefrontal and Hippocampal Regions Track Aesthetics and Spatial Complexity

The Neural Consequences of Semantic Composition

[Skip to Main Content](#)

Using Real-time Reporting to Investigate Visual Experiences in Dreams

Cited By

Web of Science (217)

Google Scholar

Crossref (281)

Related Articles

Psychophysiological Correlates of Virtual Reality: A Review

Presence: Teleoperators and Virtual Environments (August,2001)

The Relationship between Immersion and
Psychophysiological Indicators

PRESENCE: Virtual and Augmented Reality (December,2021)

The Role of Harmonic Expectancy Violations in Musical
Emotions: Evidence from Subjective, Physiological, and
Neural Responses

J Cogn Neurosci (August,2006)

Investment Under Uncertainty: Testing the Options Model
with Professional Traders

The Review of Economics and Statistics (November,2010)

Related Book Chapters

Markets and Traders

Market Institutions in Sub-Saharan Africa: Theory and Evidence

Evidence from Agricultural Traders

Market Institutions in Sub-Saharan Africa: Theory and Evidence

Attention in Young Infants: A Developmental
Psychophysiological Perspective

Handbook of Developmental Cognitive Neuroscience

Mobile Traders and Mobile Phones in Ghana

Handbook of Mobile Communication Studies

[Skip to Main Content](#)



A product of The MIT Press

[Newsletter sign up](#)



MIT Press Direct

[About MIT Press Direct](#)
[Books](#)
[Journals](#)
[CogNet](#)

Information

[Accessibility at MIT](#)
[MIT Press Direct VPAT](#)
[For Authors](#)
[For Customers](#)
[For Librarians](#)
[Direct to Open](#)
[Open Access](#)
[Media Inquiries](#)
[Rights and Permissions](#)
[For Advertisers](#)

MIT Press

[About the MIT Press](#)
[The MIT Press Reader](#)
[MIT Press Blog](#)
[Seasonal Catalogs](#)
[MIT Press Home](#)
[Give to the MIT Press](#)

[Skip to Main Content](#)

Contact Us

FAQ

Direct Service Desk

© 2026 The MIT Press

[Terms of Use](#) [Privacy Statement](#) [Crossref Member](#) [COUNTER Member](#)

The MIT Press colophon is registered in the U.S. Patent and Trademark Office