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The Psychophysiology of Real-Time Financial Risk Processing

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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.

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