

Insurance

# Countdown to Solvency II

Bridging risk and capital\*

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\*connectedthinking

PRICEWATERHOUSECOOPERS 



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## Foreword



**Welcome to the first edition of Countdown to Solvency II, the PricewaterhouseCoopers publication examining the latest developments in the planned reform of prudential regulation for European insurers.**

Solvency II aims to map the regulatory capital requirements of each company against its individual risk profile. This will encourage, if not require, companies to enhance risk management, upgrade information systems and embed risk awareness more closely into the strategy and operations of their business. While it presents a significant implementation challenge, the move to Solvency II could also provide an opportunity to develop a more informed and forward-looking basis for decision-making.

Implementation is some way off, but some of the most critical decisions are likely to be taken over the next few months. We believe that it is important that insurers

develop a clear understanding of how Solvency II could affect their company and, drawing on this appraisal, contribute to the coming round of consultations. We hope that this and future publications provide insights that can help enhance this understanding and assist insurers in preparing for the changes ahead.

The subjects covered are based on feedback from our clients. If you have any comments or there are any issues you would like to be covered by our subject-matter experts in future editions please let us know.

**Ian Dilks**  
Global Insurance Leader

# 01

## The framework takes shape

CHARLES ILAKO AND ANNETTE OLESEN

The planned new EU Solvency II is reaching a decisive stage in its formulation and stakeholder consultations ahead of the publication of a framework directive in the summer of 2007. Charles Ilako and Annette Olesen look at the key implications of the move to a risk-based prudential regime and how insurers can influence its development at this critical time.

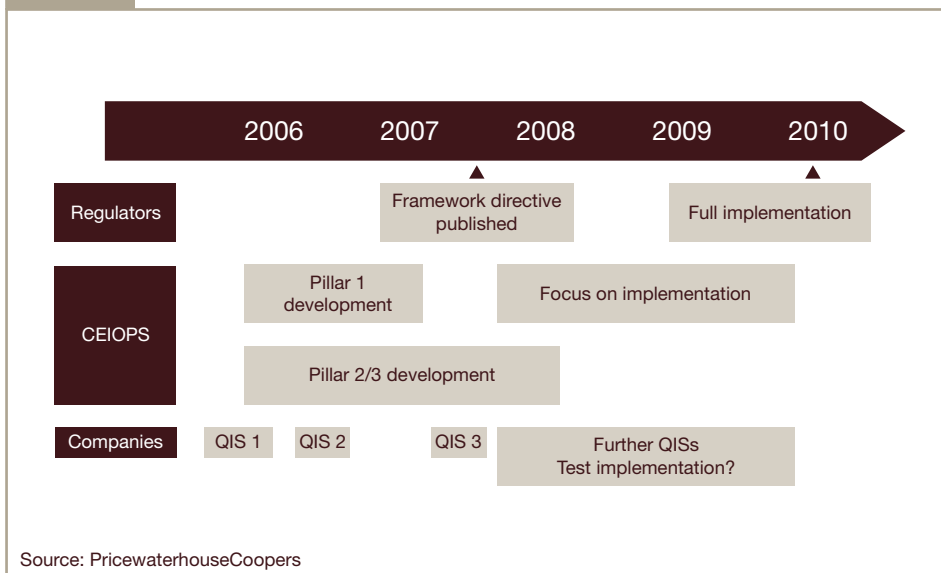


Solvency II is set to mark a move away from the simplistic regulatory capital requirements currently in force across most of Europe. In their place will come a more qualitative and quantitative approach, in which capital levels are geared to the risks being run within each business and the effectiveness of the measurement, monitoring and control functions in operation to manage them.

By aligning solvency capital to each insurer's particular risk profile, Solvency II will provide a valuable incentive for improving risk management. The requirement for more detailed risk information systems should also help to enhance the basis for decision-making. However, Solvency II presents sizeable challenges in its technical formulation, practical implementation, supervision and business implications. These challenges are heightened by a tight timetable. Although the new regime is unlikely to be in place until 2010, the direction and much of the critical detail will be decided over the next few months, ahead of the publication of a framework directive in the summer of 2007 (see Figure 1). The directive will be accompanied by an impact assessment report.

Reaching agreement across 27 EU member states will clearly be taxing, especially when there is so much divergence in the insurance market development and associated regulatory infrastructure. Nevertheless, in an address to the European Insurance and Reinsurance Federation (CEA) Conference on Solvency II in November 2006, Charlie McCreevy, European Commissioner for Internal Market and Services, underlined that 'it is my firm intention to table the framework directive on Solvency II in July of next year.'

Figure 1 Solvency II timeframe



The Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS), an organisation representing national supervisors, is advising the EC on key aspects of the drafting of Solvency II (Calls for Advice). This includes providing technical input, co-ordinating the stakeholder consultations and road testing the proposals through a series of quantitative impact studies (QIS).

As the EC's July deadline moves ever closer, CEIOPS has issued a flurry of consultation papers in areas ranging from supervisory reporting to the treatment of reinsurance ([www.ceiops.org](http://www.ceiops.org)). It has also evaluated the results from its second impact study (QIS 2), which focused on the structure for the future solvency capital requirement formula. CEIOPS will launch a follow-up QIS 3 on 2 April 2007. Insurers and industry associations that choose to participate will test the calibration levels for valuation basis and the proposed capital requirements.

### Latest proposals

The foundation of the new regime will be three pillars, which are conceptually comparable to Basel II (see Figure 2 overleaf).<sup>1</sup>

The latest proposals would replace the current technical provisions and additional solvency margin with a series of 'economic' building blocks (see Figure 3 overleaf).

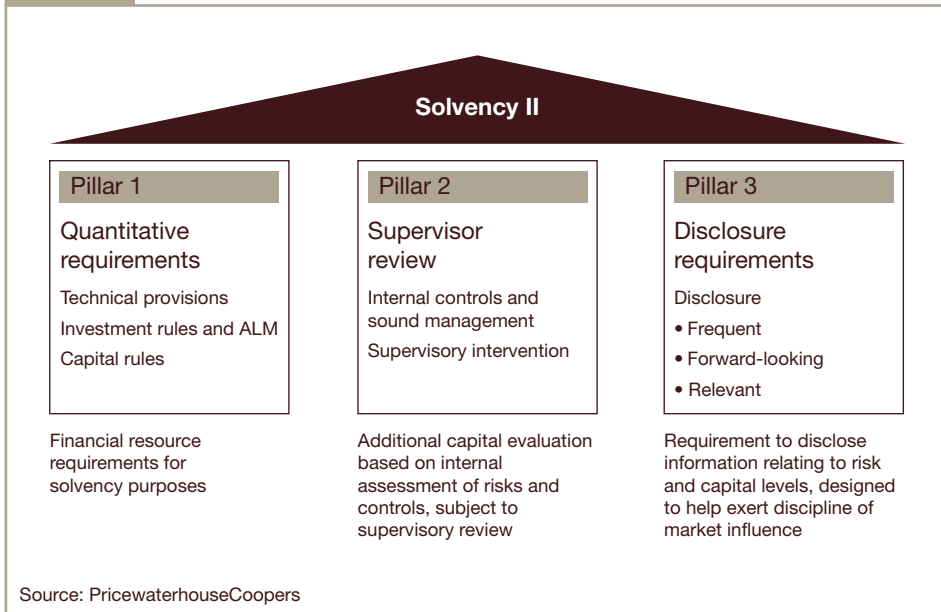
'it is my firm intention to table the framework directive on Solvency II in July of next year.'  
(2007)

Charlie McCreevy, European Commissioner for Internal Market and Services

<sup>1</sup> The similarities, differences and lessons learned from Basel II are examined in detail in an article on pages 8-10.

# 01 The framework takes shape

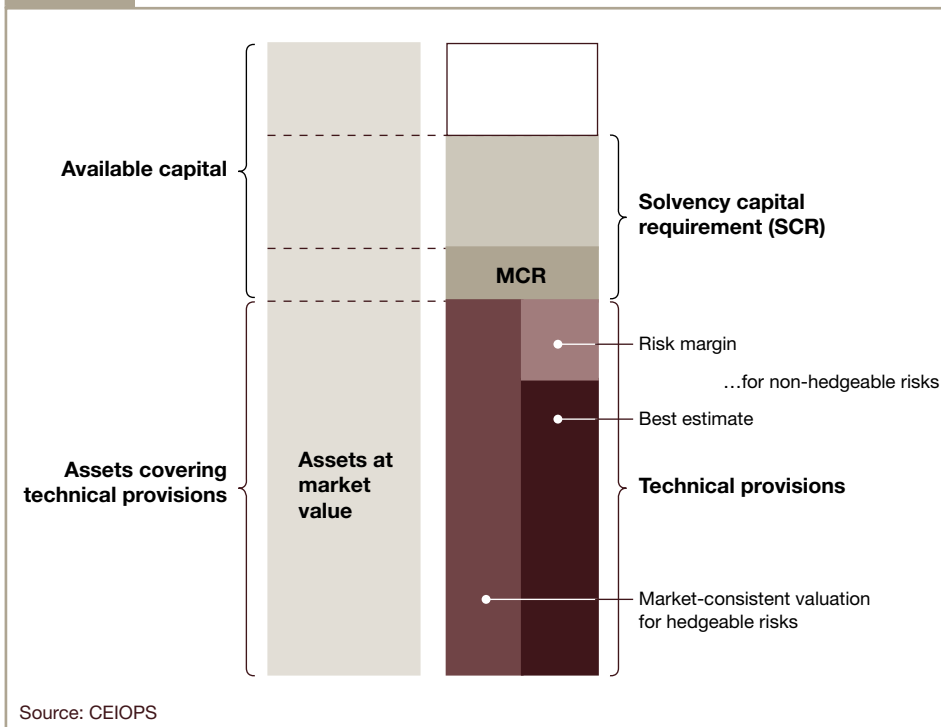
**Figure 2 The three pillar approach**



The first level would be a best estimate of liabilities, which would then be augmented by a risk margin to reflect any uncertainty in the future cash flows. In the absence of a liquid market in insurance liabilities, the risk margin is likely to be based on a proxy 'cost-of-capital'. This would reflect the return on the capital a nominal buyer would need to support the liabilities acquired from the holder over the whole run-off period. A broadly similar approach is used by the Swiss regulators and some companies.

The next level would be the 'safety floor' of a minimum capital requirement (MCR). Any drop below the MCR would lead to supervisory intervention. Finally, there would be a 'risk-sensitive' solvency capital requirement (SCR) that is set to include an evaluation of operational risk, along with insurance, investment and other financial risks. The proposed SCR would be based on a 99.5% confidence level of remaining solvent in the next 12 months, along the lines of the UK's Individual Capital Adequacy Standards (ICAS).<sup>2</sup> Insurers can opt for a 'standardised' approach that uses a set, albeit complex, formula to calculate the SCR. This approach is currently being developed and will subsequently be tested as part of QIS 3. Companies with more sophisticated modelling systems could seek to qualify for an 'advanced' approach in which the SCR would equate to their own evaluations of their risk profile and associated capital needs. This 'advanced' approach would be subject to supervisory approval.

**Figure 3 The proposed framework for Pillar 1**



## Practical implications

As would be expected from such a potentially complex framework, there is some contention about how these evaluations should be carried out in practice. Prominent sources of debate include the design of the MCR and SCR,

<sup>2</sup> This is equivalent to a Value at Risk measure at 99.5%. Discussion is ongoing as to final choice of risk measure for Solvency II, with CEIOPS favouring Tail Value of Risk rather than Value at Risk.

the allowance for diversification and the amount of prudence that would need to be applied to 'economic' projections.

Even more potentially contentious are the levels of investment in time and resources that will be needed to implement this framework. Even the standardised approach will require a far-reaching internal risk and capital assessment process and associated data management and analytical capabilities, along with a policy on solvency capital. In addition, small and medium-sized enterprises (SMEs) may face pressure to implement exacting internal modelling approaches in order to reduce their regulatory capital requirements.

UK insurers' experience of implementing the comparable information systems requirements of ICAS underlines the potential enormity of the task. A further indication of the challenge comes from banks' move to Basel II (see 'The scale of the task: Learning the lessons from Basel II' on pages 8-10). Companies not only need to allow time to develop the necessary data collection and modelling capabilities, but also to validate and calibrate the results through sensitivity analysis of the underlying assumptions and cross-checking model outputs against observable data. Many banks have taken five years or more to develop an infrastructure of information and validation. Insurers may have as little as three years to repeat the exercise.

The implementation challenge facing insurers is heightened by the close interaction between the development of Solvency II and a finalised International Financial Reporting Standard (IFRS) for insurance contracts (see 'Accounting and regulatory synergy: Aligning IFRS and Solvency II implementation' on pages 12-14). CEIOPS and the International

Accounting Standards Board are liaising closely on the formula for evaluating technical provisions and other related aspects of the projects. The implementation timetable is also likely to be closely aligned, though the EC is not expected to delay Solvency II if the IFRS has yet to be finalised.

In the meantime, the latest modifications to IFRS for insurers are already paving the way for Solvency II. IFRS 7, the new financial instrument disclosure standard, requires companies to disclose far more details about the key risk characteristics and sensitivity to market movements of their equities, derivatives and other financial instruments. Crucially, the information needs to reflect the way senior management perceives, manages and measures risk. The amended IFRS 4 insurance contract standards bring risk disclosure for insurance contracts into line with the new requirements for financial instruments, including the need to reflect the perspectives of senior management. The updated IAS 1 requires insurers to explain their objectives, policies and processes for managing capital.

### Influencing the debate

Given the scale of these potential demands, input from SMEs into the Solvency II consultation and impact studies has tended to be limited to date. QIS 2 sought to evaluate different approaches to the valuation of liabilities and the calculation of the MCR and SCR. The study focused on the structure, along with a comparison of current industry practices. QIS 3 will look in more detail at the calibration and the financial implications for different firms. The QIS 2 respondents were drawn from 23 countries and accounted for more than 50% of EU market share. However, the total number of companies taking part was 514, barely 10% of the 5,000 or so

It is therefore welcome news that CEIOPS is seeking to engage more firms by pledging to 'make QIS 3 more user-friendly and less burdensome for the industry'.

entities that will be subject to Solvency II. Of these 514, only 155 were defined as small. In contrast, larger firms appear far better represented in proportion to their numbers, making up 132 of the sample.

For the sake of balance it is therefore vital that more insurers, especially SMEs, seek to participate in QIS 3 and other aspects of the consultation process. Failure to engage could leave organisations facing regulations which they believe may be misguided, impractical or excessively expensive and penal, yet can do little about.

It is therefore welcome news that CEIOPS is seeking to engage more firms by pledging to 'make QIS 3 more user-friendly and less burdensome for the industry'. There is also still much to be decided, especially as QIS 2 proved to be relatively inconclusive. CEIOPS reported that 'the impact on companies' solvency positions seems to differ between undertakings, with the overall impact appearing to depend on a combination of opposing effects.' This would suggest the need for more such studies, a fact further underlined by certain unintentional effects, such as some companies reporting that their MCR was higher than their SCR.

# 01 The framework takes shape

Senior executives will also be expected to understand and oversee what could be a complex and unfamiliar infrastructure of information and control.

In his speech to the CEA, Commissioner McCreevy said that 'it is evident that more work will have to be done before we get it right.' The Commissioner was particularly keen to emphasise that this work should include devising a standard formula in keeping with the characteristics and resources of small and niche firms. 'We have no intention of introducing excessive or unwarranted requirements on small firms,' he said. His sentiments are echoed in the joint principles for Solvency II developed by the international mutual associations, the Association of European Co-operative and Mutual Insurers (ACME) and the Association Internationale des Sociétés d'Assurance Mutuelle (AISAM). These principles highlight the importance of 'proportionality and avoiding undue complexity in the structure of the solvency model and the governance requirements of risk management and internal control'.

In a letter to CEIOPS in February 2007, Jörgen Holmquist of the European Commission confirmed that the Pillar 1 quantitative requirements are likely to be 'built around the concept of achieving an overall ruin probability of 0.5% (Value at Risk of 99.5%) over a one-year time horizon'. However, although the QIS are designed to shed light on what is a prudent level of solvency capital, there is as yet no firm benchmark for what the EC believes is a sufficient level of capital to cover the risks within the insurance sector. Without such a benchmark, it can be extremely difficult for insurers to conclusively calibrate their overall capital

levels or specific aspects of their risk and capital evaluations such as diversification or the treatment of equities.

## Governance and supervision

Although most of the attention has so far focused on Pillar 1, the supervisory review of Pillar 2 could prove as critical. For each company, regulators will assess the quality of the risk analysis and resulting capital evaluations against their own appraisal of the risk profile. They will also judge the effectiveness of the underlying reporting and governance procedures. Any cause for doubt or dissatisfaction may result in the application of an additional capital charge. Many banks have found the process of securing supervisory approval especially time-consuming and demanding, as have insurers in the UK, Switzerland and other countries that have already moved to risk-based prudential regulation.

Investment in sophisticated IT and specialist expertise is unlikely to be enough to win regulatory endorsement for the 'advanced' modelling approaches by itself. Senior executives will also be expected to understand and oversee what could be a complex and unfamiliar infrastructure of information and control, as well as judgements relating to the identification of key organisational risks, and their implications on capital. Failure to do so could run counter to a 'use test' that requires the framework to be embedded into management reporting and decision-making rather than merely being operated

for compliance purposes. This 'use test' is consciously mirrored in the need to present management's perspectives on risk in IFRS.

In turn, supervisors will need to ensure they have the expertise and resources to appraise internal capital models and provide an informed and objective review. The difficulties this could pose have fuelled an ongoing debate about whether Solvency II should be a principles- or a rules-based framework. Proponents of principles argue that this approach would be versatile enough to take account of the variations, nuances and continuing developments in insurance business. Advocates of rules believe that they would be easier to apply and supervise.

The related challenge for regulators is how to forge the co-operation and co-ordination needed to ensure that Solvency II is applied consistently in different EU member states. Any variation in the interpretation of the principles or the rigour of enforcement could distort the competitive balance. In calling for the development of a 'European supervisory culture based upon trust between supervisors', Commissioner McCreevy is particularly keen to foster 'creative thinking about a more appropriate division of tasks between the lead supervisor and the solo supervisors'.

'it is evident that more work will have to be done before we get it right.'

Charlie McCreevy, European Commissioner for Internal Market and Services

## Business impact

It is too early to judge the impact of Solvency II on the overall capitalisation of the insurance industry in the absence of an agreed benchmark for prudence. However, what is already clear is that the framework could affect what qualifies as capital, how the value of assets and liabilities are calculated and how capital is allocated around the business, with resulting implications for product design, asset-liability management and other key business decisions.

On the plus side, improved information should create a better understanding of the balance between risk and reward and so help insurers to target investment where it can earn its best return, be this in relation to products, territories or market segments. In addition, Solvency II will provide companies with an opportunity to

review their risk profile and related capital structures, which may lead to greater use of securitisation and other innovative structures to help transfer risk and improve their capital position. In turn, the enhanced disclosure envisaged under Pillar 3 is set to heighten the visibility of these decisions at a time when analysts, investors and rating agencies are increasingly focusing on the quality of risk and capital management.

## Moving forward

The countdown to Solvency II has begun. Insurers have just a few months to gauge the impact of the latest proposals and make their views count. Although the EC has promised that Solvency II will reflect the interests of insurers of all sizes, the bar may have already been raised to a height that could put many smaller and less sophisticated firms at a potential

competitive disadvantage. The surest way to influence the debate is to actively engage in the QIS 3 and other aspects of the coming round of consultations.

Once agreed, the framework directive will form the basis for primary legislation to be put before the European Parliament. This legislation will then pave the way for the development of more detailed guidance about technical application and supervisory harmonisation. However, it could be unwise to wait until this guidance is finalised before beginning implementation.

The Countdown to Solvency II series will look in more detail at the implications of Solvency II, how to ensure efficient implementation and how to realise the business benefits of investment in a more sophisticated risk and capital management infrastructure. ■



# 02

## The scale of the task: Learning the lessons from Basel II

CHARLES ILAKO, JULIA SCHÜLLER AND RICHARD QUINN

Implementing Basel II looks set to be far more costly and time-consuming than many banks had originally envisaged. Solvency II could prove to be even more demanding. Charles Ilako, Julia Schüller and Richard Quinn look at the similarities and differences between the two frameworks and how insurers might consider ways to overcome some of the comparable hurdles faced by banks in moving to a new prudential regime.



**European banks are coming to the final stages of Basel II implementation (as enacted in the EU through the Capital Requirements Directive). Their emerging experiences offer a good starting point for assessing the potential scale, complexity and cost of the challenge facing the insurance industry in introducing Solvency II.**

There are clear parallels between the banking and insurance frameworks. Both seek to usher in a more risk-sensitive approach to prudential regulation. Both are structured around the three pillars of financial resources, supervisory review of risk management and internal controls and the market discipline of enhanced disclosure.

Developing the modelling systems needed to carry out the necessary stress and scenario analysis, along with the associated documentation for the supervisory review process, has taken many banks several years. Multiple models and significant increases in computational capacity have been required to process what has proved to be terabytes of data. The underlying challenges include sourcing the information from around the organisation, ensuring its consistency and then validating and calibrating the model assumptions and resulting outputs.

The experience of banks highlights the importance of securing input and support from all relevant departments as early as possible. Within banks this has included finance, risk management, sales and credit teams. In addition to asset and risk management, insurers are also likely to require input from underwriting, reinsurance and actuarial units. Effective co-ordination is vital in ensuring that the data supply is timely and reliable and that outputs are subject to the sense check of frontline experience and expertise. In turn,

buy-in from business teams can help to ensure that capital evaluations are trusted and used to help control risk and enhance decision-making rather than being seen as an arbitrary capital charge.

The requirement to include operational risk in the capital calculations presents a particular challenge, especially in gathering together suitable historic data. Recognising the difficulties faced by banks, a number of insurers have already begun projects to identify, collate and quantify the cost of past operational losses.

Another key issue for banks has been ensuring that they have enough skilled personnel to run their modelling systems and turn reams of analysis into usable information. The potential difficulties have been heightened by a 'demand surge' for qualified personnel as the implementation deadline looms. Many institutions have found that suitable staff are simply unavailable or, if they can be secured, that pay and fees have been spiralling inexorably upwards. Early investment in staff training can ease implementation and help companies to embed the new regulations into 'business as usual', rather than relying on ad-hoc fixes or potentially expensive contractors.

While there may be a temptation to view implementation as primarily a mid-office IT challenge, the experience of banks also highlights the management and organisational demands of a more active, risk-based prudential regime. Information systems are just one part of a broader infrastructure of governance, reporting and control that stretches from the boardroom to the sales desk. To be compliant, the risk and capital evaluations presented to regulators need to be understood, endorsed and used by senior management as part of their decision-making kit (the 'use test'). Assuring supervisors that this is the case demands a clearly documented

audit trail of oversight and accountability. In turn, assuring senior management that models and systems are working properly may require extensive and possibly independent validation.

### Effective implementation

Developing and embedding the necessary infrastructure of information and governance demands active high-level sponsorship. Such direction is critical in ensuring the allocation of sufficient resources. It can also help to ensure that achieving implementation and capitalising on the wider business benefits of this investment, including a more informed basis for decision-making, become clear and pressing firm-wide priorities.

### Realistic expectations

Initially, some banks may have believed that their systems and processes were already ready to cope with Basel II. It was only when the full demands of the project began to emerge during 2004 that they realised how much they had to do. In particular, many underestimated the difficulties of sourcing the huge amount of data needed from within the company, along with the scale of the information, validation and documentation demanded by supervisors as 'proof' of compliance.

Other banks may have overestimated the systems and process improvements and associated business benefits that could be achieved under the banner of Basel II. Once senior management realised that time was running out, many of these more extensive projects were shelved and the pendulum swung back to straightforward compliance. As a result, many of the anticipated business benefits were not ultimately achieved. In short, clear objectives that combine compliance with realistic business benefits are essential from the outset.

# 02 The scale of the task: Learning the lessons from Basel II

As can be observed from the experience of banks, the demands and challenges cut across the various pillars of the framework and it is therefore essential to advance all three at once, rather than dealing with them sequentially. Insurers also need to take account of parallel developments including IFRS and, where applicable, Sarbanes-Oxley. This includes avoiding duplication and optimising the opportunities for synergies in potentially overlapping areas such as data collection, verification and management reporting. Ultimately, companies need to allow enough time. In particular, many banks have found that they will need to carry out several dry runs followed by extensive re-calibration of their models before they can go live.

Clearly, meeting these demands is coming at quite some cost. Research carried out by PricewaterhouseCoopers on behalf of the EU found that the average bank is set to spend around 0.1% of its assets in the lead up to the framework coming into force. The investment by larger institutions is set to be at least €150 million. However, it is notable that rather than seeing this as a compliance cost, many view the improvements in loss data capture, risk measurement, capital management and stakeholder disclosure as an essential response to competitive pressures.

## Distinct challenges

Some of the difficulties faced by banks have already been detected in the findings of the Solvency II impact studies. In particular, many companies have experienced problems with data quality and bringing together suitably knowledgeable personnel. However, the differences between Basel II and Solvency II and the distinctive nature of insurance business mean that the challenges faced by insurers may actually be more complex.

The starting point for insurers is very different from that for banks. Basel I provided a consistent, albeit crude, baseline. In contrast, insurance solvency requirements, as well as supervisory tools and sanctions, vary from country to country. There is no consensus among regulators about whether insurers are sufficiently capitalised at present and therefore what would be a viable benchmark for Solvency II. Moreover, different accounting regimes regarding insurance contracts increase this disharmony within Europe. This uncertainty clearly makes it harder for companies to calibrate their capital evaluations and judge how they may need to enhance their capital provisioning.

Insurers tend to hold far more long-duration risk than banks through life and pensions policies and long tail non-life business. The inherent complications of long-term projections are heightened by the need to provide market-consistent evaluations. These potential difficulties are further compounded by the challenge of how to treat options, guarantees and, not least, reinsurance within risk-based solvency criteria.

Largely as a result of the unique and complex risks faced by insurers, the mechanics of Solvency II are likely to be quite distinct from Basel II. The most telling contrast is that the entry level 'standardised' approach for insurers is set to be far more onerous than the equivalent within the banking industry, including covering a broader range of risks, though the precise details are far from being finalised.

Charlie McCreevy, the European Commissioner for Internal Market and Services, highlighted the scale and complexity of the task facing insurers in his address to the European Insurance and Reinsurance Federation (CEA)

Conference on Solvency II in November 2006. Commenting in particular on the findings of the second impact study (QIS 2), he said: 'If one keeps in mind that five QIS exercises were needed for Basel II and that the formula in the banking area is less complicated than the formula in insurance (because fewer risks are included in banking), it is evident that more work will have to be done to get it right.' This underlines the need for as many companies as possible to participate in the QIS (QIS 3 is due to be launched on 2 April 2007), as well as carrying out their own internal appraisal of the systems, capital and wider management issues.

## Laying firm foundations

It could be valuable for insurers to consider some of banks' Basel II experiences and what could perhaps have been done better.

Effective implementation demands active boardroom direction, a full understanding of the implications, clear allocation of management responsibilities and the earliest possible investment of resources. Starting early can not only cut the costs and help alleviate any last-minute panics; it also allows time to develop a dialogue with supervisors and embed the new risk and capital management framework into the strategic and operational management of the business. Applying the new risk and capital management requirements and capitalising on their benefits calls for a culture of risk awareness. Some companies may also need to plan for changes in the strategy, operations and governance of their business. ■



# 03

## Accounting and regulatory synergy: Aligning IFRS and Solvency II implementation

PAUL HORGAN, MELANIE McLAREN AND ANNETTE OLESEN

Paul Horgan, Melanie McLaren and Annette Olesen examine the parallels between the planned prudential and financial reporting regulations and look at how insurers can realise the benefits of a more proactive and integrated approach to implementation.



**The proposed disclosure and measurement criteria for Solvency II and International Accounting Standards Board's (IASB) International Financial Reporting Standards (IFRS) Insurance Contracts (Phase II) (referred to as 'IFRS Phase II') are showing increasing alignment.**

Clearly, Solvency II and IFRS Phase II will serve fundamentally different purposes. The scope of the twin frameworks also differs. In particular, prudential regulations focus on the entity, while IFRS looks at the contract. Therefore, some insurance products that do not meet the IFRS definition of an insurance contract could still fall under the umbrella of the insurance entity for solvency purposes. There may also be variations between the shareholders' equity reported under IFRS and what the solvency rules consider to be part of the regulatory capital. However, where possible and where appropriate, supervisors, accounting standard setters and industry groups are actively seeking to enhance the synergies between Solvency II and IFRS Phase II and reduce the potential duplication and cost burdens for insurers.

Overall, the solvency and financial reporting frameworks are moving towards a more 'economic' basis of evaluation and disclosure. The parallels between IFRS and Solvency II can already be seen in the approach to risk. The existing IFRS 4 for insurance contracts requires companies to 'disclose information that helps users to understand the amount, timing and uncertainty of cash flows arising from insurance contracts'. This includes concentrations of insurance risk and sensitivity analysis of the assumptions underlying cash flow projections.

IFRS 7 Financial Instruments: Disclosure and the associated amendments to IFRS 4 are set to take risk reporting a stage further by insisting that disclosure

should be 'based on information provided internally to the entity's key management personnel'. The need to present risk information through the eyes of management consciously mirrors the 'use test', which already forms part of Basel II for banks and is likely to be a critical element of Solvency II compliance. A consultation paper published by the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) in December 2005 states that 'issued IAS/IFRS, especially IFRS 4 and IFRS 7, may be a common reference in building up the Pillar 3 (disclosure) requirements for the new solvency system'. However, CEIOPS may require more extensive disclosures than current IFRS (see Consultation Paper 15).

### Common basis of evaluation

IFRS 4 will be replaced in Phase II with a finalised insurance contract standard. The IASB's search for a consistent cross-sector approach to financial reporting is challenged by the unique features of insurance compared with other contracts. This drive for consistency and comparability may lead to accounting decisions not anticipated in a solvency regime. Nonetheless, key aspects of IFRS and Solvency II evaluation are converging. In particular, the proposed 'market-consistent' bases for evaluating insurance liabilities reflecting the anticipated amount, timing and uncertainty of future cash flows are closely related. According to the European Insurance and Reinsurance Federation (CEA), 'valuation of the technical liabilities for solvency purposes could be different from, but reconcilable with, the accounting technical provisions'. A key challenge is to determine an appropriate basis to measure insurance risk. Industry support is for 'cost of capital' techniques as required under the recently introduced Swiss solvency test rather than 'percentile' approaches already established in Australian financial reporting.

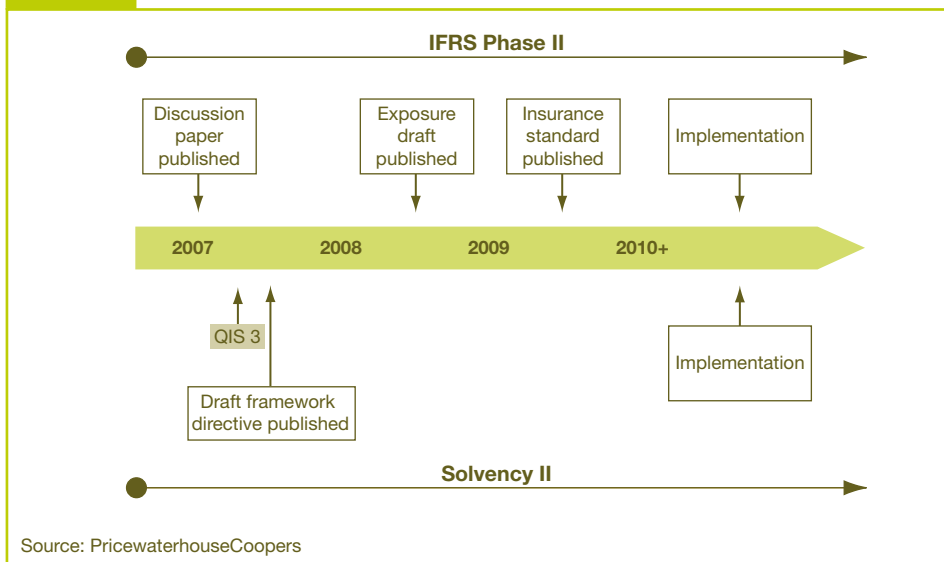
The parallels between IFRS and Solvency II can already be seen in the approach to risk.

Within the supervisory community, there is some debate about whether or not to include an additional margin for prudence within the technical provisions. Speaking at the CEIOPS annual conference in November 2005, Florence Lustman, Secretary General of the French Commission de Contrôle des Assurances des Mutuelles et des Institutions de Prévoyance, said: 'I would like to hear the word 'prudence'; I do not think a market in insurance liabilities exists.'

In contrast, John Tiner, Chief Executive of the UK Financial Services Authority, has described such prudence margins as 'inflexible', 'opaque' and 'outdated'. In a speech to the CEA/Geneva Association Seminar on Solvency II in November 2005, Mr Tiner argued that additional prudence would be unnecessary, as 'if case estimates are probabilistic best estimates, then one would expect the quantum of technical provisions to exceed their aggregate value.'

Speaking at the 2005 CEIOPS annual conference, Mel Carvill, Deputy General Manager of Generali, argued against what he believes is 'arbitrary prudence'. 'This is an issue of the doubling up of prudence. The outcome would be a 'solvency mismatch', similar in principle to the 'accounting mismatch' that IFRS is on the way to eliminating'. In particular, many within the industry strongly oppose the use of aggregate surrender values as being contrary to the fundamental insurance principles of the pooling and sharing of risks.

**Figure 1** Direction and timeframe of IFRS Phase II and Solvency II



Source: PricewaterhouseCoopers

## Aligning implementation

Although neither Solvency II nor IFRS Phase II is likely to be finalised or introduced until at least 2010 and will be most likely to come into force at separate dates (see Figure 1), the industry's opportunity to influence the debates is imminent, with an IASB discussion paper expected very soon and a draft directive on Solvency II due in July. In the meantime, insurers must tackle the initial move to the 'common reference' of IFRS 7.

IFRS 4 and IFRS 7 have dramatically increased the risk management disclosures for financial reporting. In turn, CEIOPS' recent consultation paper CP15 proposes extensive public disclosures.

The proposed volume of information required under CP15 may place an undue burden on insurers and may not improve the ability of market participants, particularly policyholders, to make more informed decisions.

Common data and systems requirements underpin much of the information that is likely to be required for each set of valuations and presentations. Exploiting the synergies now, rather than later, would therefore allow insurers to avoid some of the costs and potential disruption of applying and managing the frameworks separately.

From a competitive perspective, a proactive and integrated response to the evolving disclosure requirements

could provide early mover advantages in meeting growing market demands for more transparent and assured risk and capital management disclosure. This not only includes enhancing the depth of the information presented to stakeholders, but also being able to tie this information to other audited IFRS presentations and therefore enhance its credibility.

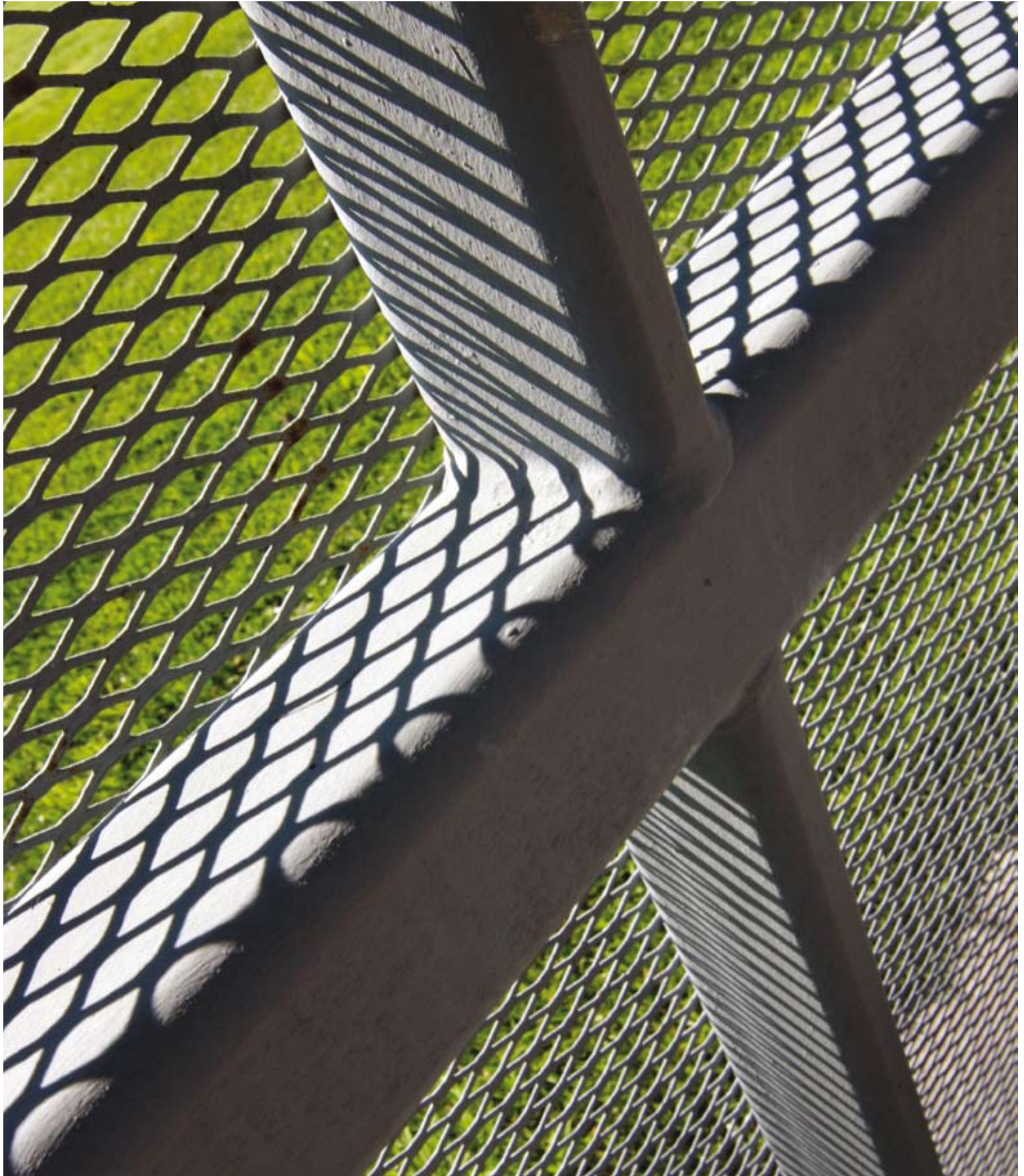
Companies' existing enterprise-wide risk management (ERM) initiatives and capabilities can provide the necessary infrastructure of information and assurance for IFRS, Solvency II, Sarbanes-Oxley and other risk-based reforms. This includes the ability to bring the data from internal models and management information systems up to an auditable standard for compliance and external communications (as outlined in the next article 'Turning risk into reward: Making the most of economic capital'). Robust ERM's primary objective is, of course, to control and manage risks effectively, in doing so thereby also reducing the regulatory capital demands on the business.

## A common front

IFRS Phase II and Solvency II are moving in the same direction. The implications include fundamental changes to the measurement of insurance liabilities. Extensive disclosure of risk and capital management will also expose insurers to ever-greater market scrutiny.

Producing reliable, consistent and understandable disclosures on a timely basis will be essential for maintaining market credibility. Early recognition and exploitation of the synergies between Solvency II and IFRS will reduce the long-term cost of implementing both sets of requirements through aligned systems and management controls. ■

**IFRS Phase II and Solvency II are moving in the same direction. The implications include fundamental changes to the measurement of insurance liabilities.**



## Turning risk into reward: Making the most of economic capital

HANS JØRGEN ANDRESEN, FRANK LYHNE HANSEN, JON MACDONALD AND GILLES PESTRE

Although Solvency II may provide further impetus for the use of economic capital techniques within the insurance industry, its application is still far from universal or consistent. While economic capital provides an excellent solvency management tool, there may be limitations in its use in planning and performance management. Hans Jørgen Andresen, Frank Lyhne Hansen, Jon Macdonald and Gilles Pestre look at the relationship between economic capital and Solvency II and how a more 'economic' approach to risk and capital evaluation could aid decision-making and value creation.



Recent years have seen a surge in the development and application of economic capital and other advanced risk-based capital management methodologies across the European insurance sector. Regulation is no doubt one reason for this growing interest in economic capital; its use is especially common in the UK and Switzerland, which have already adopted risk-based prudential regimes. Solvency II could provide a further spur by applying certain concepts that are comparable to economic capital techniques.

However, economic capital and the planned Solvency II framework are by no means synonymous. Although the 'standard' measurement formula is likely to require an 'economic' basis for the valuation of assets and liabilities, this is not the same as economic capital evaluation. Where economic capital may come into play is as an overall framework for the internal modelling and analysis used by companies under the 'advanced' approach (i.e. the use of internal models under Pillar 1 and to support the supervisory review under Pillar 2). Nonetheless, the development of the robust enterprise-wide risk management capabilities needed to underpin reliable economic capital evaluation could be as important in securing advanced accreditation from supervisors as the numbers themselves (see Figure 1).

### Business benefits

Indeed, the principal drivers for the development of economic capital and other advanced risk-based capital methodologies are primarily competitive. Such methodologies can improve an insurer's ability to quantify the risks it faces, the capital needed to cover them and the real risk-adjusted returns that are being made or should be targeted. Risk-based capital evaluation may therefore help companies to spot threats and weaknesses; identify opportunities that may be missed by competitors and target investment where it can earn its best return. It can also help to align risk appetite with capital allocation and communicate the tangible strengths and potential of the business to analysts, investors and rating agencies. Particular benefits range from helping to secure a targeted credit rating to more effective reinsurance planning and more precise measurement of risk diversification.

Once Solvency II is in place, companies qualifying for the advanced approach could potentially lower their capital requirements and so free finance for investment in new products, expansion and acquisition. Many smaller insurers may lack sufficient resources to develop

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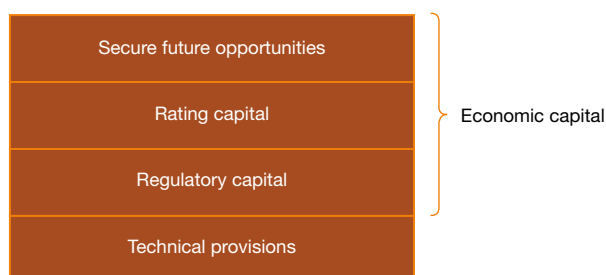
comparable techniques and therefore find themselves at a competitive disadvantage or even vulnerable to takeover.

### Qualifications and limitations

However, there are limitations and qualifications to the use of economic capital. A small insurer may not need the stochastic modelling and other such advanced analytical capabilities used in economic capital evaluation to understand its risk and return profile. It would certainly be difficult for such a company to justify what is likely to be a sizeable investment in systems and the people needed to operate them.

Even the most sophisticated risk-based capital management systems are only as good as the reliability of the data, validity of the assumptions and quality of application that underpins them. Data may be incomplete or inconsistent. Even if the desired data is available, it could be dangerous to give too much credence to model outputs without the sense check of experience and intuition – as Einstein said, 'not everything that counts can be counted'. In short, risk-based capital management cannot exist in a vacuum; it requires expert implementation, development and embedding to be credible and relevant to the business.

**Figure 1** The building blocks of economic capital



Source: PricewaterhouseCoopers

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The development of a more balanced market-orientated basis of evaluation could help to broaden the focus of risk and capital management from tail risk provisioning to value enhancement across the risk spectrum.

Ultimately, the way economic capital techniques are commonly applied may be inconsistent and may not always reflect the value considerations of shareholders. In particular, basing evaluations on extreme tail risks may deflect attention from a more balanced appraisal of the entire risk spectrum, including upside risk. In turn, this may lead to too much focus on book capital at the expense of the market capitalisation ('value') on which shareholders require a return and, in turn, the management of more day-to-day risks that can contribute to this.

Moreover, economic capital evaluations make no distinction between the cost of the capital needed to cover non-diversifiable systematic risks, such as interest rate rises, and non-systematic risks, such as insurance risk, that an investor can diversify across its portfolio. This omission is not a problem for capital adequacy evaluations, since all risks are equally relevant in that context. However, it can create distortions in measuring performance or evaluating strategic options such as acquisitions. One notable anomaly would be the recognition of diversification benefits in an economic capital model that would normally be disregarded in the capital asset pricing models (CAPM) used in corporate finance, or more recent market-consistent pricing models being implemented across Europe.

While economic capital could remain the central framework for managing capital and solvency in particular, the pricing of risk may need to be adjusted to take account of the relative level of systematic risk. Companies may also look to base performance evaluations on a more market-consistent approach to risk pricing that bypasses capital in favour of a monetary 'risk load'. Such an approach, which is analogous to CAPM techniques, is already evident in the latest European Embedded Value principles.

The development of a more balanced market-orientated basis of evaluation could help to broaden the focus of risk and capital management from tail risk provisioning to value enhancement across the risk spectrum. For example, the introduction of more effective operational controls could reduce capital charges (downside risk management). This could be aligned to steps to improve customer service and satisfaction that could enhance profitability and so compensate for the retained risk (upside risk management).

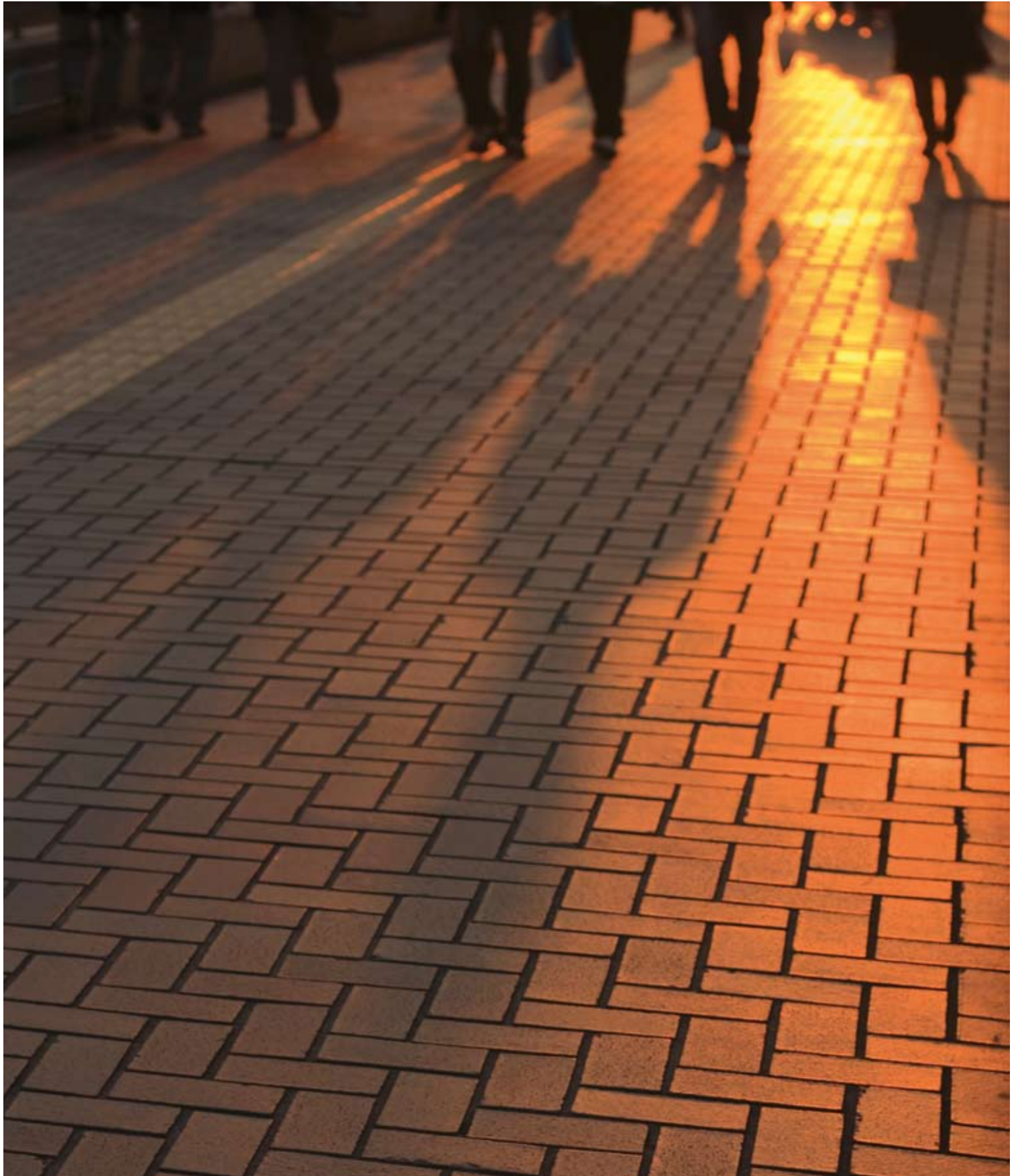
## Aligning compliance and competitiveness

Economic capital is becoming an increasingly important part of the management toolkit. Its increasing adoption is without doubt a welcome

development, not least because of the resultant benefits to risk analytics. Its concepts are also mirrored in much of the thinking that underpins the development of Solvency II. Closer alignment between the way companies manage their businesses and how they are regulated can only be beneficial for insurers, policyholders and shareholders alike.

Economic capital evaluation can play a key role in determining solvency levels and allocating capital more efficiently. It could be especially valuable for insurers that are moving to more sophisticated risk-based prudential regimes for the first time. However, it is essential to recognise that it has limitations when evaluating business performance and strategy. Leading insurers are therefore exploring new and modified ways to evaluate risk that may be more aligned to the economic interests of their investors. This includes a more holistic and market-consistent approach to how risk is perceived, controlled and aligned to value creation. ■

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## Next steps

Solvency II is not likely to go live until 2010 at the earliest. Yet some of the most critical decisions, including eligible capital, asset and liability valuation and the framework and calibration for solvency calculations, are set to be taken over the next few months – insurers need to make their views count.



**Insurers need to consider Solvency II more widely than the determination of technical provisions and the modelling capacity involved, although these are not trivial matters. Solvency II could prove as much of a competitive as a compliance issue, with important implications for strategy, investment, product design, stakeholder relations and access to capital markets. Companies need to raise awareness of this internally, assess the potential impact on their business and plan accordingly.**

## Suggested actions

### Make your views count

Companies should understand the implications of the latest proposals for Solvency II and seek to influence the debate – the sooner the better. Views can be forwarded directly to CEIOPS or the European Commission or channelled through industry associations. Failure to engage could leave organisations facing regulations which they believe may be penal, impractical or excessively expensive, yet can do little about.

### Take part in the forthcoming Quantitative Impact Study 3

A practical way of influencing the outcome is to take part in QIS 3. QIS 3 looks at valuation approaches for assets and liabilities, the practicability of several calculations, the calibration of the solvency calculations and elements of eligible capital. QIS 3 includes a spreadsheet and a qualitative questionnaire. Areas for

consideration include risk diversification and the treatment of equities. It therefore offers participants a valuable opportunity to assess the impact of the latest proposals on their capital management and wider business. CEIOPS (prompted by the EC) has pledged to make participation easier for smaller companies than previous QIS. It is also seeking qualitative feedback on such matters as complexity and practicality, both from a group and an entity perspective.

Other issues to consider include the implications for the grouping of contracts depending on risk classification, segmentation and differences with IFRS valuation standards.

### Assess business-wide implications

How will Solvency II affect niche products, particular markets and your nearest competitors? What will be your strategic response? How will Solvency II affect your ability to issue capital and debt? How will the 'prudent person' approach, safety measures and SCR calibration affect your investment policy?

### Assess the impact on governance

Do senior management and non-executive directors understand enough about Solvency II and its wider implications? Are you building a governance structure that is likely to satisfy supervisors that the framework is embedded into the governance and decision-making of the organisation (the 'use test')? How difficult would it be to validate and document the lines of information and control?

### Capitalising on your investment

Some insurers could capitalise on advanced modelling and analysis to reduce their solvency requirements and provide a more informed and forward-looking basis for decision-making.

The internal management reporting and risk management requirements of Solvency II could offer potential synergies with IFRS, Sarbanes-Oxley and other regulatory developments. The successful actuarial, finance and risk functions of 2010 and beyond may look very different to those of today – how will you measure up? How can you ensure that the framework also provides competitive benefits, including a more effective and assured basis for control and decision-making?

### Assess the impact on systems and resources

Some capital evaluations may require at least ten years of historical data – are your data management systems up to speed and if not, how can you bridge the gaps? Are your modelling systems capable of dealing with what could be terabytes of data? Does your organisation have the skilled personnel to produce the required analysis and evaluation?

If you would like more information please speak to your usual contact at PricewaterhouseCoopers or one of the specialists listed on page 22. ■

## Forthcoming seminars

PricewaterhouseCoopers is planning information briefings and assistance for participants in QIS 3, along with more general Solvency II sessions. For information regarding Solvency II activities in your country, please contact your usual PricewaterhouseCoopers representative.

<b>Brussels</b>	QIS 3: Two day seminars – May (date to be confirmed)
<b>Copenhagen</b>	QIS 3: Two day seminars – 19/20 April (Non-life companies), 26/27 April (Life companies)
<b>London</b>	QIS 3: Two day seminars – 16/17 April (Non-life companies), 23/24 April (Life companies)
<b>Madrid</b>	The Solvency II Forum – 24 April
<b>Paris</b>	QIS 3: Briefing – 4 April
<b>Stockholm</b>	QIS 3: Two day seminars – 23/24 April (Non-life companies), 3/4 May (Life companies)

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