

# Stress testing culture

*Many financial institutions are putting greater focus on stress testing, but most will require a cultural adjustment for it to become an effective part of the risk management process, argues David Rowe*

There has been much discussion on how risk management must change if it is to be more effective in future, and stress testing has been central to that debate. The Dodd-Frank Act, meanwhile, mandates that systemically important financial institutions (Sifis) should prepare so-called living wills. These living wills will primarily focus on internal legal structure, cross-entirety commitments, restrictions on things such as transfer pricing, guarantees and emergency funding, and in particular on the priority of cross-subsidiary legal claims.

While the preparation of stress tests and living wills are distinct exercises, both encounter a universal characteristic of corporate culture – the reluctance to contemplate failure. Success within a competitive system demands faith in the firm's products and services, a can-do attitude and fervent belief in the rallying cry 'failure is not an option'. It should come as no surprise that preparation of stress tests and living wills runs against the grain of this 'can-do' attitude.

Nevertheless, the most successful senior managers know they cannot abdicate responsibility for evaluation of risk to a specialist department. In particular, they must recognise risk estimates based on distributional analysis such as value-at-risk do not address all the contingencies their organisations face. A complete assessment of risk and uncertainty can never be assured, but the chances of anticipating and responding effectively to adverse events is increased if senior management grapples with the multi-dimensional complexity of risk. Which brings us back to stress testing.

Perhaps the first thing to realise is that stress tests cannot be restricted to scenarios we are capable of simulating in minute detail. Confining our thought processes in this way will significantly limit our imagination. Moreover, underlying structural pressures often do not manifest themselves in greater day-to-day volatility. Sometimes, such structural trends can actually reduce risk, at least according to these types of measurements. For example, the build-up of large systemically important institutions tends to dampen volatility, as peripheral disturbances are readily absorbed by such entities. Nevertheless, a disturbance that causes the failure of such a 'super node' in the financial system can trigger a major crisis. Senior management brainstorming on poten-

tially damaging scenarios must be broad and imaginative, informed more by history than recent market behaviour. Such scenarios inevitably represent extreme or even historically unprecedented circumstances. As such, they will not have the same degree of quantitative detail as routine Monte Carlo simulations. But they are no less relevant – they simply need to be judged based more on history and common sense than on detailed statistical analysis.

Of course, it is also possible for the generation of stress scenarios to become too free-wheeling and insufficiently linked back to their impact on corporate performance. This may be interesting, but it does not contribute much to shaping corporate strategy. One way to counter this tendency is to use some form of Achilles heel approach – to think about the firm's major business segments and structure stress scenarios that exploit the exposures such activities create. It is also important to consider the impact of stress scenarios on more than just the current level of exposure. Instead, risk managers should evaluate the impact of such a scenario if existing limits and portfolio guidelines were fully utilised in the most vulnerable way.

While stress-test formulation should not be overly constrained by current experience, there should also be some guidelines governing plausibility. One way is to use extreme historical precedents. For example, house prices fell by roughly 50% in the US during the Great Depression – this could reasonably have been the guideline for stress scenarios of the subprime mortgage market prior to the crisis. That it was not used in this way illustrates how easy it is to dismiss extreme scenarios based on the delusion that 'this time is different'. In fact, we have not seen a fall in house prices of this magnitude during the current financial crisis. Nevertheless, if one had built a stress test in 2006 using the 50% fall, it would have been easier to take seriously a drop half that size, which is closer to what we have seen.

It is also useful to have some sense of a maximum acceptable impact of a stress test deemed to be within the bounds of historical plausibility. One formulation I have used in the past is that stress tests are plausible if the individual changes have historical precedents and are also logically consistent. Do not combine a change implying a panicked flight to quality and another that implies burgeoning acceptance of risk, for instance. As a guideline for the maximum acceptable impact of such a scenario, I suggest the US concept of a bank's legal lending limit (or 15% of capital and surplus). If that is as much as a bank should be willing to lend to any single name, even one rated AAA, it should be equally unwilling to accept an impact greater than that from a rare but plausible systemic crisis. ■

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