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Feeling lucky

In a risky world it may pay to shun cheery colleagues

WAS it just greed that prompted the risky financial decisions that triggered global economic meltdown, or could other factors have been at work?

Before rushing to condemn the traders and bankers responsible, consider this: perhaps they were in too good a mood. That's the intriguing implication of experiments showing that even a fleeting exposure to a smiling face makes people more likely to make risky investment decisions.

At the Cognitive Neuroscience Society meeting in San Francisco last week, graduate student Julie Hall of the University of Michigan in Ann Arbor described experiments in which 12 male and 12 female volunteers played a game in which they repeatedly had to choose between investing in a "safe" bond and two much riskier stocks.

For every round of the game, the bond paid out $3. One of the stocks paid out $5 half of the time, while the other lost $5 at the same rate. At the start of the game, the players were told the rules but didn't know which of the stocks was good and which was bad: that only emerged as the game unfolded. As with real-world investments, the good stock became bad at certain points during the game, and vice versa.

Under these circumstances, the rational strategy is to keep investing in the safe bond. This is mostly what participants did – but only when they were shown an image of a face that showed no emotion before each round. Volunteers who were shown a happy face were much more likely to choose the risky stocks. It made no difference whether the face was displayed long enough for the volunteers to register it consciously, or flashed up fleetingly so it was only perceived subliminally.

"Volunteers shown a happy face, even subliminally, were much more likely to choose the risky stocks"

Brian Knutson, a psychologist at Stanford University in California, recognises that it is hard to determine the extent to which real financial markets are driven by similar emotional factors. But he points out: "The market is made up of individuals, and individuals have reactions to what's going on."

While they were playing the game, the volunteers' brains were also scanned using functional magnetic resonance imaging. This showed that the risky decisions were preceded by activity in a brain area called the nucleus accumbens, while the safe bets followed excitation in the anterior insular cortex.

This fits with some of Knutson's earlier findings with a similar investment game. He argues that the nucleus accumbens is activated when we are anticipating a reward. Knutson has found that showing men erotic pictures leads to similarly risky investment decisions.

In a rising market, stoking activity in the nucleus accumbens is advantageous, Hall argues. The problem comes when stimulation of this brain circuitry is out of whack with the likelihood of things turning out well. "When risk-taking is a good thing, it's good to be in a positive mood," she says. "When risk-taking is a bad thing, it's not good." **Peter Aldhous** ■