Model risk; ignore it at your peril!

✍ By Margaret Ferns

On the 13th November the Association of Risk Management Professionals in Luxembourg (PRiM) held a lunchtime conference at the Hilton on the subject of, "Model Risk; ignore it at your peril." Frederic Gielen and Paul McCormick of Avantage Capita took the podium in an attempt to illustrate how resting on your model's laurels can be a very risky business indeed.

The term risk modelling refers to the techniques used to establish the aggregate risk of a financial portfolio. It is one of the many tasks involved in financial engineering and includes the use of several techniques; value-at- risk (VAR), market risk, extreme value theory (EVT) and historical simulation, the idea being to make (as accurate as possible) forecasts for any losses that could be incurred due to a variety of risks.

Understand the building blocks

As the financial services world becomes ever more complicated thanks to rising regulatory demands (Basle II, MIFID, UCITS III...) and as clients' expectations for greater portfolio returns, portfolio tracking and hedging mounts, so the demand for improved (and transparent) risk management has increased. However, as Gielen explained, "When your clients choose a certain strategy to build their portfolios, there is often additional risk, which is hidden and does not stay constant." According to McCormick, "This makes it very important that we fully understand the risks involved in their chosen strategy, which requires a sound understanding of the underlying building blocks of the products; its parameters, structure and performance."

This means that selecting the appropriate risk model is essential. Gielen said that, "An organisation should decide what its preferred level of risk capability is and really decompose the products to understand what they are made of in order to appreciate the risk they carry." He also advised that they "Do not use complex models if they are not required and do not add value." However, perhaps the most important piece of advice that Avantage had to give was that, "Organisations should apply tests to their models to make sure they continue to match the original assumptions made."

Test, test, test!

There is no question that risk models are very powerful analytical tools, which can support key business decisions. However, it is essential that organisations accept the fact they contain levels of inherent risk - faulty estimates or assumptions, erroneous calculations or incorrect interpretation of results. All of this, as the recent US sub prime mortgage crisis so neatly illustrates, can lead to vastly more exposure than the preferred level and potentially devastating negative press coverage (as the Northern Rock Building Society in the UK can testify).

The sub prime crisis came about because many originators were not were not accurate in their estimates for payments for losses on loan in their securitised pools, meaning that they greatly overstated their expected cash flow and the value of their residual assets, which in turn lead to the liquidity crunch being faced now. McCormick explained it like this, "The bases of the sub prime problem lay in the models, which were no longer as valid as people thought, thanks to lack of transparency, understanding of the very models themselves and the putting of too much credence on not enough information on other people's models."

See the whole picture

The ideal behind model risk management is to avoid such unexpected losses and headline risk as well as increasing the model's reliability via continuous improvement. To achieve this, the pair from Avantage advised the risk professionals in attendance to adopt a "look through" approach. "In the case of a Luxembourg bank involved in fund administration, for example, "said Gielen, " the fund needs to look through to see the bank's underlying investments in order to asses a more realistic risk level." McCormick added that risk models require, "due diligence as well as cushions to protect against certain types of exposure." The pair wished risk professionals in Luxembourg well, acknowledging the fact that, "The sheer numbers of models that need to be looked at, and the frequency of pricing, create additional challenges for the Grand Duchy."

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