

Don't distort the message

In the first of a four-part series, *David Rowe* considers the development of financial risk management over the past 25 years and offers some thoughts about its future direction

I can quite reasonably claim to have entered financial risk management at its creation, having made a major career change from macroeconomic forecasting to quantitative financial risk management at the end of 1986. Basel I had been floated and was being actively discussed, while interest rate and foreign exchange derivatives volumes were growing rapidly. Perhaps most importantly, a series of large, public and highly embarrassing losses were about to emerge and to continue intermittently for the next 10 years.¹

There can be little doubt these losses prompted the creation of financial risk management as a profession in its own right. This illustrates one important lesson risk managers should always keep in clear focus. Theoretical arguments support the contribution of risk management to boosting equity values by lowering the market rate of discount applied to prospective future earnings. Ultimately, however, painful experience trumps fancy theory every time. It is a sadly enduring truth that experience is a harsh teacher, but some will learn from no other.

VAR and its discontents

After making the career shift from economic forecasting to financial risk management, people often would say 'what you're doing now is really different from what you did previously'. My stock answer was that I didn't feel that to be so. In both phases of my career, I felt I had a similar objective: namely, transforming data into information. Both economic forecasting and risk management confront an overwhelming volume of data. When viewed *en masse*, such data offers little guidance for decisions. Only when some coherent and logical structure is applied to such data do they yield actionable information.

In one sense, however, there was an important difference between these two professional endeavours. Financial risk management was, and largely remains, heavily focused on statistical analysis of relatively narrow data sets. These are primarily high-frequency observations of market values used to estimate volatilities and correlations. It is from such data that we derive estimates of value-at-risk and its variants. Many have argued that VAR is a fatally flawed and even dangerous concept. I must beg to disagree.

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Before VAR, trading market risk was constrained exclusively by a large array of micro-limits on maturity-equivalent open positions, maturity mismatches (by individual tenors and in aggregate), individual and aggregate delta, and (negative) gamma and vega exposures, in addition to gross notional ceilings in some cases. Many of these limits still play an important role in day-to-day desk-level risk management and control. In the absence of VAR, however, senior committees had little or no 'gut level' sense of how to gauge the actual amount of risk that such a complex array of limits implied. This made approving increases in such limits – which was an ever-recurring request from trading units – largely a matter of faith. VAR provided a reasonable sense of the magnitude of losses that should be expected as a result of typical market fluctuations (the type of fluctuations that characterise all but two or three trading days a year).

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One of the biggest mistakes we have made as risk managers is failing to recognise that many successful and intelligent people just don't take naturally to probabilistic modes of thought. Partly as a result of this failure, we weren't careful enough in establishing a casual shorthand expression for what a VAR estimate represents. In far too many cases, we fell into the sloppy practice of referring to it as 'the worst-case loss'. I think we unconsciously believed that all our listeners recognised the subtleties of the concept and would not be misled by our terminology. Then we were surprised when, in the face of a loss exceeding the VAR estimate, people said 'why was your estimate wrong? You said VAR was the worst possible loss'.

Instead of pulling our hair out or uttering a primal scream, I suggest we change our terminology (out of self-protection if nothing else). My proposal is to call VAR (at the standard 1% level of confidence) a minimum twice-a-year loss. This conveys far more accurate intuition to non-technical managers of what the estimate entails. First, it conveys a sense of the rarity of occurrence we have in mind. More importantly, however, calling VAR a minimum twice-a-year loss suggests the right question – namely, how much bigger than the minimum could these losses be when they occur? That leads into next month's column on Black Swans. ■

¹ Two of the more prominent early losses were an almost \$400 million loss at Merrill Lynch from trading in interest-only/principal-only structured mortgage securities and an \$80 million loss at Bankers Trust from restated valuations on long-dated forex options. The mid-1990s saw losses of roughly \$1.7 billion at Orange County, \$150 million at Proctor & Gamble, \$1.4 billion at Baring Brothers and \$2.7 billion at Sumitomo