THE **SURVIVORS' GUIDE** TO SOLVENCY II

THE Review
WORLDWIDE REINSURANCE

IN ASSOCIATION WITH

PRICEWATERHOUSECOOPERS

EDITOR
RUTH LYTHE
+44 (0) 20 7017 7887
ruth.lythe@informa.com

SENIOR REPORTER
SARAH TAME
+44 (0) 20 7017 6576
sarah.tame@informa.com

PRODUCTION MANAGER
FLEUR CAGE
+44 (0)20 7017 5322
fleur.cage@informa.com

AD MANAGER
CHRISTINA MEDICI
+44 (0)20 7017 7793
christina.medici@informa.com

EVENTS EXECUTIVE
NATALIA KAY
natalia.kay@informa.com

MARKETING MANAGER
LOUISE CANFIELD
+44 (0)20 7017 4088
louise.canfield@informa.com

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TURNING CHANGE INTO GAIN

Over the past few months Solvency II and its implications have hit the headlines more frequently than ever. And as the directive's January 1, 2013 implementation date thunders towards Europe 's re/insurers, it seems as though the full scale of the project is now being realised.

Indeed as recent media reports testify, some re/insurers have found the directive and shake-up it heralds challenging and costly to implement. However, the fact that there are still two years before the final deadline, gives a little breathing space and potentially the opportunity to turn this wholesale change into gain.

The thinking contained in this guide aims to show the best way of achieving this. In addition it examines what companies need to do to ensure that the time and money required to prepare for the directive is most efficiently spent.

The publication of this guide, the first in a series in the run-up to the implementation of the directive, is most timely. It comes shortly after the launch of the fifth Quantitative Impact Study (QIS5). During this process, the European Commission will test the calibration of Solvency II in its present form. However, although QIS5 is the final test of Solvency II, the full implications of the directive have yet to emerge in a number of areas.

Meanwhile there are other issues which companies risk overlooking. This guide aims to shed light on these challenges, show how re/insurers can overcome them and emerge even stronger. In addition, it provides a fascinating insight into the implications of this piece of European legislation that will shake-up the re/insurance market forever.

Ruth Lythe
Editor
The Review –
Worldwide Reinsurance

GETTING THERE

Only two years to go and counting. As the focus of preparations for Solvency II moves from planning and evaluation to actual implementation, the full enormity of the project is becoming all too evident.

Many insurers and reinsurers are facing unexpected challenges. Others are struggling to find a way through a labyrinth of detail. On the plus side, many insurers are finding opportunities to strengthen their operations, create a more informed basis for decision making and emerge stronger from the shake-up ahead.

The Survivors' Guide to Solvency II has been prepared by subject matter experts from PricewaterhouseCoopers LLP. Drawing on our research and work with clients, the guide covers areas that are causing the greatest difficulties for insurers or may have been missed altogether. The focus is on the practicalities rather than the technicalities, along with the implications for the strategy and management of the business.

If you would like to discuss the subjects covered in this guide in more detail or any other aspect of Solvency II, please speak to your usual PwC representative or one of the PricewaterhouseCoopers contacts listed on page 27.

Paul Clarke
Partner
PricewaterhouseCoopers (UK)

Solvency II is set to reshape the European insurance sector, providing a powerful spur for acquisition, restructuring and competitive re-orientation, say Achim Bauer and Lena Mörk

TAKING ADVANTAGE OF SOLVENCY II

While many insurers are still primarily focused on the technical aspects of Solvency II implementation, a number of companies are now beginning to assess the far-reaching strategic implications, including the impact on their business model, product mix and operational structures. The marked change in how risks are evaluated and capital efficiency is judged will have a profound affect on how and where they choose to compete (*Figure 1* outlines some of the potential business implications for different areas of the sector).

Many companies are likely to look to acquisition and divestment to help them optimise the capital efficiency of their businesses. For some larger groups, the key objective will be to increase the diversification of their product line or geographical spread. At the other end of the spectrum, some companies will not be able to secure effective diversification and could face additional capital requirements because of a narrow product or regional focus. These firms will want to look at the adequacy of risk-adjusted return on capital from each element of their portfolio and judge which operations are therefore worth retaining within a specialised entity. Underperforming lines or, indeed, the entity itself will either need to be sold or discontinued.

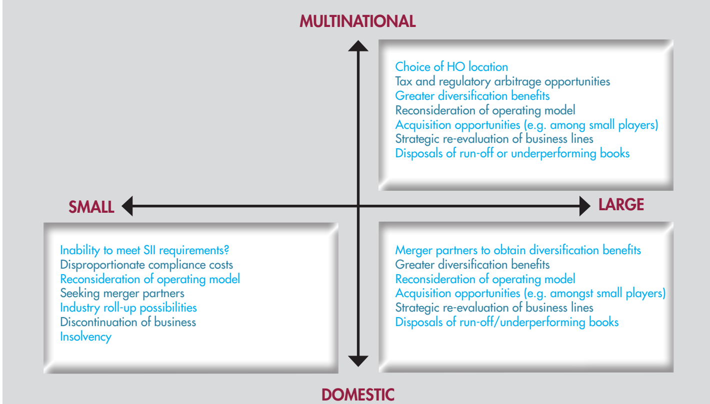
As insurers re-assess the capital dynamics of their operations in the light of Solvency II, some companies may look at alternative business models. Rather than being a consolidator or specialist, the choice would be whether to focus on a particular aspect of a value chain that is likely to be increasingly segregated between distribution, manufacturing, service (IT, administration etc) and capital provision.

One of the potential benefits opened up by the unbundling of the value chain would be enabling capital providers to align investment more closely with their risk appetite and return expectations. There will continue to be investors who will want to assume direct exposure to insurance risk in return for the required level of reward. However, there would also be other investment opportunities that retain minimal insurance risk and operate with reduced regulatory capital requirements as they concentrate on areas such as distribution, insurance services or other non-manufacturing parts of the value

Achim Bauer, *PARTNER*
PricewaterhouseCoopers (UK)

AS INSURERS RE-ASSESS THE CAPITAL DYNAMICS OF THEIR OPERATIONS IN THE LIGHT OF SOLVENCY II, SOME COMPANIES MAY LOOK AT ALTERNATIVE BUSINESS MODELS

FIGURE 1 POTENTIAL COMMERCIAL AND PRACTICAL IMPLICATIONS OF SOLVENCY II



SOURCE: PricewaterhouseCoopers LLP

SOLVENCY II WILL ALSO SPUR MANY COMPANIES TO LOOK AT HOW TO IMPROVE THE COST AND CAPITAL EFFICIENCY OF THEIR OPERATIONAL STRUCTURES

chain. This is likely to attract fresh interest from a range of capital providers including financial investors, who may previously have been deterred by the complex compliance requirements and the need to tie up significant capital to support risk within a conventional insurance business. The unbundling of the value chain may also attract new entrants from sectors such as IT or retail as they seek to tap into opportunities close to their respective expertise. The overall result would be clearer and more differentiated investment prospects within the insurance industry and hence the ability to attract more capital from a wider array of providers.

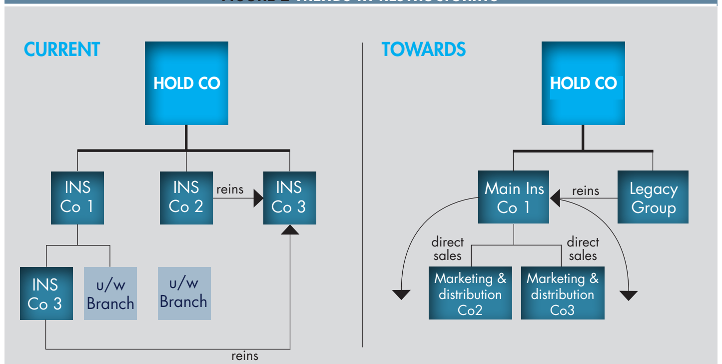
MODEL OF EFFICIENCY

Solvency II will also spur many companies to look at how to improve the cost and capital efficiency of their operational structures.

Many insurance groups have been built up though a succession of acquisitions, creating a cluttered array of different underwriting platforms and separately regulated local subsidiaries. Among the resulting difficulties are the expense and inefficiency of dealing with multiple compliance demands. In addition, if the capital from all the various subsidiaries is added together, the cumulative sum also tends to be much higher than a single consolidated entity.

Opportunities to simplify these convoluted structures have existed for some time. *Figure 2* sets out a typical trend in restructuring in which separate subsidiaries are 'collapsed' into one main insurance company, which operates through a series of local branches. The EU single market 'passporting' regulations enable the company to underwrite all of its business through a single entity.

FIGURE 2 TRENDS IN RESTRUCTURING



SOURCE: PricewaterhouseCoopers LLP

The capital and regulatory burden is also much reduced as the single entity takes care of all solvency requirements and associated returns, leaving the local operations to deal solely with conduct of business. Once the legal structure has been streamlined, firms will be in a stronger position to pursue further options for operational rationalisation such as the development of shared services.

Solvency II will change the criteria for calculating solvency requirements and impose higher capital charges on many insurers, especially if they opt for the standard formula. The directive will also increase the potential cost and complexity of compliance. The directive could therefore provide further impetus for the kind of restructuring outlined earlier. Moving to a single entity structure would make the task of securing internal model approval much easier as the company would only need to prepare one application rather than a separate one for each of the group's companies. The amount of data gathering and regulatory and other reporting in a single entity is also likely to be much lower than a group with multiple subsidiaries. Solvency II will require each entity to prepare an Own Risk and Solvency Assessment (ORSA) and Solvency and Financial Condition Report (SFCR), as well as the Report to Supervisors (RTS). Ensuring consistency in reporting will be very challenging.

From a capital perspective, companies operating through a single underwriting platform will be able to take advantage of all available diversification benefits and there will only be one (consolidated) solvency requirement. This could result in a capital saving of between 20% and 30% over a group of comparable size operating through say ten or so subsidiaries.

CATALYST FOR CHANGE

With only two years to go before Solvency II comes into force, the need for boards to assess the impact on the economics of their businesses and how they should respond is becoming ever more urgent. This includes evaluating whether their present capital, cost and tax structures are efficient and how they are likely to be affected by the directive. If they don't, they could soon face questions about their relative efficiency from analysts or find themselves losing business to lower cost competitors operating with more effective structures. Divestment, run-off and consolidation are also set to play a key part in this strategic reappraisal and resulting restructuring, enabling companies to re-balance their portfolios, sharpen specialisation or focus on a particular aspect of the value chain, depending on their choice of business model. ®

Lena Mörk, *SENIOR MANAGER*
PricewaterhouseCoopers (Sweden)

WITH ONLY TWO YEARS TO GO BEFORE SOLVENCY II COMES INTO FORCE, THE NEED FOR BOARDS TO ASSESS THE IMPACT ON THE ECONOMICS OF THEIR BUSINESSES AND HOW THEY SHOULD RESPOND IS BECOMING EVER MORE URGENT

Ruth Lythe speaks to Paul Clarke from PricewaterhouseCoopers about the state of the insurance industry's preparations for the directive, the progress being made by supervisors and the challenges ahead

STATE OF PLAY

Paul took over leadership of PwC's Solvency II team earlier in the year. In 16 years as a partner, Paul's wide-ranging work with insurance clients has included helping to improve the efficiency of capital and operational structures, as well as compliance advice. He is thus well placed to judge both the strategic and regulatory implications of the directive.

Ruth Lythe: ARE INSURERS ON TRACK FOR IMPLEMENTATION?
Paul Clarke: This very much depends on their ambitions for the project and the impetus being provided by their national supervisors. At one end of the spectrum are insurers who have embraced Solvency II as an opportunity to strengthen the competitiveness of the business and who see compliance as a by-product of this. Many of these firms are seeking supervisory approval to use an internal model and will therefore need to have completed their model construction, embedding and assessment at least a year before Solvency II goes live in January 2013.

At the other end of the spectrum are companies where there is little focus or management engagement. They will be taking their cue from their local supervisors, whose timelines and expectations vary quite markedly. As a result, some firms may only just be getting around to carrying out a gap analysis.

In the middle are firms that may have started out with ambitious plans, but have since reined these in and are simply looking to get over the line. In particular, quite a few companies failed to meet the pre-application criteria for using an internal model and have therefore had to opt for the standard formula instead.

There are also companies that believe they already have well established and embedded procedures and therefore meeting the demands of Solvency II will be relatively straightforward. These firms are perhaps the greatest source of concern as they may have much more to do than they realise. What is increasingly clear is the more progress companies make, the more they realise they have to do.

WHAT IS INCREASINGLY CLEAR IS THE MORE PROGRESS COMPANIES MAKE, THE MORE THEY REALISE THEY HAVE TO DO


SOURCE: PricewaterhouseCoopers LLP

Ruth Lythe: ARE SUPERVISORS UP TO SPEED?
Paul Clarke: The recent CEIOPS report on regulatory preparedness has shown that European supervisors are at different stages of evolution, with some much more prepared than others. This will add to concerns about whether there is going to be a level regulatory playing field across the EU. Any inconsistencies will increase the cost of compliance for larger groups and could create market distortions. Getting up to speed is going to be a tough challenge for regulators as they are competing against companies for the same scarce personnel.

Ruth Lythe: ARE SOME COUNTRIES AHEAD OF OTHERS?
Paul Clarke: Countries that have already introduced a risk-based capital regime clearly have a head start. Both companies and supervisors in other countries have quite a lot of catching up to do. In terms of ambition, most of the larger groups are seeking internal model approval. This is also the case for many of the mid-size firms in Ireland and the UK, especially in the London Market where the risks being underwritten are often quite complex and therefore lend themselves to an internal model approach. In contrast, most of the mid-size firms on the Continent are likely to adopt the standard formula.

Ruth Lythe: WHAT ASPECTS OF IMPLEMENTATION ARE PROVING MOST DIFFICULT?
Paul Clarke: Insurers are facing a moving target in many key areas. Many firms are also finding it difficult to work out what all the reams of implementation measures actually mean in practice. This is especially difficult for the largely principles-based areas such as embedding, the use test and the risk management framework.

GETTING UP TO SPEED IS GOING TO BE A TOUGH CHALLENGE FOR REGULATORS AS THEY ARE COMPETING AGAINST COMPANIES FOR THE SAME SCARCE PERSONNEL

THE CAPITAL REQUIREMENTS OF A COMPANY OPERATING THROUGH A SINGLE UNDERWRITING PLATFORM COULD BE BETWEEN 20% AND 30% LOWER THAN A GROUP OF COMPARABLE SIZE OPERATING THROUGH SAY TEN OR SO SUBSIDIARIES

Ruth Lythe: HOW CAN INSURERS STRENGTHEN THE VALUE AND EMBEDDING OF SOLVENCY II?

Paul Clarke: There is a 'supplier push' in a lot of companies in which risk and actuarial teams are focusing on the fine print of compliance in isolation from the demands of the business. The result is likely to be free-standing systems that will add little to the quality of decision making and may well fail to meet the use test. For example, the capital model might be generating completely different numbers from the pricing model. It would be far more effective to ask executive and business teams what kind of information would help them to make more informed decisions and build the risk and capital framework around these user demands. Not only are the results more valuable to the business, they are also more likely to satisfy the supervisor. The ultimate aim is a single integrated process that feeds into financial statements, regulatory returns and internal management information. The new IFRS insurance contract standard is set to make such integration even more important.

Ruth Lythe: WHAT ARE THE KEY STRATEGIC IMPLICATIONS OF SOLVENCY II?

Paul Clarke: Solvency II is going to put much more pressure on cost and capital efficiency. A number of companies have or are planning to rationalise their operating structures to reduce compliance costs and capital demands. Others will come under competitive pressure to follow suit. The capital requirements of a company operating through a single underwriting platform could be between 20% and 30% lower than a group of comparable size operating through say ten or so subsidiaries.

Ruth Lythe: ARE BOARDS TAKING AN ACTIVE ENOUGH INTEREST IN THE SOLVENCY II PROJECT?

Paul Clarke: Board-level direction is vital in defining what is required from the Solvency II project, deciding who should be responsible for what and setting the tone of the interactions with supervisors. The level of engagement has depended on the level of ambition we discussed earlier, though most boards are much more involved than they were 12 months ago and are taking an increasing interest in the strategic implications of the new regime.

Ruth Lythe: HOW SIGNIFICANT IS QIS5?

Paul Clarke: While companies have been allowed to carry out the previous QIS on a limited 'best efforts' basis, QIS5 is a full dry run, requiring firms to use all the capabilities that are being developed for Solvency II. QIS5 will thus provide a real sense of how the numbers are going to look under the new regime and a true test of whether systems and processes are genuinely fit for purpose. The European Commission is looking for much higher participation than in the past in order to set the final implementation measures at the right level for the whole industry. ®

The Solvency II risk and capital management disclosures will open the lid on insurers' exposures and how effectively they are being managed. How will your business come across, ask Brian Purves and Julia Schüller

STANDING UP TO MARKET SCRUTINY

The publicly available Solvency and Financial Condition Reports (SFCR) are designed to open up risk and capital management to the discipline of market scrutiny. They combine quantitative information about the risk position and related capital adequacy with a description of critical risk management processes.

Key elements include:

Nature of the business and external environment, objectives, strategies and performance
Governance structures, responsibilities of the board, senior management and key committees
Risk profile and risk management approach for each category of risk
Valuation bases for assets and liabilities including technical provisions, with explanation of any major differences to the bases used in the financial statements
Capital management including minimum capital requirement (MCR), solvency capital requirement (SCR) and quality/structure of solvency reserves

Julia Schüller, *PARTNER*
PricewaterhouseCoopers (Germany)

Preparing for Solvency II disclosure (Pillar 3) has tended to take the back seat to capital evaluation (Pillar 1) and risk management (Pillar 2) within many insurers. However, at a time of growing analyst, investor and rating agency focus on the risks being run and the procedures in place to manage them, the importance of a clear and well-prepared communications strategy cannot be underestimated – *Figure 1* sets out a suggested strategy covering both the SFCR and confidential Report to Supervisors (RTS). It will be important to leave sufficient time to discern what kind of impression of the company will be created by the SFCR and ensure that senior management is comfortable with the results. There is likely to be particular attention on the capital efficiency of particular products, business units and the enterprise as a whole. The markets are also likely to look closely at the risk appetite, the quality of risk management as conveyed through the SFCR and the extent to which risk considerations are seen to be influencing decision making.

THE COMING CHANGES TO IFRS FINANCIAL INSTRUMENT ACCOUNTING ARE GOING TO MAKE IT EVEN HARDER TO RECONCILE SOLVENCY II AND IFRS

RECONCILIATION AND DIVERGENCE

Further issues centre on potential anomalies between the Solvency II disclosure and other reporting bases including financial statements prepared under IFRS and local GAAP. Any inconsistencies are likely to be picked up and challenged by analysts.

Despite some conceptual similarities between Solvency II and IFRS and the option under the directive to make use of equivalent information contained in other statutory reports, there will be marked variations between both current IFRS and any future insurance contract standard. In contrast to IFRS, there is no distinction between insurance and investment contracts in Solvency II. Other crucial differences include the absence of good will and other intangibles, as Solvency II is only interested in assets that can be realised fairly quickly.

The coming changes to IFRS financial instrument accounting are going to make it even harder to reconcile Solvency II and IFRS. In particular, assets on the Solvency II balance sheet will continue to be marked to market, while under IFRS many will be held at cost. This could make the Solvency II numbers a lot more volatile than IFRS.

Underlying challenges include the sheer extent of the demands and the resulting workload. Although the reporting requirements are meant to be proportionate to the nature, scale and complexity of the entity, smaller firms may still be expected to follow an extensive standard template for disclosure, much of which may not be relevant. The disclosure regime is also likely to be especially tough on groups as they will have to prepare SFCR, RTS and Own Risk and Solvency Assessments (ORSA) for the business as a whole and for each standalone entity.

At the same time, the Solvency II disclosure is an opportunity to showcase the firm's risk management capabilities and how they are used to support decision making and ultimately create value. At a time when capital is severely constrained, this could help to send a clear and credible message to the markets that this is a firm that can target capital efficiently and capitalise on opportunities, while operating within strict and well-informed risk tolerances. Enhanced market confidence can in turn increase the capital raising potential as and when required.

GETTING READY

In addressing the challenges and opportunities of Solvency II disclosure, it is important to discern what information would be of most value to particular stakeholders and what message and form of reporting would improve their understanding of the company. In seeking to reduce the burden of preparation and underlying risk and capital analysis, it will also be important to look at how to make the most efficient use of the overlaps between the SFCR, RTS and ORSA.

Preparations for Pillar 3 should ideally go hand in hand with the other pillars. The design of the internal model and development of management information could have a significant bearing on how the firm discloses information in the SFCR. The impact of the risk-based regime on the capital efficiency of products with volatile or uncertain risk profiles such as annuities will be an important consideration for risk management, business planning and disclosure.

Companies cannot leave their preparations for Solvency II disclosure to the last minute, especially as the SFCR may throw up unwelcome surprises that they do not have time to adequately manage. Firms will need to look at how their risk and value management will be portrayed by the SFCR, identify inconsistencies with other reporting bases that may require explanation and determine the key messages for particular stakeholders. At a time of growing competition for investment, smart firms will also be looking at how to use the SFCR as an opportunity to convey the strength and potential of the business. ®

Brian Purves, *PARTNER*
PricewaterhouseCoopers (UK)

COMPANIES CANNOT LEAVE THEIR PREPARATIONS FOR SOLVENCY II DISCLOSURE TO THE LAST MINUTE, ESPECIALLY AS THE SFCR MAY THROW UP UNWELCOME SURPRISES THAT THEY DO NOT HAVE TIME TO ADEQUATELY MANAGE

FIGURE 1 DEVELOPING YOUR COMMUNICATION STRATEGY

SOURCE: PricewaterhouseCoopers LLP

Many insurers are in danger of failing to meet the Solvency II 'use test' and securing the competitive payback from their investment in sophisticated risk modelling because of a lack of buy-in from frontline teams. How can they bring the business on board? Andreas Sanner and Charles Garnsworthy explain

GAINING BUSINESS BUY-IN TO THE MODEL

As the financial crisis once again demonstrated, you can lead a horse to water, but you can't make it drink. Many banks spent millions on developing and implementing risk models for Basel II, only to lose countless billions because the resulting risk information was often misunderstood, distrusted or simply ignored within the business.

If appropriately used, the risk and capital models being developed for Solvency II should provide a more informed basis for decision making. Ensuring senior management understands, trusts and takes appropriate account of model outputs within its key decisions ('use test') will also be crucial in gaining supervisory approval for the deployment of an internal model. However, it would appear that many insurers are having similar problems to banks in engaging their organisations in the modelling process. A survey of 80 of the insurers that have signed up for the UK Financial Services Authority's internal model pre-application programme found that the use test ranks alongside validation as the area where firms believe they are furthest from meeting the required standard.[1]

Figure 1 sets out the key principles for embedding the model in the organisation and meeting the use test. Demonstrating the necessary understanding of model outputs (Principle 1) is proving especially difficult. Many boards and business teams may be unfamiliar with the nature, implications and, not least, limitations of the risk and capital evaluations that they will need to build into their strategy and business planning. Even with the latest technology, the regulatory focus of much of the risk analysis means that it can be too backward looking and slow in coming to be of much use to frontline teams. More broadly, a risk-based approach to strategic and performance assessment may demand a significant cultural shift within many companies.

DRIVEN BY THE BUSINESS

So how can insurers encourage greater buy-in from their frontline teams? We believe that it is important to step back from a narrow regulatory focus on model development and think about how to create risk and capital evaluation capabilities that can help to make the business safer, nimbler and more consistently profitable – in short, a model that boards and business teams will want to use. In addition to the evident business benefits, the ability to meet the use test will naturally flow from model outputs that are valued within the organisation and embedded into decision making. As *Figure 1* highlights, the ultimate aim is a model that is sufficiently material to the running of the business that management has a direct stake in its development and improvement.

The key to achieving this is early engagement with boards and business teams to gain their views on what kind of information would help them to make better decisions and what would encourage them to make more use of the risk analysis they receive. To ensure the analysis is suitably intelligible and actionable it is important to find out what level of detail different users require, what format would best meet their needs and how frequently the information should be supplied. The needs and expectations of the business can then drive model design and the resulting outputs.

Andreas Sanner, *SENIOR MANAGER*
PricewaterhouseCoopers (Germany)

THE ULTIMATE AIM IS A MODEL THAT IS SUFFICIENTLY MATERIAL TO THE RUNNING OF THE BUSINESS THAT MANAGEMENT HAS A DIRECT STAKE IN ITS DEVELOPMENT AND IMPROVEMENT

THE OWN RISK AND SOLVENCY ASSESSMENT (ORSA) CAN ALSO HELP TO LINK THE MODEL WITH BUSINESS PLANNING BY ENCOURAGING SENIOR MANAGEMENT TO THINK ABOUT THEIR APPROACH TO RISK AND HOW IT IMPACTS ON THEIR DECISIONS

SHARPER INSIGHTS

It is then important to think about how the outputs can be most effectively deployed. The development of a clearly articulated risk appetite will provide a useful bridge between the model and decision making by creating benchmarks against which senior management can judge the firm's risk profile and risk-based performance. The Own Risk and Solvency Assessment (ORSA) can also help to link the model with business planning by encouraging senior management to think about their approach to risk and how it impacts on their decisions.

STRENGTHENING CREDIBILITY

The underlying challenge is how to instil sufficient confidence in the model outputs. A key part of this is data quality, which we examine in the article '*Can you rely on your data?*'. Effective model control and validation are equally critical. Risk and capital models have tended to be developed and operated in a relatively unstructured way up until now. They also tend to be the preserve of actuaries, with few outsiders having much of an idea about how they work.

Senior management will therefore have to take the lead in developing a robust framework of monitoring and verification. One of the key priorities will be minimising the use of spreadsheets, and where this is not feasible, ensuring that they are tightly controlled. Ongoing validation should include regular sensitivity, benchmark and scenario analysis to gauge whether the model and its assumptions genuinely reflect the risks faced by the business.

A more comprehensive and forward looking approach to stress testing will also be crucial in enabling management to gauge the reasonableness of key model assumptions, qualify the outputs where necessary and ensure they take proper account of the risk dynamics of stressed scenarios. As the financial crisis highlights, this includes assessing the potential for and impact of risk correlation, contagion and sudden declines in market confidence and liquidity.

HOW CREDIBLE IS YOUR MODEL?

If boards and business teams do not buy in to the model – the regulator won't. Early engagement is therefore critical in gaining their input and understanding and building modelling capabilities that reflect their needs. The result is not just a model that meets the use test, but is also trusted and valued by frontline teams. The underlying requirement is a structured framework of control, sense checking and validation, capable of sustaining the credibility of the model outputs. ®

[1] UK Financial Services Authority 'Solvency II – IMAP update February 2010 – towards pre-application'

FIGURE 1
PRINCIPLES FOR MEETING THE USE TEST

FOUNDATION PRINCIPLE:
THE UNDERTAKING'S USE OF THE INTERNAL MODEL SHALL BE SUFFICIENTLY MATERIAL TO RESULT IN PRESSURE TO IMPROVE THE QUALITY OF THE INTERNAL MODEL

PRINCIPLE 1	**Senior management and the administrative, management or supervisory body, shall be able to demonstrate understanding of the internal model.**
PRINCIPLE 2	The internal model shall fit the business model.
PRINCIPLE 3	**The internal model shall be used to support an verify decision-making in the undertaking.**
PRINCIPLE 4	The internal model shall cover sufficient risks to make it useful for risk management and decision-making.
PRINCIPLE 5	**Undertakings shall design the internal model in such a way that it facilitates analysis of business decisions.**
PRINCIPLE 6	The internal model shall be widely integrated with the risk-management system.
PRINCIPLE 7	**The internal model shall be used to improve the undertaking's risk management system.**
PRINCIPLE 8	The integration into the risk-management system shall be on a consistent basis for all uses.
PRINCIPLE 9	**The SCR shall be calculated at least annually from a full run of the internal model, and also when there is a significant change to the undertaking's risk profile.**

SOURCE: CEIOPS CP 56/PricewaterhouseCoopers analysis

Charles Garnsworthy, *PARTNER*
PricewaterhouseCoopers (UK)

SENIOR MANAGEMENT WILL THEREFORE HAVE TO TAKE THE LEAD IN DEVELOPING A ROBUST FRAMEWORK OF MONITORING AND VERIFICATION

With so much of Solvency II implementation resting on the quality of the data, how can insurers ensure that it is up to scratch, aks Antoine de la Bretesche and Andrew Smith

CAN YOU RELY ON YOUR DATA?

Quality data is absolutely critical for internal model approval. It is also an essential part of the wider risk management and decision making elements of Solvency II. If firms do not have confidence in the validity and consistency of the data coming in to the model, they cannot be confident about the information coming out, and neither will their supervisor.

Solvency II sets out three main criteria for the assessment of data:
'ACCURATE' – the degree of confidence that can be placed in the data
'COMPLETE' – databases provide comprehensive information for the undertaking
'APPROPRIATE' – data does not contain biases that make it unfit for purpose

The onus will be on boards to set a policy on data quality that meets their management information (MI) needs and assure supervisors that the data they use and the surrounding governance and verification are fit for purpose. What this all comes down to is being able to understand the scope of the data relevant to Solvency II; defining the quality requirements; demonstrating that they are being achieved; and if not, how this is going to be put right.

MEETING EXPECTATIONS

The data quality policy is the cornerstone of compliance. It provides an opportunity to set out the company's vision for data management and how this is going to be achieved in practice.

Governance will also be critical. This includes assigning ownership of data. To make this workable, ownership may need to be split between consumers (e.g. modelling actuaries), who define the requirements for their needs and producers, who are responsible for ensuring these criteria are met.

In addition, companies will need to provide a data directory, setting out the source, characteristics, and usage of all data used to operate, validate and develop the internal model. They will also need to define appropriate data quality criteria in terms of accuracy, completeness and appropriateness and develop systems for ensuring that these standards are met.

Defining the scope of what needs to be covered is proving particularly difficult for many companies. Essentially, the scope is all the data that is used in the modelling process. This includes both the data being fed into the model, and the data used in validation and cross-checking. It is also important to remember that it includes external as well as internal data. It is much harder to control and verify information coming from outside, though supervisors will still expect you to do so.

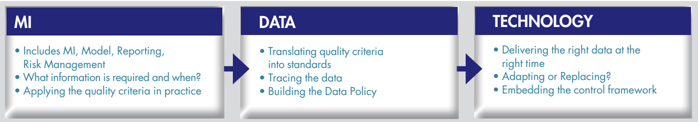
So how far down the line of data supply does quality assurance need to go? A useful cut off for inclusion in the directory is the point at which you start manipulating the data, making adjustments and aggregating it. However, the quality of the data in the underlying systems will clearly affect the quality of the data going in to the model, so that also needs to be considered. The key to defining what needs to be assessed is materiality. Companies cannot possibly check everything. So it is better to select the data feeds that have the greatest impact on the model results, and focus the assessments on these. This will also make it easier to present a clear case to the supervisor.

Antoine de la Bretesche, *DIRECTOR*
PricewaterhouseCoopers (France)

IT IS BETTER TO SELECT THE DATA FEEDS THAT HAVE THE GREATEST IMPACT ON THE MODEL RESULTS, AND FOCUS THE ASSESSMENTS ON THESE

Andrew Smith, DIRECTOR
PricewaterhouseCoopers (UK)

FIGURE 1 BUILDING THE APPROACH



SOURCE: PricewaterhouseCoopers LLP

POTENTIAL GAPS

Meeting these requirements will be difficult. Common challenges include the fact that much of the legacy data may have gone through several migrations as a result of systems updates and company mergers. There may also be inconsistencies in the information coming from different subsidiaries or group systems. The challenges faced by companies in ironing out these potential deficiencies and anomalies are heightened by the exacting requirements of the directive in areas such as quality assessment and validation. Supervisors are also likely to require a significant amount of supporting documentation.

Many companies are looking to enhance consistency and improve MI turnaround by developing centralised data warehouses. What is often missing is a systematic process for managing external data in areas such as market and operational risk.

MEETING THE DATA DEMANDS OF SOLVENCY II IS A SIGNIFICANT UNDERTAKING THAT WILL UNDERPIN THE SUCCESS OF THE WIDER IMPLEMENTATION PROJECT

Experience of Basel II highlights further potential gaps. The underlying mistake was leaving data preparations until quite late in the day. As a result, many institutions found themselves in a race against time to establish and document the necessary control, ownership and monitoring of their data flows. These difficulties were heightened by the proliferation of spreadsheets and associated manual adjustments as the deadline for implementation approached. Even now, many banks recognise that more work will be required.

THE BIGGER PICTURE

While many companies have so far tended to focus on the data needed for capital evaluation, we would advocate a broader and more strategic approach that looks at the data needed to comply with Solvency II as a whole and how these developments could be harnessed to enhance MI within the business (*see Figure 1*). Companies can also realise valuable synergies with MCEV and the planned IFRS Phase II reporting frameworks.

QUALITY IN AND QUALITY OUT

Meeting the data demands of Solvency II is a significant undertaking that will underpin the success of the wider implementation project. If successful, it is an opportunity to overcome the common complaint that risk models are no more than 'rubbish in and rubbish out'. While many of these complaints are unwarranted, they can undermine buy-in within the business. A systematic approach to guaranteeing data quality can therefore go a long way towards overcoming these doubts and making the model more credible, and ultimately useful. ®

Solvency II requires insurers to put in place an effective risk management framework. But what does that actually mean in practice, Jimmy Zou and George Stylianides explain

GETTING RISK MANAGEMENT RIGHT

The effective management of risk is fundamental to the success of an insurance business. Boards, investors and rating agencies have heightened their focus on risk in the face of market instability and continuing capital constraints.

Jimmy Zou, *PARTNER*
PricewaterhouseCoopers (France)

Solvency II will raise the stakes still further by requiring insurers to develop a systematic risk management framework capable of ensuring that risk considerations are appropriately understood, controlled and integrated into decision making.

Most board members understand the concept of an effective risk management framework. However, they may be less clear about what this entails in practice, including how the framework should be structured, governed and affect the way they run their businesses. In fact, what this all boils down to is being able to provide answers to five fundamental questions that all boards need to be able to address:

1. **What risks does our business face?**
2. How much risk are we prepared to take?
3. **Who is responsible for managing these risks?**
4. How can we be sure there are no surprises?
5. **How does our risk profile affect our capital?**

Drawing on our experience of working with a wide range of insurers, *PricewaterhouseCoopers* has designed an enterprise risk management (ERM) framework that aims to provide the strategic direction, organisational embedding and underlying infrastructure of risk identification, evaluation and communication

ONCE IN PLACE, A CLEARLY ARTICULATED RISK APPETITE CAN HELP TO BALANCE DIFFERENT STAKEHOLDER EXPECTATIONS

FIGURE 1 10 COMPONENTS OF AN ERM FRAMEWORK

1. UNDERSTANDING the Risk Universe the organisation faces and placing a risk dimension at the heart of the organisation. Risk is a core consideration when setting strategy formulating business plans, managing performance and rewarding management success.

2. RISK APPETITE clearly articulated and reflects the organisation's risk carrying capacity business strategy and financial goals. Processes and procedures in place to manage risk on an enterprise wide basis within defined (hard and soft) boundaries without stifling day to day operations.

3. IDENTIFICATION and assessment of all (current and emerging/desired and undesired) risks faced by the organisation. Robust processes in place to aggregate and prioritise risks on an enterprise wide basis.

4. EXTERNAL COMMUNICATIONS strategy centred around actively managing stakeholders (policyholders, regulators - group and local legal entity, rating agencies, debt and equity investors) in order to yield shareholder value added and capture wider business benefits.

5. GOVERNANCE structure (three lines of defence model emerging as industry norm). Senior management accountability and responsibility for 'top tier' risks. Clear risk management policies and procedures for managing all material risks.

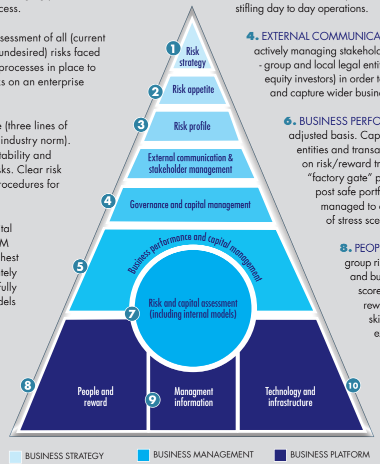
6. BUSINESS PERFORMANCE measured on a risk adjusted basis. Capital allocated to operating entities and transaction opportunities are based on risk/reward trade off. Risk reflected in "factory gate" product design and pricing *and* post safe portfolio management. Capital managed to optimise RoRAC but cognisant of stress scenarios.

7. INTERNAL RISK and capital models at the heart of the ERM framework. Models meet highest quality standards, appropriately calibrated ("real time") and fully tested and documented. Models subjected to independent scrutiny and validation.

8. PEOPLE BEHAVIOUR aligned with group risk, capital, performance strategy, and business plans through balanced score cards, MBOs incentives and rewards schemes. Required level of skill, experience and knowledge exhibited by majority of staff.

9. REQUIRED LEVEL of MI to support ERM framework. MI appropriately tailored to roles, responsibilities and authority levels.

10. CORE TECHNOLOGY to suppport fully integrated ERM approach. Focus on organisational span, data quality and automated processing.



SOURCE: PricewaterhouseCoopers LLP

to address these questions (see *Figure 1*). The benefits are not just a solid platform for Solvency II compliance, but also a more informed basis for business planning and performance management.

RISK APPETITE

Risk appetite is at the heart of these fundamental questions. It is extremely difficult for an insurer to make the right decisions, demonstrate that it understands its exposures and ensure that it is managing them appropriately if it cannot articulate how much risk it is willing and able to take.

While risk appetite has tended to be relatively high level concept up until now, the demands of Solvency II will provide the catalyst for creating a clearer and more actionable articulation of the organisation's risk appetite. As *Figure 2* outlines, the process of formulating the risk appetite and embedding it into decision making can be broken down into four distinct elements.

Once in place, a clearly articulated risk appetite can help to balance different stakeholder expectations (e.g. shareholders, debt holders, policyholders, regulators and rating agencies) and provide benchmarks against which senior management can judge the firm's risk profile and risk-based performance. The appetite can then be translated into limits and thresholds on the ground.

This is not about exercising a veto over what boards or business teams do; rather it is about fostering a sensible senior management debate about how much risk is acceptable and setting benchmarks against which risk taking can be monitored, judged and modified.

While these benchmarks are clearly an important element of running the business safely, they can also help insurers to capitalise on opportunities. If everyone is clear about how much risk the business is prepared to take, it makes it easier to respond swiftly and decisively to market openings and judge where, when and how to expand or scale back business.

INDUSTRIALISING RISK MANAGEMENT

From an operational perspective, many of the necessary risk management systems and processes may already be in place. The real challenge is how to align them with the running of the business. A practical solution is to think of risk management as a 'service' and then ask what could and should it be doing for the business. Companies can then build their risk operating model around their service needs.

The first link in the chain is engagement. To bring 'customers' such as underwriters on board it is important to ask them what kind of information would help them to make better decisions and what would encourage them to make more use of the risk analysis they receive (more information about securing input and understanding from frontline teams is available in the article '*Gaining business buy-in to the model*').

George Stylianides, *PARTNER*
PricewaterhouseCoopers (UK)

IF EVERYONE IS CLEAR ABOUT HOW MUCH RISK THE BUSINESS IS PREPARED TO TAKE, IT MAKES IT EASIER TO RESPOND SWIFTLY AND DECISIVELY TO MARKET OPENINGS

AN EFFECTIVE RISK MANAGEMENT FRAMEWORK IS CRITICAL TO BOTH THE IMPLEMENTATION OF SOLVENCY II AND THE ABILITY TO PROSPER IN A TOUGH MARKET ENVIRONMENT

The next stage is delivery. Key considerations are what functions are needed to provide a particular service, are their responsibilities defined clearly enough and how should they interact. One of the most important aspects of sustaining delivery is identifying dependencies. This includes what data does one function need from another to carry out its part of the process. Some form of service level agreement might be one way to make sure the information is provided on time and in the right format.

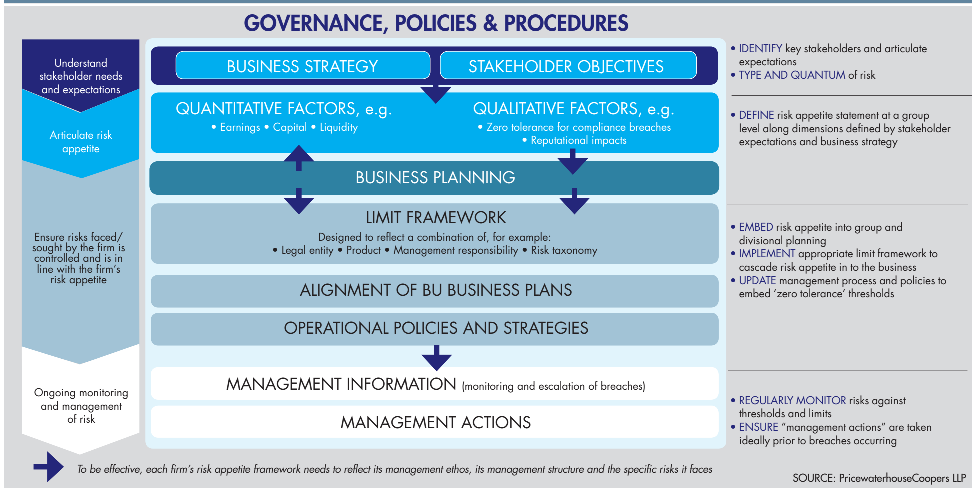
It is then possible to judge how this analysis could be best used. An example might be deciding when risk appetite should be considered in the business planning process, by whom and what actions should be taken in response.

The foundations of the risk operating model are the systems, processes and controls. The key consideration is ensuring that the infrastructure is equipped to deliver the required risk management 'service', bearing in mind that a lot of the analysis that now takes three months will need to be delivered in real time to be of value to the business.

GOOD BUSINESS SENSE

An effective risk management framework is critical to both the implementation of Solvency II and the ability to prosper in a tough market environment. In our view, the best way forward is a common sense approach rooted in providing answers to the fundamental risk questions the company faces and delivering risk management as an integral service for the business. The cornerstones are a clear statement of how much risk the firm is prepared to take and an effective analysis of how it is performing in relation to this risk appetite. ®

FIGURE 2 A COMPREHENSIVE RISK APPETITE FRAMEWORK CAN BE CONSIDERED TO CONTAIN FOUR DISTINCT ELEMENTS



SOURCE: PricewaterhouseCoopers LLP

PricewaterhouseCoopers contacts:

ACHIM BAUER
PARTNER
PricewaterhouseCoopers (UK)
Tel: +44 207 212 1405
Email: achim.r.bauer@uk.pwc.com

ANDREAS SANNER
SENIOR MANAGER
PricewaterhouseCoopers (Germany)
Tel: +49 211 981 2129
Email: andreas.sanner@de.pwc.com

ANTOINE DE LA BRETESCHE
DIRECTOR
PricewaterhouseCoopers (France)
Tel: +33 6 85 08 93 20
Email: antoine.de.la.bretesche@fr.pwc.com

JULIA SCHÜLLER
PARTNER
PricewaterhouseCoopers (Germany)
Tel: +49 69 9585-2667
Email: julia.schueller@de.pwc.com

PAUL CLARKE
PARTNER
PricewaterhouseCoopers (UK)
Tel: +44 207 804 4469
Email: paul.e.clarke@uk.pwc.com

ANDREW SMITH
DIRECTOR
PricewaterhouseCoopers (UK)
Tel: +44 207 212 8841
Email: andrew.i.smith@uk.pwc.com

CHARLES GARNSWORTHY
PARTNER
PricewaterhouseCoopers (UK)
Tel: +44 207 804 4147
Email: charles.e.garnsworthy@uk.pwc.com

GEORGE STYLIANIDES
PARTNER
PricewaterhouseCoopers (UK)
Tel: +44 20 7804 3364
Email: george.e.stylianides@uk.pwc.com

LENA MÖRK
SENIOR MANAGER
PricewaterhouseCoopers (Sweden)
Tel: +46 70 929 4489
Email: lena.moerk@se.pwc.com

JIMMY ZOU
PARTNER
PricewaterhouseCoopers (France)
Tel: +33 1 56 57 72 13
Email: jimmy.zou@fr.pwc.com

BRIAN PURVES
PARTNER
PricewaterhouseCoopers (UK)
Tel: +44 207 212 3902
Email: brian.purves@uk.pwc.com

www.pwc.com/solvencyII

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