

Human behaviour and its effect on risk

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Recent market behaviour has surprised many professionals, including risk managers. How can a fund never have a single losing month in its 40-month history, and then be almost wiped out? This and other unpredicted moves challenge conventional investment wisdom, pointing to a need for a better explanation of what is happening. Regulators and central banks must fit policy to real market behaviour, recognising the importance of incentives.

These unusual market patterns come as less of a surprise for behavioural finance. It recognises the failings and biases of normal investment professionals - contrasting with the standard financial model and its assumption of rational behaviour. Unfortunately, risk management has clung tenaciously to traditional theory, soothed by its apparent statistical rigour and the familiarity of more than two decades of use. But behavioural theories, and the day-to-day evidence of real market behaviour, are questioning the traditional approach to risk.

Already, risk practice recognises there are more extreme values than expected by conventional statistical assumptions. Rare, but critical, events have too few observations to model with confidence, but still happen too often. Just why these extremes should occur at all in a rational world is less clear. Now behavioural finance is providing powerful insights on what underlies this. Incentives and human behaviour may in fact be driving the unusual statistical distributions, and be the underlying real cause of skewed returns and risks.

Most performance arrangements, particularly for management of hedge funds, are inherently asymmetric. Upside incentives for gains are not mirrored in downside penalties. Unsurprisingly, fund managers can take advantage of this in their strategy, structuring portfolios around the fact that extreme negatives are scarce. Portfolios can be optimised commercially to achieve a preponderance of positive monthly gains, but with a negative return the likeliest long-run outcome. However, that small possibility of a big loss may not be spotted.

Surprisingly, some risk and return measures such as the Sharpe Ratio can flatter funds with this asymmetric pattern. Many approaches to manager evaluation give disproportionate credit for apparent smoothness of returns, and are often measured over relatively short periods. Even five years of monthly returns may not capture the chance of a big potential negative, and hence underestimate the risk. And, with leverage able to add additional returns and incentive fees, there is a premium on the smoothness of performance that lenders like.

Managers are often incentivised to skew returns, knowing they are gaming against unrealistic risk measures. Value at Risk (VaR) is the measure that underpins regulation, but the statistics rely on distributions being normal, symmetric and continuous. However, the behaviour of participants, encouraged by commercial and regulatory incentives, favours skew and discontinuity. This last point is often overlooked. Jumps in securities prices show both that there may be no opportunity to trade a risk, and that the underlying investor behaviour is not well understood. Many stocks have shown sudden price falls of more than ten standard deviations. These risks are rarely caught by VaR or beta.

Regulation does recognise that some market risks in a trading book may not be fully captured by VaR, but relies too much on internal models and marking to market to compensate. Yet, at times, market prices may not be explained well by traditional finance, which assumes that prices respond only to information. VaR itself does not focus on liquidity issues, although a need for liquidity can drive sudden price moves. And increases in market volatility will push up VaR, creating feedback that can accelerate a liquidity problem. Overall, a fall in market volatility of more than 40 per cent since 2002 had flattered many risk models.

It is easy to see why it has been so hard for behavioural finance to dislodge received wisdom in risk management. Firms, regulators and many professionals have sunk considerable capital in conventional financial theory, and its mathematical treatment. But it is clear that risk management should be based on an understanding of the underlying processes and incentives that drive real market behaviour. Investment professionals and regulators must recognise that behavioural finance offers new insights on risk.

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