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Managing spreadsheet risks

Countown to Solvency II
Controlling and mitigating the risks of spreadsheet evaluation under Solvency II

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While spreadsheets will remain an important tool under Solvency II, they can be inherently difficult to control. How can you manage the risks more effectively?

The flexibility and familiarity of spreadsheets make them popular with finance and actuarial teams, who are often highly skilled in their use. Under Solvency II, spreadsheets could prove especially useful in providing cost-effective and relatively easy-to-apply solutions in areas such as data collation, data transformation and the analysis supporting expert judgements.

However, a proliferation of spreadsheets can inevitably increase the risk of mistakes and make errors harder to detect. Some of the main risks associated with spreadsheets actually stem from their flexibility and ease of use. This includes making it hard to pick up changes to functionality or data. The way that spreadsheets are used can also make it difficult to work out what constitutes a change to your internal model or would require you to update your data directory.

In turn, the reliability of spreadsheet evaluations and surrounding controls can be hard to demonstrate to your board and supervisor, who are going to be applying much greater scrutiny as risk and capital evaluations and the underlying methodologies 'go public'. It is certainly harder to develop and document an effective control framework for spreadsheets and other tools governed by end users than it

Key questions for management

- Which spreadsheets are relevant to Solvency II compliance?
- Are you going to be using more spreadsheets as a result of Solvency II and, if so, is this sustainable?
- How do you know that the spreadsheets you're deploying are doing what they're supposed to and how do you demonstrate this?
- How do you make sure your spreadsheets use and deliver data that meets Solvency II standards for completeness, accuracy and appropriateness?
- How do you show that the spreadsheet analysis used to support key decisions or expert judgements is robust?
- How do you build sustainable, long-term ways to manage spreadsheet risks into your internal model and wider capital evaluation process?

would be for a typical IT system, where there is a clear separation between specification, development and testing. Similarly, the user guidance for spreadsheets tends to be less well documented than for an IT system, which can heighten the dependence on key personnel. Model validation and version control are also more challenging.

Reducing dependence on spreadsheets should therefore be a key priority under Solvency II, though eliminating them altogether is likely to be unfeasible. As spreadsheet risks come under far greater board and supervisory scrutiny, the 'black box' of short cuts and workarounds is going to come out into the open. You therefore face the challenge of developing a clearly articulated and transparent control framework that doesn't just manage the risks, but can also assure sceptical stakeholders that the controls are reliable.

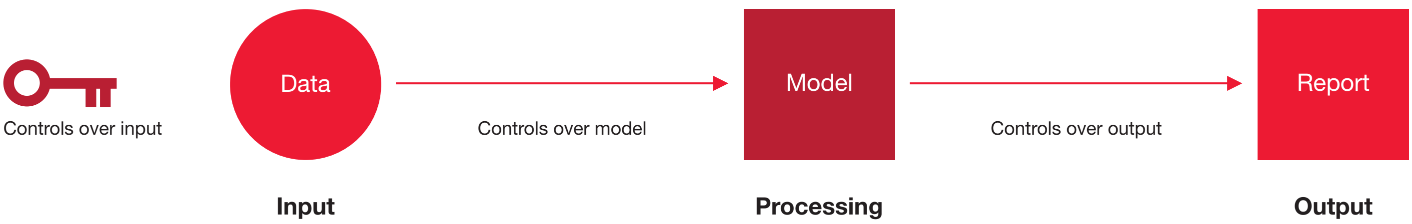
Breaking down the risks

As you seek to develop more systematic and demonstrable controls over your spreadsheets, an important first step is to map the processes and associated risks surrounding their use within your organisation (see Figure 1). Key considerations include the quality and consistency of data supply and the effectiveness of the surrounding governance. It is also important to assess how input, processing and outputs will be affected by the heightened demands of Solvency II. This includes much shorter turnaround times for regulatory reporting and how you build in the necessary flexibility for alternative and 'what if' analysis.

> *'It is not only necessary for users of disclosed information to know that an insurance undertaking has an appropriate internal model defined and in use, but also that the internal model has been implemented in a sound IT-infrastructure with appropriate IT-governance structure.'*
>
> Solvency II Consultation Paper 58 (CP58): Supervisory reporting and disclosure

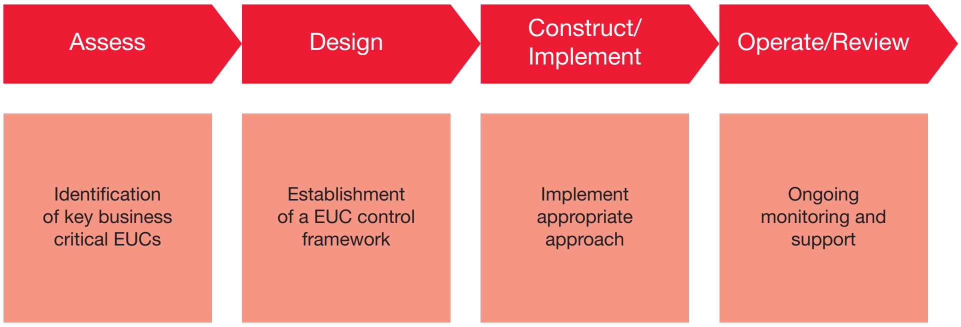
Figure 1: Mapping risks and controls

This diagram illustrates the input, processing and output of the Internal Model and how to manage the key risks associated with them



Source: PwC

Figure 2: PwC Spreadsheet Control Framework



Source: PwC

Drawing on your examination of the inputs, processing and outputs, you can begin to assess which end-user controls are business critical and identify which are the most complex and vulnerable to risk. This will help to bring greater visibility to the risks and the challenges this presents. You can then determine the required level of control in each area and design the framework needed to deliver it. The next stage is the implementation of the controls. It can also be helpful to create a centralised support platform to take care of maintenance and development. The longer term goal is greater automation over spreadsheet control, possibly through the use of one of the off-the-shelf tools that are now available.

The benefits of this more systematic and strategic approach to managing and mitigating spreadsheet risks include standardised organisation-wide controls and reduced reliance on key personnel and local administration. This will in turn help to provide boards and supervisors with greater assurance over the controls in place, along with a strong foundation for documentation.

Sustainable controls

The additional complexity and workload created by Solvency II are likely to increase the risks associated with spreadsheets. Looking at ways to reduce reliance on spreadsheets will be the first priority, though you will still need to look at how to exert greater control over the considerable number that will remain. This will require a move away from the ad hoc way that spreadsheets are generally used today towards the more systematic framework for deployment and control generally applied to IT systems. This includes identifying potential risks and building the necessary controls into the overall capital evaluation process. It will also be important to look at how these controls can be documented and opened up to effective third party scrutiny and verification.

‘Data should be registered and maintained on a comprehensive basis and the underlying processes and procedures should be transparent.’

Solvency II Consultation Paper 43 (CP 58): Standards for data quality

Giving you the edge

PwC is helping a range of insurers to get to grips with the practicalities of Solvency II implementation. If you’d like to know more about how to manage spreadsheet risk more effectively, please contact:

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