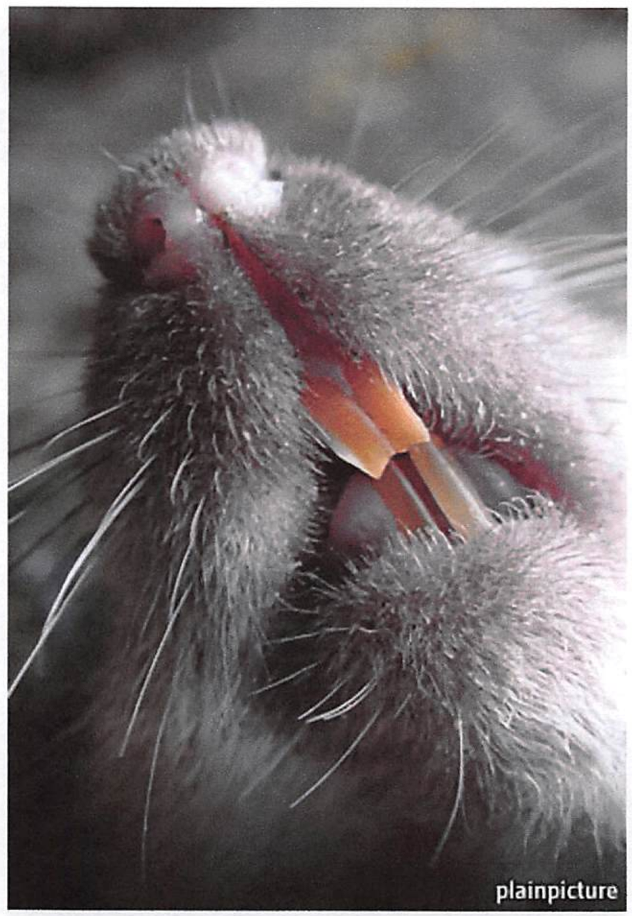
Traders' brains

Rogue hormones

Bad trade? Blame the adrenal cortex

Sep 24th 2011 | From the print edition



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IF THE losses at UBS that surfaced this month were caused by a "rogue" trader, would that make his colleagues stable? Not if research being undertaken by John Coates, a neuroscientist at Cambridge University and a former derivatives trader, is anything to go by. His work suggests that hormones drive investment decisions to a far greater extent than economists or bank executives realise. When traders are on a winning streak, their testosterone levels surge, sparking such euphoria that they underestimate risk. When they are acutely stressed, the adrenal cortex produces a flood of cortisol, a hormone that can make them overly fearful and risk-averse.

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Mr Coates says he was drawn to study these biochemical processes because he wanted to understand the "unbelievably powerful emotions" that make traders "go crazy". In past experiments conducted on a London trading floor, Mr Coates saw cortisol levels in traders' saliva jump by as much as 500% in a day. Remarkably, cortisol increased in direct correlation to implied volatility, a measure of expected future variance in asset prices. "The uncertainty is almost worse than the shock itself," says Mr Coates. "It's always a lot worse not knowing where the goddamn monster is."

Cortisol prepares humans for danger, partly by helping the brain retrieve important memories. This early-warning system is invaluable in the wild. But raging hormones can eventually wreck investors' ability to think rationally. Chronic stress over weeks or months can produce so much cortisol that the brain focuses excessively on negative memories and perceives threats where they do not exist. This loss of judgment is exacerbated by other symptoms of stress, such as sleep deprivation.

Mr Coates likens this condition to the state of "learned helplessness" identified in the 1960s by Martin Seligman, a psychologist who delivered random electric shocks to dogs constrained in harnesses. Eventually the animals lost the will to escape, even once they could do so.

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Traders and rodents also seem to have something in common. Place a rat in an open field and its fear is obvious. Although visible symptoms of anxiety gradually disappear its cortisol levels remain elevated, showing that it is more stressed than it looks. Mr Coates has seen a similar phenomenon among traders. In questionnaires they displayed no awareness of the rampant stress indicated by their cortisol measurements.

One way to reduce the financial havoc these hormones might wreak could be for trading desks to hire more women. Women have about 10% as much testosterone as men, making them less prone to irrational exuberance. Competitive situations do not activate women's cortisol response with such intensity, so market mayhem is less likely to impair their judgment. Call it a hormonal-diversification strategy.

From the print edition: Finance and economics