Struggling up the learning curve: Solvency II and the insurance industry

By Shirley Beglinger
The Centre for the Study of Financial Innovation is a non-profit think-tank, established in 1993 to look at future developments in the international financial field – particularly from the point of view of practitioners. Its goals include identifying new areas of business, flagging areas of danger and provoking a debate about key financial issues. The Centre has no ideological brief, beyond a belief in open markets.

**Trustees**
Minos Zombanakis (Chairman)
David Lascelles
Sir David Bell
Robin Monro-Davies
Sir Brian Pearse

**Staff**
Director – Andrew Hilton
Co-Director – Jane Fuller
Senior Fellow – David Lascelles
Programme Coordinator – Lisa Moyle

**Governing Council**
Sir Brian Pearse (Chairman)
Sir David Bell
Geoffrey Bell
Robert Bench
Rudi Bogni
Philip Brown
Peter Cooke
Bill Dalton
Sir David Davies
Prof Charles Goodhart
John Heimann
John Hitchins
Rene Karsenti
Henry Kaufman
Angela Knight
Sir Andrew Large
David Lascelles
Robin Monro-Davies
Rick Murray
John Plender
David Potter
Mark Robson
David Rule
Sir Brian Williamson
Peter Wilson-Smith
Minos Zombanakis

CSFI publications can be purchased through our website www.bookstore.csfi.org.uk or by calling the Centre on +44 (0) 207 493 0173

Published by
Centre for the Study of Financial Innovation (CSFI)

Email: info@csfi.org.uk
Web: www.csfi.org.uk

ISBN: 978-0-9563888-1-0

Printed in the United Kingdom by Heron, Dawson & Sawyer
Struggling up the learning curve: Solvency II and the insurance industry

By Shirley Beglinger

### Foreword

The message of this paper is that Solvency II – the new EU regulatory regime for all insurance and reinsurance firms with over €5 million in annual gross premium income – is going to give the global insurance industry a hefty kick up the backside. On balance, that may be a good thing; there is certainly a lot wrong with the way the industry has conducted itself in the last few years (and before that). But the author, Shirley Beglinger (who has written two previous reports for the CSFI1), is worried that no one has really thought through how radical the changes imposed by Solvency II will be.

At the risk of doing damage to what is a complex argument, I think the key point that Shirley makes is that, on balance, Solvency II is a good thing – for the insurers (and reinsurers) and for society more widely. It is a good thing because it will force insurers to take their own business more seriously, to allocate (scarce) capital more rationally among product lines, and to disaggregate the profitability of the various business lines that survive under the general rubric of ‘insurance’. However, while Solvency II may be positive on balance, it is clearly not an overwhelmingly, unequivocally good thing.

Looking at the problems associated with Solvency II, I think the main issue that Shirley raises is its complexity – which has concealed many of its less desirable consequences from industry observers and insiders. Shirley points out that this complexity (partly self-imposed, and partly an inevitable reaction to the way Basel I and II were 'gamed' by the banks) has several negative consequences. In particular it leads to over-reliance on modelling (which, of course, proved a big problem on the banking side).

But it is not just over-reliance on modelling that worries her. She also worries that the insurance industry is grossly underestimating the structural changes that will occur as a result of Solvency II. In particular, she argues that the industry has always been astonishingly bad at separating out profitable from non-profitable lines of business. Now, it will have no excuse. That is going to throw up some very interesting results as firms discover just what some cherished activities have been costing them.

Another problem that Shirley cites is the apparent confusion in the minds of those who drafted Solvency II between the life and non-life insurance industries. In her opinion, the Directive’s requirements on disclosure appear to reflect the exigencies of the life business – and largely to ignore the retail, non-life side. One consequence, she feels, is that some pretty routine (and pretty ubiquitous) non-life products will become a lot more expensive. If the cover is available at all.

So far, there is evidence that the Commission is open to persuasion by industry critics on Pillar 1. But, Pillar 2 governance issues are also likely to have unintended consequences that may well be negative for the broader industry. Plus IT requirements are bound to be enormous – requiring a huge commitment in time as well as money. Ditto the demands on non-executive directors, and boards more generally. And – at a more nerdy level – it may well be much more difficult to get US money into the reinsurance sector through Bermuda firms.

Perhaps the key message is that Solvency II is terra incognita. Who knows what carnage it will wreak on the industry? The balance of probability is that it will be an improvement over the existing piecemeal regulatory regime. But – as Shirley makes very clear – there is ample opportunity for things to go wrong. Very wrong.

Andrew Hilton
Director, CSFI

---

Acknowledgements

Opinions and mistakes are my own but with thanks to Generali, Alan and Con.

SB
## Contents

- Foreword ............................................................................................................. 1
- Acknowledgments .............................................................................................. 2
- 1. Introduction ..................................................................................................... 4
- 2. One rule for all of Europe ............................................................................... 8
- 3. The process ..................................................................................................... 10
  - Solvency II: The basic model ................................................................. 11
  - Numbers mean business ......................................................................... 12
  - Range of solvency measures ................................................................... 12
- 4. How do they get to the numbers? ................................................................. 14
  - Capital calculus ....................................................................................... 14
- 5. What exactly is capital? ............................................................................... 23
- 6. Who needs insurance? ............................................................................... 26
- 7. Pillar 2 (which is the really nifty bit of Solvency II) .................................... 27
- 8. Mandated organisational changes ............................................................... 30
  - Change … or hurt .................................................................................. 30
  - A rocky road .......................................................................................... 31
- 9. Internal models ............................................................................................ 32
- 10. Pillar 3 ......................................................................................................... 34
- 11. Strategic implications for the [re]insurance industry ................................ 36
- 12. Conclusion .................................................................................................... 39
1. Introduction

My subject is Solvency II, the new, all-singing, all-dancing prudential and regulatory regime for Europe’s insurance companies, set to take effect from Autumn 2012 – or Spring 2013, or January 2014 (depending on whom you believe). Whatever, it’s going to be here sooner than we imagine, for better and no doubt for worse. So now seems a good moment to review the direction of march - before we all go over the cliff together.

My high-level points are:

1. Solvency II, on balance, is good - and necessary.

2. Solvency II is an EU initiative and will apply to all insurance undertakings operating in the EU. So, at long last, we may get a level-ish playing field for at least some financial services. Good.

3. The conceptual design of Solvency II is intended to respond to each company’s individual risk profile - and thus to create a capital charge specific to each company and its risks. Good.

4. As companies come to calculate their capital needs by reference to their own specific risk profile, it is only logical that they go the next step and assign blocks of regulatory capital to each book of business. Once that capital is assigned, management will be able to critically review whether the book is able to pay for its capital usage, rather than just break even. Solvency II is, therefore, a powerful tool for steering a company’s strategy mix by economic rationale rather than by instinct. At last, management will have a transparent tool with which to measure the strategic appeal of one book of business over another; no more flying by the seat of the pants. Also good.

5. Non-life companies have tended to rely heavily on making sufficient investment returns to finance their lifestyle: premium flows are invested, and generate sufficient profits to finance marginal underwriting results. Companies will now be required to underpin their investment portfolio with capital – which in turn must be paid for. It follows that only the best investment years will generate a sufficient return to finance poor underwriting results. Ergo, underwriting will be required to pay for itself and its capital usage. Good – but only for companies clever enough to recognise where their profits actually come from, and to concentrate their resources there.

Key points...
6. Introducing capital underpinning will force cleverer companies to revisit their business mix. Portfolios with volatile results (eg industrial insurance, aviation) – which are interesting and prestigious to underwrite, but which barely break even over the cycle - will be subject to a higher standard deviation in the capital calculation, which in turn will lead to a higher capital charge being applied to them. If capital must be paid for each year rather than over the cycle, it follows that premiums must rise. Industrial policyholders in turn will either buy less insurance or self-insure. Those that remain in the insurance market will be forced to contribute their rateable share of premium to the risk pool (which they haven’t done for decades), thus sparing retail policyholders (homeowners, automobile etc) the need to cross-subsidise these inherently unprofitable lines of business. Good – at least, for retail policyholders.

7. Long-tail lines of business, such as marine insurance or product liability, will also produce a higher standard deviation in the capital calculation, and will equally attract a higher capital charge. Hence, premiums will again need to rise. Since it takes a while for long-tail underwriting results to crystallise, cleverer companies may simply withdraw from these lines of business rather than follow the boom-bust cycle to its inevitable bottom. Good – but only for the clever firms.

8. Armies of actuaries will be hired to perform the new capital calculations. Actuarial calculation is by nature backward-looking, based upon as much data as can be collated. Where data is not available, actuaries apply lashings of something called ‘uncertainty loading’ which generally results in a very big [capital] number. Thus, the need for capital underpinning may well stifle new product development; it simply won’t be financially viable. Not good.

9. Some companies will not recognise the strategic power of Solvency II, and will see it merely as a quarterly exercise in number-crunching and form-filling. As a result, business which the cleverer companies have discarded as insufficiently profitable will gravitate to these companies, gradually eating into their margins until Darwinian selection ensures that they cease to exist. Primordial - but healthy.

10. The Level 2 implementation measures for Solvency II are being designed by that well-known team of CEIOPS & Co. for use throughout the EU - meaning that no national regulator has much wiggle room in implementation. Very good.

11. As the financial crisis has deepened, Level 2 implementation as proposed seems to demand more and more capital, irrespective of the underlying risk profile. The aim is apparently to avoid company...
bankruptcies at all costs. However, capital is not free, and this will affect insurance pricing, CEIOPS seems to have forgotten that insurance should be within financial reach of the ordinary man. Bad.

12. Capital requirements are likely to rise anyway. But if they rise to the point where some insurance companies are no longer viable as independent entities, the result will be the disappearance of smaller and niche players. Which means less choice for consumers. Bad.

13. Even before the Level 1 Framework was passed, early Quantitative Impact Studies suggested that 25% of EU insurance companies would not be able to survive as independent entities. So every fourth (presumably smaller) company will either be taken over or shut down. The European Commission has suggested that 3-4% of all jobs in the EU are insurance jobs. So the disappearance of those companies could add a substantial number to the growing army of EU unemployed. Bad.

14. Pillar II of the Directive – concerning governance and own risk and solvency assessment (ORSA) - is designed to make capital relevant to the day-to-day running of the business, rather than just a quarterly calculation which can then be ignored. As such, Enterprise Risk Management will be at the core of companies’ quarterly reporting requirements. Risk awareness and risk management will inform strategic and business decisions. Revolutionary, but good.

15. Meeting Pillar II governance and control requirements will likely involve additional long-term expenditure accountants, auditors, actuaries and (God forbid) consultants – all of which will be onerous for small and medium-sized companies. Necessary, but not particularly good.

16. Pillar III – disclosure – appears to be driven by the requirements of investment analysts concentrating on the famously opaque life and pensions industry. It’s hard to see how relevant it can be for non-life insurance. I am not sure it does the industry as a whole any good, but it probably doesn’t do much harm.

17. The general focus of CEIOPS seems to be heavily on the life and pensions industry, with non-life insurance treated almost as an afterthought. Only about 25% of [the richest] Europeans even have a private-sector pension arrangement, vs 85% or more who have some form of non-life insurance. In other words, more EU citizens stand to suffer if regulators get the prudential regulation of non-life insurance wrong. So …are CEIOPS & Co concentrating on the wrong bit? Sooner or later, they must recognise the relative importance of non-life insurance vs life insurance, and morph into a prudential regime which focuses primarily on the former.
18. Solvency II will require a huge investment of time, effort and money. While some companies are alive to the size of the challenge, others are hoping it will just go away. Bad – at least for them.

19. The massive change in governance requirements may well produce an entirely new generation of insurance company directors. Even those firms who do not opt for internal models will still need their directors to understand the capital calculation, and to steer their companies by the compass of capital requirements and the cost of capital. Regulators will expect the board to be able to discuss intelligently the capital implications of strategic decisions. Thus, Solvency II seems to sound the death knell for the over-dominant CEO. Good.
2. One rule for all of Europe

Before we go any further, let’s emphasise that the insurance industry needs a new regulatory regime.

The current regimes (plural) in force across various parts of the EU are at best outdated, and at worst an invitation to abuse. Since we now have Freedom of Services throughout the EU, capital is theoretically free to relocate to whichever member state offers the most attractive prudential regime - and to transact business from that location in every other member state. How tempting it must be for a company or a group to simply relocate beyond the intrusive reach of the FSA (and the UK tax-man) to an agreeable – control-lite – location. There, one can set up shop with a lower capital base, fewer compliance obligations and even a friendlier tax-man - underwriting risk with one hand and clutching a gin in the other.

So, clearly, new prudential rules must apply equally in all member states - hence the need for a regime designed under the aegis of the Brussels bureaucrats rather than the Canary Wharf crew. The consensus across the EU is that only Brussels can build a level playing field across all 26 member-states. Of course, the Canary Wharf crew get to play (quite a large role actually), but they are periodically made to hand over the ball to Paris and Frankfurt. And most of the running is seemingly made by the chaps from CEIOPS – the Committee of European Insurance and Occupational Pensions Supervisors.

Solvency II’s framework is based on Basel II, with three ‘pillars’ of capital requirements, supervision and disclosure. But it’s so much cleverer than Basel. In Solvency II, Pillar 2 (supervision) bears the fingerprints of someone who understands how the banks finessed Basel II and continued with their money-grubbing ways - someone who is determined to ensure that insurers don’t do the same. A lot of very clever design has gone into Pillar 2, so that companies will be forced to use it at all levels, and to document how economic thinking informs strategic and business decisions.

So much for the good news.

Like all legislation designed by multiple stakeholders, Solvency II looks like a camel. As CEIOPS slogs away on Level 2, the global financial crisis continues to bite (despite optimistic noises). And as the crisis bites, the Committee is starting to armour-plate the camel. Armour-plating may not be entirely bad, but it needs to be designed with steely common-sense, not twiddly lead bits of pseudo-precision.

A camel after all is a useful beast, capable of going long distances with minimum fuss, and as such is perhaps an apt metaphor for prudential regulation. But here one
must caution that regulation does not happen in a vacuum: it is merely one part of the great capitalist machine. The other key parts are shareholders, counterparties (including clients) and accountants. To pervert Newton’s First Law of Motion: Any action by any of the four will cause an equal, but not necessarily opposite, reaction. I’ll expand on that, but before we get to the nitty-gritty, let’s emphasise again that insurance is a capitalist business, run for the profit of the shareholders - not for the social wellbeing of policyholders or the job security of regulators.

In capitalism, businesses fail from time to time. When that happens, fingers are pointed – usually at regulators and accountants, who generally respond by doing their best to ensure no other businesses fail. The result is an armour-plated camel which nobody – least of all the policyholders – can afford.

If regulators and politicians wish to argue that insurance is a social good, and as such should be affordable, then it would be logical for them to subsidise policyholders in their purchase of the camel. I’m no friend of government intervention, but as long as we’re dishing out taxpayers’ money to feckless banks, why not take the opportunity for a wholesale review of the pensions and insurance space – including state-provided unfunded pension commitments?

And now to the nitty-gritty …
3. The process

Solvency II is being drawn up under the Lamfalussy Process, which means it is making its tedious way through the EU institutions at a steady pace.

Much horse-trading preceded the final Level 1 Framework Directive, which passed the European Parliament in late 2009. The French, for instance, fought tenaciously for a different capital treatment of equities; the Germans fought for equalisation reserves. And just about everybody fought for group supervision and group support proposals which were in the original draft. Well, the French didn’t get their way on equities, so nobody else got their way on group support or group supervision. Everyone purported to be disappointed, but the smaller EU members were probably sneakily relieved, since group support proposals suggested that the national regulator of the group’s home country should take the regulatory lead. Small country regulators would have lost what little clout they had. (They may still do so, since ‘Colleges of Regulators’ for international groups are quietly coming into being – all seemingly under the leadership of ‘big country’ regulators.) In any event, what passed in Parliament was shorn of many items dear to various national hearts.

But what has passed Parliament is merely a framework: between now and 2011, CEIOPS & Co. will be “preparing measures in consultation with market participants, end-users and consumers for submission to the European Commission” … for which read: slogging away at the detail. And the detail, as we know, is where the devil resides. The CEIOPS web-site contains thousands of pages of consultative text, proposals and counterproposals, and responses from various stakeholders … many extremely clever and some very odd.

Some very vocal ‘market participants and end-users’ have materialised. The CRO Forum (representing the CROs of most of the major EU [re]insurers and financial conglomerates) has developed a sensible pragmatic voice. The Geneva Association has come forward with several comments. The ABI initially kept a low profile, but has started to jump up and down as the detail has manifested. Lloyd’s of London made no bones about it: it hired lobbyists to make sure its members’ interests were protected. Many international insurance groups have also hired dozens of people whose sole task is to observe, consider and respond to the floods of consultations flowing from CEIOPS.

And then of course one mustn’t forget the Canary Wharf crew, Paris etc. Once the European Commission has approved the CEIOPS proposals, it will leap into action with Level 3 Implementation Measures, which must then be passed into national law.

All of this seems a long way away at the moment, but at some stage we will also reach Level 4 - which is all about policing member states’ compliance with EU legislation.
For the moment though, it’s still a case of designing the better mousetrap.

Having had such a marvellous (sic) experience with Basel II, insurance regulators saw no reason to question the basic model. Hence, we get the same three pillar approach:

**Solvency II: The basic model**

<table>
<thead>
<tr>
<th>Pillar 1: Numbers</th>
<th>Pillar 2: Governance</th>
<th>Pillar 3: Transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement of assets, liabilities and capital</td>
<td>Supervisory review process</td>
<td>Disclosure requirements</td>
</tr>
<tr>
<td>• Eligible Capital</td>
<td>• ORSA</td>
<td>• Regulatory reporting?</td>
</tr>
<tr>
<td>• Technical provisions</td>
<td>• Internal control</td>
<td>• National GAAP?</td>
</tr>
<tr>
<td>• Investment capital requirement</td>
<td>• Risk management</td>
<td>• IFRS 4 &amp; 7?</td>
</tr>
<tr>
<td>• Risk dependencies</td>
<td>• Corporate governance</td>
<td>• Corporate risk appetite?</td>
</tr>
<tr>
<td>• Risk measures &amp; assumptions</td>
<td>• Stress testing</td>
<td>• What else might they think of?</td>
</tr>
<tr>
<td>• Calculation formula</td>
<td>• Continuity testing</td>
<td></td>
</tr>
<tr>
<td>• Internal model approach</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The structure of Solvency II

I find it easiest to think of the three pillars as Numbers, Governance and Transparency.

**Numbers** defines the Minimum Capital Requirement for any company within the EU. Minimum means exactly that: a number of currency units which any EU company must calculate and place into an accounting pot in order to retain its right to transact business – commonly referred to as ‘the Pillar 1 charge’. National supervisors may not allow their charges to hold less - but should require them to hold more if they fail to meet high standards of **Governance**. Under Basel II, **Transparency** was the dog that didn’t bark, so supervisors plan to make sure it bites this time around.

So far, everyone has concentrated on Numbers. Certainly, during the horse-trading in the run-up to the European Parliament session in late 2008, it seemed that all the Level 1 discussions focused on Numbers, while Governance and Transparency were consigned to a basket marked ‘Later’.
Numbers mean business

So … Numbers. There has long been an unspoken feeling that the insurance industry was massively undercapitalised for the risks it runs, so supervisors have introduced two levels of capital:

- The first is the Minimum Capital Requirement (MCR). Any company failing to hold at least that much capital is to be banned from playing on the level EU playing field.

- The second is the Solveney Capital Requirement (SCR). Any company whose capital falls below this level will be subject to increased regulatory scrutiny, and will be required to submit a plan to get its capital back up to the SCR level.

The idea is that this notoriously recalcitrant industry should be pulled up a steep slope of sophistication:

Range of solvency measures

Starting from the bottom of the pyramid, the assumption is that the recent level of prudential capital across Europe falls around ‘Current Solvency 1’ - but that the rating agencies (with their own more stringent criteria) have succeeded in pushing up real solvency levels to the line marked ‘Present’.
Aside from the gut feeling referred to above, nobody has conclusively proven that the line marked ‘Present’ is insufficient. Nevertheless, in the brave new world of Solvency II, the MCR will be set above the current level, and the SCR will be several notches above that again. By the way, Standard & Poor’s estimated in March 2008 that at least 25% of EU insurance companies will be unable to meet the SCR … and that percentage is probably still rising. In other words, even as the Level 1 Framework was being drawn up, there appears to have been tacit acceptance that every fourth insurance company in Europe may well cease to exist as an independent entity.

Both MCR and SCR are to be calculated by each company or group using spanking new actuarial models. For no reason I can discern, these actuarial models are calibrated to determine a company’s solvency at the 99.5% confidence interval (one in 200 years) over a one-year time horizon. One can only assume that this time horizon and confidence intervals have been arbitrarily copied from banking regulation, or selected by life actuaries concentrating on the [finite] side of the balance sheet. In the world of normal insurance people, insurance liabilities crystallise and are paid, not over one year, but over three years. Or even seven. In the case of life insurers, sometimes even twenty years barely suffice. So, picking a 12 month time horizon and a 99.5% confidence interval looks like irrelevant decoration on the camel’s armour-plating. At least for Underwriting SCR (see below), it would instinctively make more sense to pick a lower confidence interval (say 95%, equivalent to one in 20) and a longer time horizon – say three years.

Nevertheless, one year and 99.5% have been selected, and the actuarial models are under construction as I write.

Of these actuarial models, the Standard Approach will be a model developed by CEIOPS using fairly conservative assumptions; it will serve as a default option for the many smaller companies which do not have the wherewithal to build a model of their own. It will produce a markedly higher SCR requirement than the internal models which supervisors fully expect the big players to develop (of which more later). Both numbers of course should, with practice, come ever closer to the true risk profile sitting at the top of the [evolutionary] pyramid.
4. How do they get to the numbers?

As Basel 2 amply demonstrated, calculating capital requirements for any large, complex undertaking is beyond the reach of ordinary mortals. So regulators sensibly broke the whole thing into bite-size chunks:

Capital calculus

Calculating capital...

\[
\text{Premium risk} + \text{Reserve risk} = \text{Underwriting SCR}
\]

Taking the boxes in order, we have …

\[
\text{Premium risk} + \text{Reserve risk} = \text{Underwriting SCR}
\]

In all the dry prose of Solvency 2, none of the regulators has provided a succinct definition of ‘Premium risk’. Presumably, the experts know what they mean. For non-expert normal mortals, the Comité Européen des Assurances (CEA) has worked with the Groupe Consultatif Actuariel Européen (Groupe Consultatif) to produce an extremely useful glossary of terms (if you can find it on their website). The Glossary says that ‘Premium risk relates to future claims (excluding IBNR and IBNER’), and

1. “IBNR” – incurred but not reported. “IBNER” – incurred but not enough reported.
originates from claim sizes being greater than expected, differences in timing of claims payments from expected, and differences in claims frequency from those expected.’

Read in conjunction with the plethora of mathematical formulae (all of which concentrate on the 12-month time horizon), premium risk seems intended to be a forward-looking assessment of the risk that premiums in any given line of business in any given year will not suffice to cover the losses in that line of business in that year – ie, that the frequency of claims, the severity of claims, and the speed of their actual pay-out will exceed the inward premium generated in that particular year. The more volatile the line of business, the greater the standard deviation of projected results, and the greater the likelihood that premium will not suffice to cover losses. Obviously, if premium is insufficient, the losses must be paid for out of previous years’ profits (if any), or else out of capital – hence the need for capital in the first place.

‘Reserve risk’ is similarly undefined by regulators, but the Glossary helps out: ‘Reserve risk only relates to incurred claims, i.e. existing claims (including IBNR and IBNER), and originates from claim sizes being greater than expected, differences in timing of claims payments from expected, and differences in claims frequency from those expected.’ Huh?

Again, a lay-person’s understanding of the mathematical formulae would suggest that this is a backward-looking assessment of reserving in each line of business. Where reserving practices have been fairly consistent (and have created sufficient reserves for each portfolio including IBNR and IBNER), the standard deviation of reserves will be quite small. If, on the other hand, an insurer has under-reserved (or ‘managed’) his results by means of his claims-reserving policy, the standard deviation will be larger.

An interesting angle could emerge here as implementation goes forward. Whenever there is a major catastrophe (windstorm, earthquake, volcano, flood etc), many (possibly most) non-life insurers have made a practice of over-reserving by as much as they possibly can. When the annual report comes out, they disingenuously explain that the dreadful event may not cost them quite so much, but they are erring on the side of prudence in setting reserves. In subsequent years, the over-reserve is dribbled back into underwriting results as ‘reserve releases’ – bolstering thin reserves and serendipitously making underwriting results look better than they actually are. ‘Everyone’ knows it happens, and ‘everyone’ thinks it’s a good idea because investors – even those who invest in a volatile business such as insurance – like steady results. Hitherto, such ‘result management’ has always been A Good Thing. But if the ebb and flow of reserve releases now flows into the capital calculation under Solvency II as a higher standard deviation of reserves and thereby brings about a higher capital requirement… then it suddenly becomes A Bad Thing.

In any event, the addition of forward-looking Premium Risk and backward looking Reserve Risk should produce the Underwriting Solvency Capital Requirement. This Underwriting SCR is to be calculated to the 99.5% confidence interval with an assumed
holding period of one year. Or, as an actuary kindly translated for me: the amount of
capital required to meet the company’s obligations in 199 out of 200 years.

As I understand the formulae, the intention is to calculate a sort of ‘Underwriting
VaR’, so that lines of business with large volume and low volatility (eg household
insurance, vehicle insurance), where losses generally fall comfortably within the
premium volume generated, would require very little Solvency Capital underpinning.
On the other hand, lines of business (or portfolios of risk) which have a volatile
performance would require substantial capital underpinning. If one imagines that
each line of business required capital only to suffice, say, in 19 years out of 20 (ie the
95% confidence interval), this would already penalise volatile lines. But at 99.5%
(199 years out of 200), the potential for aggregation is so much larger that the capital
requirement jumps exponentially.

The original intention was to allow a substantial offset within this charge for
diversification within the underwriting portfolio.

The theory goes that an earthquake in Greece does not correlate with a windstorm
in Northern France, and that longevity in the UK is offset by comparatively short
life expectation in some of the new EU member countries. Under the heading of
diversification, companies which were active throughout the EU were to be permitted
a capital offset for the resultant spread in their underwriting books – but only if the
diversification occurred within the EU (go figure). Those lacking such diversification
would just have to lump it with no offset.

As the global financial crisis has deepened, however, a number of academic voices
have begun to question the value of diversification. The new theory – seemingly
espoused by CEIOPS – is that if everything is going down the tube, then it goes
down the tube equally swiftly even if it’s diversified. If that is the belief, then it
follows that diversification does not reduce risk - and if there is no reduction in
risk, then there should be no reduction in the capital charge. Certainly, the latest
consultation papers to appear on the CEIOPS website¹ seem to sharply curtail
any capital reduction for diversification. Niche players – who stood to be heavily
penalised for their lack of diversification - heaved a collective sigh of relief.

However, while niche players are happy, reinsurers are up in arms at the proposed
treatment of non-proportional reinsurance arrangements.

At the outset, everyone was contemplating a world of enlightenment where the
prudential rules – for the first time – would give full recognition to the capital-
mitigating effect of reinsurance. This would be good for everyone: insurance
companies would hold less expensive capital because they had reinsurance, and
reinsurance companies would be able to use their greater portfolio diversification to
reduce the amount of capital they needed to hold.

¹. CP 74, on correlation and diversification
Unfortunately, a recent CEIOPS missive (CP 71, on non-life underwriting risk) proposes that even less credit be given for non-proportional reinsurance than hitherto. This is a problem for most general insurance companies, which make extensive use of non-proportional reinsurance.

The concept of non-proportional reinsurance is fairly simple: the insurer agrees to bear a retention or ‘deductible’. Any loss which falls below this amount is borne by the insurer. Any part of a loss which is above this amount (up to a certain maximum – the ‘limit’) is borne by the reinsurer. The advantage of non-proportional reinsurance is that it enables the insurer to even out the spikes in his underwriting portfolio, while paying away less premium than he would if he bought proportional reinsurance.

Here, CEIOPS demonstrates baffling illogic – or, possibly, the logic of a life insurer when confronted with the incurable weirdness that is non-life insurance. It has chosen to calculate the mitigation afforded by non-proportional reinsurance, not by reference to the reinsured limit nor by reference to a portfolio simulation before and after reinsurance. Instead, the mitigation is calculated as a function of the reinsurance premium and is subject to a conservative assumption as to possible collection under the reinsurance.

Early criticism of this was shrugged off. CEIOPS pointed out that it expected most general insurance companies to develop their own internal models. Provided those internal models could pass the supervisory test, companies would be allowed to deviate from the standard model in some of their assumptions. Those assumptions could, of course, be related to reinsurance, or the loss distribution in a volatile portfolio or … well, whatever. Insurers gave in, grumbling.

Since then, more consultation papers have been published which suggest that the hurdles for getting an internal model approved are higher than they appeared at first glance. Companies are beginning to realise that they may not be permitted to deviate too far from the standard model assumptions. Even those companies which have invested a great deal to develop internal models (of which more later) are likely to find their assumptions queried - and possibly rejected. The competitive advantage supposedly generated by using an internal model to calculate a more efficient (ie lower) capital number may simply evaporate.

So, on the Solvency Capital Requirement for underwriting, we have a requirement to calculate the amount required to the 99.5% confidence interval, using conservative assumptions (very conservative, if one plans to use the Standard Model) and increasingly steep stress factors, with limitations imposed upon the benefits conferred by reinsurance and diversification.

So far, it looks as though the capital pyramid is becoming steeper and steeper. One can see why S&P thought that many companies would only be able to climb it if they were roped into a strongly capitalised mountaineering group. Even the CRO

---

1. CRO Forum comments September 21, 2009
Forum, whose communications are normally bland, included some pretty blistering commentary in its March 12 publication2.

And so on to the next bite-size chunk:

Counterparty default SCR  +  Market risk SCR

The SCR for Counterparty Default is intended to ensure that a company can survive if a counterparty – especially a key counterparty, such as a major reinsurer – should default. So, if an insurer stacked up with a lot of cheap reinsurance from a reinsurer whose rating was, say, BBB, he might reduce his underwriting SCR. However, since the reinsurance came with a real possibility of default, the insurer would be required to hold capital against the prospect that he might not be able to collect on his reinsurance.

While the concept of counterparty default, and the need to cushion that default with capital, is old hat to bankers, it’s new to insurers - who always thought of reinsurance in terms of cash flow, but never before had to think about dodgy business partners in the punishing context of capital.

The upside is greater stability in the insurance/reinsurance world, since companies will be encouraged to only do business with counterparties who meet stringent levels of creditworthiness. The downside is that smaller reinsurers will not be able to meet the stringent standards, and so their business will dwindle into nothingness. Over time, the reinsurance market will be concentrated within the hallowed circle of a few big players. Competition will be reduced and the price of reinsurance will be driven up. And the increased cost of reinsurance will be passed on to consumers, who will in turn find their premiums rising …

In recent years, the insurance market has come up with a number of nifty ways to transfer underwriting risk directly to the capital markets. There are catastrophe bonds, where either the coupon is cancelled or the capital is not repaid should a trigger event occur. Then there are ‘sidecars’, which are debt/equity constructions which take a percentage of all of the insurer’s underwritings (and of course pay the same percentage of any underwriting losses). In life insurance, there are longevity swaps and mortality bonds. Some of these structures are triggered by indices, others by an insurer’s actual loss experience.

Investors like them because their yield is higher than normal, and any risk is deemed to be non-correlated with the rest of the investment market.

Insurers like them – especially under the impending new rules – because most such structures are collateralised, which means no counterparty risk. Which means no counterparty SCR. Those structures which are triggered by an index rather than by loss experience represent an interesting conundrum, both for buyers and sellers: does

---
2. Calibration recommendation for the market risks in the Solvency II standard formula
the basis risk (ie the difference between the performance of the hedge and the actual performance of the underlying underwriting portfolio) form part of the underwriting SCR, or should it form part of the Market Risk SCR?

Market Risk SCR, of course, is where our old friend VaR (Value at Risk) rides again.

At the risk of boring the true specialists: VaR is a mathematical simulation of a trading portfolio’s performance and is intended to give risk officers the comfort that over a given period of trading (say 1 day, 2 days, 1 week, possibly 2 weeks), their portfolio will, with say 95% certainty (1 in 20), not lose more than X dollars or pounds. There are a number of assumptions underlying VaR - including the absolute liquidity of capital markets (remember this because we’ll come back to it shortly) - which mean that even its inventors say it is not suitable for all market situations, and certainly not for simulations over longer periods (eg 12 months or more).

Of course, insurers tend to buy bonds and hold them to maturity (to match long-tail liabilities such as pensions or third party liability pay-outs), and buy shorter-dated scrip to match the anticipated cash flow requirements of their short-term claims portfolio. There’s only a fairly small part of the portfolio which turns over swiftly enough to fit the anticipated holding period contemplated in VaR. When this was pointed out, Tail-VaR became the order of the day.

Tail-VaR (or TVaR if we want to be fancy) is apparently more suited to the longer holding period. At the risk of boring the true specialists (again), here is a succinct comparison and explanation of VaR vs TVaR kindly supplied by Professor Alan Punter:

Both VaR and TVaR are one-sided, and deal with one tail of a distribution of possible outcomes - let’s assume it is the loss end of the distribution we are interested in. VaR of 95% measures the loss amount that should only be exceeded 5% of the time.

TVaR is in technical terms a conditional value, measuring the following. Assume that we are faced with one of the worst 5% of outcomes, then TVaR is the average of those 5% worst outcomes.

An artificial numerical illustration is helpful: assume that we have a distribution of outcomes as follows: 1% of the time we lose 1 unit, 1% of the time we lose 2 units, etc. etc. up to 1% of the time we lose 95 units, 1% of the time we lose 96 units, 1% of the time we lose 97 units, 1% of the time we lose 98 units, 1% of the time we lose 99 units, and 1% of the time we lose 100 units.

In this case, 95% VaR is 95 units. The worst case in 95% of the times is a loss of 95 units (i.e. in just 5% of the times does the loss exceed 95 units).

The 95% TVaR is 98 units. This is calculated as the average of the worst 5% of times, i.e. average of the losses 96, 97, 98, 99 and 100, with each having a 1% probability.
So TVaR is always greater than VaR. The perceived benefit of TVaR however is that it reflects the shape and severity of the tail. In the example above, if the distribution were more extreme, say the worst five outcomes (each still with a 1% probability) were not 96, 97, 98, 99 and 100, but were 100, 110, 125, 150, 200, then VaR would still be 95, but the TVaR would be 137 units (i.e. the average of 100, 110, 125, 150, 200, again each having a 1% probability). So a 95% VaR tells you nothing about the distribution of possible outcomes above the 95% point of the distribution - it sort of tells you where "bad" starts. Whereas a 95% TVaR is determined by each of the outcomes in the worst 5%, and give you some feel for "how bad is bad".

A more insurance-oriented analogy might be that if an excess layer covers the worst 5% of outcomes, then VaR is the lower limit of this layer (but that tells you nothing about the likely size of individual losses within the layer or what the upper limit of the layer is), whereas TVaR gives you the expected loss cost to this layer.

TVaR may be the number applicable to a portfolio of held-to-maturity bonds, but VaR of course is still applicable to a company’s portfolio of equities. VaR, of course, is driven heavily by volatility. And volatility is a major headache in these interesting times. Whereas UK life insurers have long had to contend with hard-wired limits on the amount they are permitted to invest in equities, general insurers have been pretty free to do what they wanted - so long as they didn’t do anything completely daft. Indeed, French insurers have been positively encouraged to invest in equities (especially French equities, thus ensuring that French industry remains resolutely in French hands). So, the whole VaR business has been a nasty shock for both the French and for the UK’s general insurers.

Although it may be true that, over the long term, equities produce a better yield than bonds, the cost of setting aside capital to cover the risk inherent in the investment portfolio is likely to drive insurers out of equities. Since Tail-VaR produces a higher [capital] number over the longer term, they are also likely to quit the longer end of the bond market in favour of the short to medium end: logically (provided the yield curve returns to sanity), the 3-5 year gilt should hit the sweet spot between the requirement for investment returns and the need to pay for underpinning risk capital. The upshot will likely be lower returns for policyholders, and – possibly – less investor enthusiasm for the Government’s long-dated debt.

And, by the way, the most recently published consultation papers seem to suggest that companies will be required to assume markedly higher stress factors than is normally the case for bond investments. PwC, for instance, estimates that lower diversification benefits and higher stress factors could push up capital requirements by a further 24% for life insurers and 13% for general insurers1.

The CRO Forum’s March 12 paper2 insists that CEIOPS has simply gone too far in its zeal to create a no-failure prudential regime.

1. PwC - Up Another notch – September 2009
2. Calibration recommendation for the market risks in the Solvency II standard formula
So far though, while one may quibble with the practical implications, the logic works. So it’s an unpleasant surprise when the logic is seemingly derailed by recession-induced collywobbles. Because in one of its more recent consultation papers, CEIOPS has suddenly demanded that companies set aside yet more capital:

Liquidity SCR

The Liquidity SCR is seemingly intended to cushion companies in those weeks or months when the Absolutely Liquid Capital Markets Assumption fails.

Those of us old enough to remember the Mexican debt crisis, the Russian default and LTCM already knew that the belief in Absolutely Liquid Capital Markets was a fallacy. Central bankers and regulators have also known it forever. Apart from the hasty [re]introduction of the leverage ratio in Basel II, bankers seem to assume there’s not a lot you can do in such times – just batten down the hatches and ride out the storm.

Insurers are, however, to be saddled with an additional capital charge – with detail to follow when CEIOPS has finished its exchanges with the CRO Forum, the ABI and other bodies who are gradually waking up to the fact that building their own models will not necessarily give insurers a competitive advantage.

In the interim, even a lay observer must be perplexed by the notion of setting aside capital against the possibility of market liquidity drying up. What could the right number be for such a charge? Is it 100% of the investment portfolio value, or 10%? Is it a hard number, or a plug percentage? How much is enough? Should current premium income (which, after all, is pure cash inflow) be allowable as an offset for whatever charge there might be? However one looks at it, having insurers set aside capital for a market liquidity crisis feels a bit like sending a row-boat to pull the Titanic off the iceberg.

Whichever argument finally prevails, the addition of all of these buckets of bite-size capital adds up to the Base Solvency Capital Requirement – Base SCR.

Op risk...

The final bite-size bucket is mentioned late only because it was not originally intended to have a Pillar 1 capital charge set against it:

Operational Risk SCR

But then someone pointed out that almost two thirds of company failures reviewed in the 2002 Sharma Report¹ were caused by Operational Risk. And – slightly later – someone else pointed out that the framers of Solvency II had copied the definition of Operational Risk word for word from Basel II: *The risk of loss arising from inadequate or failed internal processes, people, systems or external events (including legal risk).*

¹. Prudential Supervision of Insurance Undertakings (December 2002) published on the European Commission website under the heading ‘Solvency II’. 

---

CSFI

5 DERBY STREET, LONDON W1J 7AB
Tel: 020-7493 0173 Fax: 020-7493 0190
E-mail: info@csfi.org.uk
Web: www.csfi.org.uk

21
Legal risk – the risk that contracts will be deemed unenforceable, or will be enforced differently than intended by their writers - is one of the greatest imponderables in insurance underwriting. Insurance history is strewn with examples: in particular, exclusions for flood or earthquake or dread disease which were subsequently set aside by the courts. The exclusion may have been deemed against the public interest, or it may have been worded poorly. Or operative clauses in policy wordings, which were meant to cover one thing, somehow got twisted into doing something completely different – asbestos being a case in point. Whatever, such contractual issues can have the effect of massively inflating a company’s claims payments. They also add an interesting element of volatility to portfolio performance.

If the volatility associated with such contractual conundrums were assigned to the Underwriting SCR (where it logically belongs), it would experience another painful boost. So, practitioners took another tack - assigning this particular problem to a capital-free bucket marked ‘Operational Risk’.

However, as in Basel II, OpRisk in Solvency II developed a life of its own - and it is now certain to have a capital charge assigned to it. Various committees are working on designing the charge, some with good ideas, others with odd ones. But whatever finally prevails, Operational Risk will not get off scot-free in Pillar 1.
5. What exactly is capital?

Amid all the huffing over capital, and over diversification benefits (or lack thereof), one could almost forget another insurance revolution hidden in the small print of Solvency II: namely the **definition** of eligible capital. For years, rating agencies have dismissed many “capital-like” constructions, ruling that they were not suitable for rating purposes because they didn’t bear enough risk, or weren’t perpetual, or quite simply didn’t look as though they would do what it said on the tin. Much to the disgust of CFOs, they held to a classification of capital into Tier 1, Tier 2 and Tier 3 (highest to lowest ‘quality’) - and would generally only include Tier 1 and ‘upper Tier 2’ in the capital calculation for rating purposes.

Regulators have now followed suit. What counts as capital for solvency purposes has moved away from national accounting rules (some of which allowed very obscure items to count as capital), towards an IFRS view.

As hitherto, in order to calculate their capital position, companies must value the asset side of the balance sheet on a mark-to-market basis (*pace* the suspension of mark-to-market during the worst of the crisis). This isn’t always straightforward, since reinsurance receivables, deferred taxes and intra-group transactions must also be considered.

But valuing the asset side of the balance sheet is a stroll compared to valuing the liability side - where the largest chunk represents technical reserves set aside to pay claims. On the life assurance side, changes in life expectancy and shifting patterns of dread disease, pandemics etc are also making it more and more difficult to attach a ‘market-consistent value’ to a portfolio. On the non-life side, claims-provisioning has always been a dynamic business. While retail insurance (private car, home and liability insurance) performs consistently from year to year (absent windstorm, hail or earthquake), commercial insurance tends toward volatile claims performance. It may take a company several years to attach a correct value to larger liability claims, and large industrial property losses can have unexpected ancillary add-ons. The net effect is that it is very difficult to fair-value technical reserves on a portfolio of non-life insurances.

Assuming, however, that this herculean task has been achieved, technical provisions should then be discounted at the risk-free rate over the anticipated pay-out period. A portfolio of property claims reserves might take 12 months to pay out, so should only be discounted for one year. A portfolio of motor claims generally takes 3-5 years to settle, while general liability claims settle in 5-8 years. Those discounts appear fairly straightforward. However, more science must enter the equation for a portfolio of annuities which the company might find itself paying out for far longer than anticipated. And if the current recession is followed (as often in the past) by a prolonged period of *deflation*, what discount factors will then be applicable?
Setting aside those questions for the moment – because the companies which responded to QIS 4 certainly offered workable responses – the capital calculation proceeds to subtract the discounted technical reserves (and other liabilities) from the fair-valued assets. The result (hopefully a positive number) is then compared with the SCR calculated as set out above (only in much more detail). The resulting ratio between the Solvency Capital Requirement SCR and eligible capital is known as the coverage ratio. It should certainly be more than 1, and regulators may well want to see coverage ratios in the region of 2 or even 3.

However, regulators are not quite as puritanical as the rating agencies when it comes to deciding which funds exactly an insurer may use for prudential purposes. They break the process into three steps:

1. determination of own funds (see above);
2. classification of own funds (as in ‘what eventualities will they stand up for?’); and
3. eligibility of own funds.

The ‘eligible own funds’ category is the sum of basic own funds (as defined in the balance sheet) plus any ancillary own fund items not on the balance sheet. ‘Ancillary own fund items’ are defined as ‘liabilities that an insurer may use to increase its own funds and to absorb losses’; I think this is accountant-speak for structures such as catastrophe bonds, sidecars etc, which we touched on above.

However, since not all of these own funds can be used to absorb losses, they have to be classified in different tiers. Bankers are familiar with Tier 1, Tier 2 and Tier 3 in the context of prudential regulation, but it’s pretty new for insurers.

Tier 1 core capital is defined by its ability to absorb losses both on a going concern basis and on a gone concern basis. ‘Gone concern’ is a shorthand way of saying that in the event of a winding up, the first loss is suffered by the capital providers (shareholders), rather than by the policyholders. In a major departure from the rating agencies, Solvency II allows dated instruments to be included in Tier 1, provided however that their tenor is at least as long as the company’s insurance obligations1. In the case of a life insurer that could be 50 years, and not much less for a non-life insurer.

So the key ‘test’ of capital quality is: that the instrument is of sufficient duration in relation to the insurer’s insurance obligations. This means that:

- The instrument is free from requirements or incentives to redeem the nominal amount. In other words, tricks like the ‘step-up’ interest rate which was popular for many preferred share issuances will no longer work if the instrument is to qualify.

---

1. FSA DP08/4, Insurance Risk Management: the path to Solvency II
• The instrument is free of mandatory fixed charges. The coupon payable irrespective of company results no longer flies either.

• The capital is free from encumbrances – meaning, presumably, that debentures and suchlike aren’t acceptable for capital qualification purposes.

Own funds which meet most of the above criteria, but which absorb losses only on a gone concern basis, are allocated to Tier 2. Ancillary own funds (ie off-balance sheet instruments), which meet all of the above criteria, are also relegated to Tier 2.

Level 2 implementation measures have been under construction since 2008. FSA guidance suggested strongly that, when they were finished, many hybrid instruments and structured subordinated liabilities would not be eligible either as Tier 1 or Tier 2 capital. Unfortunately, many insurance companies make active use of such instruments as part of their drive for balance sheet efficiency: the implication was that those companies would need to find alternative capital sources and structures before 2012. As the global economy continues in trouble, and as capital is hard to find, it seems to have gone very quiet on that front.

Pending Level 2 implementation measures – which probably will not change much of the substance - all other basic and ancillary own funds will be relegated to Tier 3.

Formally, Tier 1 + Tier 2 + Tier 3 ≥ SCR. However:

• Tier 1 must account for a minimum 1/3 of the SCR;
• a maximum of 1/3 of the SCR may be covered by Tier 3;
• of the Minimum Capital Requirement, not more than 50% may be covered by Tier 2 own funds; and
• Tier 3 own funds are not eligible for any part of the MCR.

Or, phrased differently, the MCR can be covered 50/50 by Tier 1 and Tier 2. But given the relationship between the MCR and the SCR, the overall capital weighting will lean heavily toward Tier 1.

To reiterate the capitalist lesson, Tier 1 capital comes primarily from shareholders. Hence, there is an increasingly urgent concern (as each consultation paper seems to suggest) that the buckets of capital required are growing larger and larger. At some stage, the addition of all those buckets must translate into a stonking great number. The camel will be thoroughly armour-plated; but since the armour-plating comes from shareholders, who want to be paid for their trouble, the result must perform be higher insurance premiums.
6. Who needs insurance?

The Canary Wharf crew are generally pragmatic. So I was surprised recently at the response when I pointed out that the gold-plating of the armour-plating would:

- cause an abrupt rise in capital requirements across the industry;
- drive the need to create underwriting profit; and
- must perforce bring about higher premiums.

Higher premiums, in turn, could lead to insurance being unaffordable for the ordinary man. My regulator friend pointed out that only 20-25% of EU citizens have insurance, and those tend to be the top earners in each member state. Being top earners, he said, they can afford to pay for the gold-plating – and it will certainly serve to keep them safe.

We scowled at one another in mutual incomprehension for a moment until it dawned on us that he was talking about life insurance and pensions – not non-life insurance.

My friend at Canary Wharf knows more about it than I do, so his 20-25% number is presumably accurate. But while CEIOPS is carefully keeping the 25% safe, it seems to forget the 80-85% of EU citizens who buy non-life insurance – for their houses, their cars, their dogs or whatever. Those are most assuredly not the top 25% of earners. Joe Lunchbox can’t legally elect not to insure his car, but the capital-driven cost increase may force him to cut back on insuring the house or the business… so that when the flood or windstorm does hit, his already meagre wallet will take another caning.

There isn’t a logical case to make for demanding capital relief for non-life insurance. It probably is (currently) undercapitalised for the risks it runs. But regulators need to stop treating it as some sort of tiresome adjunct to the life and pensions industry. Invent prudential regulation which doesn’t spend all its time worrying about VaR and the shape of the yield curve, because those things are not usually life-threatening to non-life insurers. Come up with a QIS (Quantitative Impact Study) spreadsheet which doesn’t devote nearly two thirds of its tabs to life insurance. Most Europeans don’t care about life insurance because they can’t afford it. But they assuredly care about the cost of their car insurance – and the cost of that may be driven off the charts by capital requirements designed to secure the pensions of the 25%.

… and with that little rant, we come to …
7. Pillar 2 (which is the really nifty bit of Solvency II)

Pillar 2 is all about governance. All companies go on about their wonderful governance. They have Risk Committees and Credit Committees and Audit Committees and Remuneration Committees – and, Boy, have they got their company under control from top to bottom. And like the Red Queen in Alice in Wonderland (‘I’ve believed as many as five impossible things before breakfast!’), we all duly believe what it says in the Annual Report. Until of course something like sub-prime blows up and we discover post factum that the Committees and reporting lines had nothing to do with how the company actually did business.

But the people writing Solvency II evidently do not include the Red Queen. They watched the banks finesse Basel I and Basel II, and they know full well that the data-lag in insurance (it takes months or even years before Outgoings, i.e. claims, can be tied to Incomings, i.e. premiums) means that companies have occasionally selected high-risk strategies for reasons of personal preference, rather than because the risk/reward relationship made economic sense.

Pillar 2 introduces something called ORSA – Own Risk and Solvency Assessment. It only occupies a few lines – Article 44 of the Solvency II Framework Directive. Yet ORSA is intended to be the key driver for embedding Enterprise Risk Management into all levels of an insurer’s business – not just into the pages of the Annual Report.

The clever people at CEIOPS came out with a very bland statement to the effect that ORSA ‘aims to enhance awareness of the interrelationships between the risks an undertaking is currently exposed to, or may face in the long term, and the internal capital needs that follow from this risk exposure’. Translation: ‘If a company is now in or intends to enter high-risk high-volatility lines of business (eg satellite insurance, aviation, pharmaceuticals, oil and petrochemical etc), management must satisfy itself, the board and the regulator that the company has sufficient capital to meet the resultant capital requirement.’ The effect: Companies which are not already involved in high-risk high-volatility business will tend to stay out of it because the capital requirements will likely be too onerous. Companies which are already in those areas will look at them really closely: do they generate enough profit to pay for their capital usage each year? Or do they merely break even over the cycle? If they only break even, management will need to explain to the board why the company needs to stay involved in these businesses.

In the past, regulators assumed that companies which calculate the capital required to underpin each of their businesses would logically use that calculation to steer their business. Anecdotal evidence suggests that while some companies have indeed
set their corporate compass by the star of Return on Equity Deployed, a great many others have steered by reference to tradition or to the CEO’s personal preferences. There is a (surely apocryphal) story of a medium-sized insurer which entered the aviation market a few years ago because the incoming CEO was a frustrated — colour-blind - commercial pilot: aviation underwriting was as close as he could get to actual flying. It wasn’t a profitable venture.

In creating ORSA, regulators are not trying to tell companies which businesses they should be in. But ORSA is designed to force companies to look at the capital implications of their business decisions, and to document how those implications informed their decisions. Thus, the colour-blind CEO would be required to calculate how much capital would be required to support his aviation portfolio. His board would need to agree to tie it up in that way. The board’s decision would presumably be based upon the amount of return generated by that capital. If the underwriting result after deducting the cost of capital deployed was red, even the colour-blind CEO might find his board unwilling to proceed.

Theoretically, the board could tell the CEO ‘It doesn’t make economic sense, but go for it anyway’. In which case, it would be required to minute for the FSA the fact that it had consciously gone ahead with an economically irrational decision. It’s hard to conceive of a board doing that. So ORSA is all about forcing companies to use hard economic sense in their decision-making.

ORSA is also intended to be a management tool designed to instil risk awareness in the culture of a company. This is a polite way of saying that many companies will be forced critically to review their existing businesses at all levels: Is there any money to be made underwriting life insurance for the military? Does earthquake insurance in California make sense? Does the Product Liability portfolio pay for the capital it ties up? If the homeowners’ insurance portfolio shows only modest returns, are those nevertheless desirable returns because they are stable? Should the company move out of volatile industrial insurance and attempt to enter retail insurances, where the returns are thinner but steadier, and the capital requirement is lower?

ORSA is supposed to form part of a company’s ‘business-as-usual’ enterprise risk management. In other words, capital underpinning requirements and the exigencies of Return on Capital are expected to be part of the day-to-day decision-making in a company. Management will no longer be able to delegate capital calculation to the actuaries, then ignore them except for a quarterly glance at the coverage ratio. The cunning plan is for ORSA to provide a forward-looking perspective on risk, capital and solvency - including stress and scenario testing. Ideally, it should also allow for the creation of contingency and mitigation plans that set out a company’s options for maintaining its solvency.

At the very least, the requirement for board sign-off on ORSA reports (certainly annually, probably with quarterly updates) will strengthen ERM, sharpen balance-sheet management and force companies to look at ways of optimising the risk/reward mix across their business areas.

... to rational underwriting
Nobody has yet published a mandatory format for ORSA reports, but PwC has suggested that the FSA (and others) will look for something similar to the ICAAP (Internal Capital Adequacy Assessment Process) reports which banks are already required to prepare for Basel II purposes. ICAAP reports are required to be in a ‘format that can be easily understood at a high level and contain all the relevant information that is necessary for the firm and FSA to make an informed judgment and decision as to the appropriate capital level and risk management approach’.

PwC suggests that ORSA reports are intended to be a risk management tool rather than a technical report, although the FSA insists that ‘technical information … and all other works carried out to validate the approach (eg Board papers and minutes) .. be contained in the appendices’. It seems reasonable to assume that ORSA reports should deliver the same level of understanding to both the company board and the regulator.

PwC also suggests that companies should ‘seek to explain [to their regulator] their risk management philosophy, including how risk considerations affect strategic decisions; the metrics used to measure risk and reward and how capital management is aligned to risk-bearing capacity. The risk appetite defines how this philosophy is applied within the business. It is therefore important to show how the risk appetite is translated into underwriting limits …’

In short, regulators are weary of leading the insurance horse to water and waiting for it to drink. They are, therefore, designing crystal-clear waters of capital, underpinning risk management and economic rationale, and ORSA is the block and tackle by which the recalcitrant horse will be forced to imbibe.
8. Mandated organisational changes

What is *new* in Solvency II is the requirement for insurance companies to establish an internal audit function.

This is not particularly challenging for most UK companies, because the FSA handbook has for several years now stated that ‘it may be appropriate to have an internal audit function, depending on the nature, scale and complexity of the business’. Most UK companies have taken this as a hint that it’s better to have internal audit than to explain its absence to the regulator. But it’s a new idea for many European companies, so it may be an employment opportunity in coming years …

Stress-testing is one of the items on a long list of duties to be carried out by the Actuarial Function that Article 47 requires all companies (both life and non-life) to have. While there may be scope to outsource some of the actual number-crunching, CEIOPS thinks the function should be ‘carried out by persons with sufficient knowledge of actuarial and financial mathematics’… The pay scale for actuaries just went up another notch or three.

Indeed, FSA guidance suggests that it’s fine to outsource a number of fairly important functions, subject only to prior advice to the regulator. That’s nothing new for UK companies, but what is new for most European companies is the clear statement that they remain fully responsible for any outsourced activities.

Change ... or hurt

The sting in the tail of Pillar 2 goes by the rather innocuous name of ‘capital add-on’.

Where a national regulator believes that a company needs to hold more capital, Article 37 grants him the power to increase that company’s SCR. So, for example, if the standard Pillar 1 formulae discussed above produce a capital number which the regulator thinks isn’t high enough to match the perceived risk profile at the 99.5% confidence interval … then he can simply insist on more. And if the regulator thinks the standard formula systematically produces too low a capital number for the risk profile (which, in view of the gold-plating of the armour-plating discussed above, is *really* hard to imagine), then he can require the company to develop internal models.

And if the regulator still doesn’t think a firm’s governance systems are up to snuff, then he can demand yet another slug of capital. Of course, this particular slug is intended only as a temporary measure, inflicted in order to encourage the company to sharpen up its governance.
A rocky road

Implementing Solvency II will be a huge challenge. This is not just another piece of anodyne legislation which can be sorted by hiring two or three compliance bodies. Nor can one lock up the actuaries until their arcane magic produces a single capital number.

Even for those companies who choose only the standard model, the data requirements are huge. It is insufficient for company actuaries merely to produce ‘a number’ for the Underwriting SCR. Rather, they must have consistent, verifiable sources of data which would enable an independent third party – given access to the same data and using the same model - to reach substantially the same result. In other words, the systems must be able to produce premiums, limits, claims and claims reserving information in a coherent, verifiable format.

Regulators write as though companies only have to push a button for all the information to flash up on a screen, in a format which actuaries can manipulate. It may be true for some companies. Most companies, however, have a mish-mash of legacy systems. Claims information is often held on paper files, and reserve figures are updated irregularly.

This is not because managements are feckless, but because there is no such thing as hassle-free IT implementation. IT projects always seem to go over budget and over schedule. Getting from design to smooth function is an organisational nightmare. It can also be a genuinely existence-threatening task, especially when one considers the vast amounts of data which must be migrated. Most CEOs limp on for as long as they can with whatever clunky systems they have, praying that the imperative for a new IT system will not manifest itself until a successor is on the bridge.

Solvency II will crystallise that imperative for many companies, triggering billions of euros to be spent on new kit, new software, new consultants. Companies will quickly realise that the use-test which is inherent in Pillar 2 will require them to demonstrate how capital considerations form part of their day-to-day decision-making, so underwriting and pricing software which takes capital into account will need to be generated. Actuaries (to be hired) need to develop the rating tools. IT (to be hired) needs to integrate the tools into systems. Internal Audit (to be hired) needs to verify the robustness of those systems. And so on.
9. Internal models

There may be a nirvana of greater capital efficiency at the end of the road that leads to being a company with an approved internal model. But regulators have wised up since Basel II and are determined to ensure that Solvency II really does lead to good governance etc. So, unlike Basel II, under Solvency II, companies will not ‘simply’ be able to buy a model that is ready to “plug and play”.

Rather, CEIOPS has proposed a procedure for companies wishing to use either full or partial models. The procedure envisages a pre-application phase, where companies self-assess their readiness to go through the application process. The implication is that regulators want to winnow out the no-hopers. Then, companies need to state clearly what the scope of their model is to be – which risks, which lines of business and which major business units are involved.

CP 56 goes on to lay out the principles for approval to use internal models. These, too, are not for the faint-hearted. First, there is a Use Test: a company’s internal model must produce results which matter in the company’s corporate decisions. If a company’s actuaries just crunch the numbers once a quarter to keep regulators happy, that’s not good enough. Rather, daily usage for business steering and strategic direction must result in a constant spur to improve the model. Then, there are eight principles:

- General Principle 1 places the onus squarely on management and the board to understand what goes into their model, how it works and how it fits with the business model and related risk management.

- Principle 2 seems to be stating the bleeding obvious: ‘The internal model shall fit the business model.’ This is really just a reiteration of the ban on plug-and-play. Actuaries are supposed to use the same probabilities and distributions as those used to calculate technical provisions (i.e. reserves). And the results of those calculations must reconcile with the financial reporting. Any changes in the business model must be reflected in the internal model.

- Principle 3 requires that the internal model be used to support and verify decision-making in the company, and be regularly discussed at board level. If our colour-blind CEO from the earlier example actually prevailed on his board to let him go ahead, Principle 3 requires that the board document why it elected to ignore the model’s output.

- Principle 4 is another statement of the obvious, requiring the internal model to cover sufficient risks to make it useful for risk management and decision-making. Regulators are leaving insurers no wiggle-room to create pretty models which will ignore whatever elephant is rampant.
Principle 5 insists that the internal model be designed in such a way that it facilitates analysis of business decisions. So, goodbye to seat-of-the-pants underwriting and speculative investment decisions.

Principle 6 goes back to that massive IT investment. It insists that the internal model should be widely integrated into the risk management system. No bolt-ons, no Excel spreadsheets, no manual data-dumps. Accumulations and diversifications need to come directly from the IT system into the capital calculation. And the capital calculation needs to automatically figure out the risk and tail dependencies, and produce output which can steer a company’s risk mitigation planning.

Principle 7 insists the internal model be used to improve the company’s risk management. Makes sense. After all, having identified an enormous risk to the company, the board can hardly sit around and do nothing.

‘The integration into the risk management system shall be on a consistent basis for all uses’, states Principle 8. Again, this hints at a dose of bad banking experience, since it is rumoured that some banks used different risk management systems for different activities, allowing them to finesse the rules.

And finally, there is the requirement (as under the standard model) that SCR be recalculated at least annually - and more frequently if there are any changes in the business model or the environment.

Most especially, the buck stops with the board. Board membership will no longer be a comfortable sinecure, but stands to become a rather uncomfortable hot-seat. Although boards are supposed to be independent and to bring a wide range of experience, the exigencies of Solvency II would seem to point up an increasing need for financially literate people with genuine industry experience.

The hassle factor is not spelled out so graphically for companies which decide to stick with the standard model. This may be why comparatively few have so far volunteered to be in the first wave of internal modellers: even those with the financial wherewithal may balk at the corporate (board) responsibility, and it’s by no means clear what economic advantage internal modellers will be able to drive out of the huge investment of time, resources and money.

The board is key
10. Pillar 3

Google ‘Solvency II Pillar 3’ and you get … very little. The CEIOPS website makes reference to a high-level working group, but then it denies further access. Presumably, therefore, the actual disclosure requirements are still a work in progress.

However, Deloitte’s website is more forthcoming. It suggests that Pillar 3 is about ‘enhancing disclosure requirements in order to increase market transparency. The onus will be on firms to design the information which, through public disclosure, will be available to regulators, analysts, rating agencies and shareholders. Organisations will need to develop internal processes and systems to produce these reports.’

EMB, the actuarial consultancy, also suggests that ‘Pillar 3 is about disclosure and demonstrating to the regulator that the analysis supporting the other two pillars is dependable. It requires insurers to provide key, verifiable information relevant to their capital adequacy. In broad terms this should cover:

- measures of financial condition and performance;
- measures of risk profiles - and the data and other assumptions upon which they are based; and
- measures of uncertainty, including the accuracy or otherwise of previous estimates and the sensitivity of the calculations to market volatility.

If EMB is correct, particularly with reference to the second and third bullet points, companies will be expected to disclose potentially sensitive information with regard to their strategic assumptions. And where previous estimates have been incorrect, they would need to include a mea culpa.

It’s hard to imagine that insurers will welcome a rule requiring them to so thoroughly disrobe in public. Quite likely, therefore, there’s still a great deal of wrangling going on behind the CEIOPS scenes.

On the other hand, it’s true that insurance can only benefit from greater transparency.

Currently some life insurers work with book value or ‘market consistent embedded value’, while non-life insurers limp along with return on equity or net assets … everyone discloses some version of a valuation which will (hopefully) be consistent from year to year, but which only serves to confuse analysts because it is not comparable from company to company. Analysts therefore assume that all insurers are fundamentally bad news. Those companies which provide reasonably good and accurate disclosure are automatically chucked into a basket with every other company - and the good disclosure is assumed to be indicative of worse things under the surface. It seems insurers can’t win.
So, if CEIOPS could force insurers to disclose exactly the same information with little (or preferably no) leeway for self-invented metrics, insurance could only profit.

We are currently seeing capital requirements rise – seemingly, by the month. That capital, as we must remember, comes from shareholders. Shareholders in turn follow analysts. And the lack of uniform disclosure across the industry has rendered analysts increasingly testy. Testy analysts do not recommend the stock of companies or industries which have made them grumpy. If, by contrast, disclosure was uniform, analysts might view the industry with a less jaundiced eye. And insurers in turn would find it easier to raise the enormous amounts of capital which will likely be needed going forward.
11. Strategic implications for the [re]insurance industry

Revolt is beginning to stir among the ranks of the regulated. While everyone agreed with the high-level design and direction laid out in the framework directive, it seems that the recession has driven CEIOPS into panic-mode. Every consultation paper which comes out on Level 2 implementation measures seems to demand more and higher quality capital.

Most of that capital tends to be Wall Street capital (ie American money), which gravitates to places like Bermuda, which have until recently benefited from efficient regulation and substantial taxation advantages. The provider then sets up a branch in one of the ‘friendlier’ EU countries and passports around the EU, repatriating profits to taxation-efficient headquarters.

Solvency II proposes to drop a portcullis across this easy access. The requirement is expected to be framed in such a way that only companies which are established, capitalised and regulated within the EU may transact business within the EU or with EU companies. There is an opt-out for companies which are set up in countries possessing ‘Equivalent regulation’ to Solvency II, subject to appropriate recognition of that equivalence by CEIOPS and/or its successor bodies. Since CEIOPS quite freely admits that wide tracts of Solvency II were plagiarised from the Swiss Solvency Test, Switzerland expects to be at the front of the recognition queue. Bermuda is scrambling to get in line, as are Australia and Singapore. There has been a clear statement – reiterated several times – that CEIOPS has no intention of entering into equivalent regulation discussions with the state regulators of all 50 US states. So US companies will either have to set up shop properly within the EU or be locked out. I may be unduly pessimistic, but that looks like a trade war waiting to happen.

Commercial insurance has always been a grudge spend for large corporations. Whether it’s satellite launch or offshore energy or just plain business interruption insurance, companies looking to cut costs slash their insurance budgets first. Nobody sees value in insurance until after a disaster has happened, and insurers don’t sell their product well. So, they have hitherto been obliged to follow supply and demand pricing up and down, boom and bust. Logically, the up-front premium spend of a large corporation tends to be a very large number. So insurance companies have tended to chase that large number: it’s interesting and prestigious to underwrite and the premium looks good when it hits the books. A large number on the income statement also serves to make the Cost Ratio look like a smaller percentage, so very few underwriters stop to consider that the large number may not contribute as much to the premium pool as the corporation’s risk contributes to the risk pool. In other words, commercial insurance is often underpriced. Retail insurance buyers however are required to contribute just the right amount of premium for their risk …
plus a little extra for underpriced risks which might be lurking around the risk pool. All of which is a long-winded way of saying that retail insurance often subsidises commercial insurance.

If the two pools are now priced separately as a function of their relative volatility (and capital usage), the likelihood is that commercial insurance costs will rise much more steeply than retail insurance costs. Without subsidy from retail insurance, many corporations will have to pay their fair share to the risk pool. If they judge the ‘fair share’ to be too much, they will buy less insurance or withdraw altogether. That may be a Good Thing for insurance in the short term, but over the long term it may not be a good thing for industry. The first bankruptcy as a result of an uninsured fire will prove the case … or otherwise.

We’ve already bashed on endlessly about the affordability of retail insurance (home, health, car, pet etc) under the new regime. So this is merely to reiterate our concern that Joe Lunchbox will be unable to afford the gold-plated armour-plated camel. Of course the opposite may also prove true: that the low capital usage of retail business will cause companies to pile into it wholesale, thus creating almost beggar-thy-neighbour competition and driving the cost down rather than up. Stranger things have happened.

One likely victim of the rush for the exits may well be Bancassurance – the sale of retail insurance by banks. Dr Oonagh McDonald is finalising research for Deloitte which suggests that many banks will sell off their insurance arms when the enhanced capital requirements come into force. The implication is that Solvency II, on top of Basel III, will simply be too much. Of course, some banks may continue to sell tied or white-labelled products of third party suppliers, but what has hitherto been a nice little earner for them looks set to become a burden. Hey-ho for consumer choice.

Everyone gets (willy-nilly) to be a rocket scientist: Basel II recognised that many banks within its ambit were small, fairly simple entities. Their prudential needs were met by a fairly simple system you could buy in a box. Of course, that simple system produced a higher (but not punitive) capital requirement than might have been dictated by their business model. That was the trade-off, and certainly hundreds of small Sparkassen and Caixas lived with it (and are still living with it), while larger institutions which did the rocket science have since come unstuck.

Solvency II by contrast doesn’t appear to have a lower limit. It seems that you’re either a rocket scientist or subject to the punitive regime of the standard model. Which puts hundreds of smaller firms, mutual insurers and trade bodies at risk. (In the real world outside Brussels and the capital cities, just about every regional trade organisation has an insurance arm to take care of its members.) Many companies which can’t secure traditional insurance utilise a captive (or in-house) insurer. All of these will (seemingly) be swept into the net of Solvency II - and there left to founder. Quite apart from the job-loss implications, one has to wonder how the ‘tradesmen’ will finance commercial insurance when their trade body can no longer help out.
New products?

New product development also seems likely to hit a wall. At the best of times, the insurance industry is not known to be a keen innovator. But under the new regime, every new product must be underpinned with capital. Capital in turn must be derived from exhaustive analysis of previous statistics. Well – hallo – if it’s a new product it doesn’t have statistics, now does it? Which means that the best anyone can hope for is that actuaries will apply punishing uncertainty loadings, thus making pricing unattractive and capital underpinning burdensome. All of which implies that new product development will be labelled ‘too much trouble’.

Of course, it’s not bad news for everyone. Warren Buffett and Berkshire Hathaway must be rubbing their hands in glee. Under the new regime, it seems likely that insurers will sell their run-off portfolios as quickly as possible. Traditionally, when insurance companies ceased to write a particular class of business or withdrew from a portfolio, they put that part of the business which was already on the books into a separate box labelled ‘run-off’. Those people who were already insured stayed insured until the end of their policy period. They retained the right to make claims under those run-off policies. Policyholders got a [reasonably] fair deal, and the efficient companies actually made profit from the run-off because it cost them less to settle claims than they had reserved. Under the new regime, the run-off book must be underpinned with capital. So, in addition to setting aside reserves for incurred claims, the company must continue to hold capital for a book it no longer writes – until such time as the obligations arising out of the book are cancelled altogether. Since holding capital for books which generate no premium makes no sense, Mr Buffett’s vast run-off operation probably stands to make a killing.

A thundering horde of regulators seems likely to take the stage even before Solvency II takes effect. The FSA speaks of adding some 400 staff, and Continental regulators speak of even larger numbers. All of these – presumably, by virtue of some arcane mind-bending magic – will have an instant working understanding of insurance at the sharp end.

Quite apart from the challenge of coordinating all these regulators and their activities, they also need to be paid. The industry, of course, is being called upon to foot the bill, which does seem rather like asking the turkey to vote for Thanksgiving. And (of course) the bill is miraculously larger - and likely to continue growing. Industry, inevitably, passes on the cost of regulation to its policyholders by means of … you guessed it: higher premiums.

Terra incognita for everyone: Unlike Basel II for the banks, Solvency II does not emerge from existing practice and capital allocation techniques in common usage throughout the insurance industry. While some companies have indeed used capital allocation etc as a business steering tool for many years, they tend to be the minority. For the rest of us and our regulators, there is likely to be a lot of trial and error and a prolonged period of uncertainty around the application of Solvency II in all its permutations to the business. I predict a white-knuckle ride for both regulators and regulated.
12. Conclusion

Solvency II differs in yet another regard from Basel II: its adherence to an implementation timetable. Basel II was put off and then put off again, and finally implemented with much delay just in time for financial Armageddon. Solvency II, by contrast, seems to be on track for implementation in October/November 2012. Certainly, the consultation papers are marching through CEIOPS with military promptness. And while they make for dry reading, they contain a lot of really good ideas (along with a few daft ones).

As Level 2 moves into Level 3 implementation, my predictions of unaffordable car/household/pet insurance may yet produce a revision of the calculation methodology for non-life insurance. I hope so. At that stage, CEIOPS might well split itself into two sub-bodies:

- one to take care of the pensions of the well-heeled 25%; and
- one to take care of the day-to-day insurance needs of Joe Lunchbox.

So far, it seems that many companies have stuck their fingers into their ears and are humming loudly in the hope that if they just ignore it long enough, Solvency II will go away. Smarter companies, though, have learned from the experience of the banks in implementing Basel II. It is worth remembering, however:

- that the banks had better data to start off with;
- that they had better systems;
- that they had a longer run-up time;
- that they threw hundreds of millions of euros at the problem; and
- that they still barely scraped in under the wire.

So, between now and 2012, insurers need to start marching briskly if they’re to meet the military timetable.
94. “STRUGGLING UP THE LEARNING CURVE: Solvency II and the insurance industry”
   £25/$45/€35

93. “INVESTING IN SOCIAL ENTERPRISE: the role of tax incentives”
   £25/$45/€35

92. “BANANA SKINS 2010: after the quake”
   £25/$45/€35

91. “FIXING REGULATION”
   £25/$45/€35

90. “CREDIT CRUNCH DIARIES: the financial crisis by those who made it happen.”
   £9.99/$15/€10

89. “TWIN PEAKS REVISITED: a second chance for regulatory reform.”
   £25/$45/€35

88. “NARROW BANKING: the reform of banking regulation.”
   £25/$45/€35

87. “THE ROAD TO LONG FINANCE: a systems view of the credit scrunch.”
   £25/$50/€40

86. “FAIR BANKING: the road to redemption for UK banks.”
   £25/$50/€40

85. “MICROFINANCE BANANA SKINS 2009: confronting crises and change.”
   £25/$45/€40

84. “GRUMPY OLD BANKERS: wisdom from crises past.”
   £19.95/$29.95/€22.95

83. “HOW TO STOP THE RECESSION: a leading UK economist’s thoughts on resolving the current crises.”
   £25/$50/€40

82. “INSURANCE BANANA SKINS 2009: the CSFI survey of the risks facing insurers.”
   £25/$50/€40

   £25/$50/€40

80. “MICROFINANCE BANANA SKINS 2008: risk in a booming industry.”
   £25/$50/€40

79. “INFORMAL MONEY TRANSFERS: economic links between UK diaspora groups and recipients ‘back home’.”
   £25/$50/€40

78. “A TOUGH NUT: Basel 2, insurance and the law of unexpected consequences.”
   £25/$50/€40

77. “WEB 2.0: how the next generation of the Internet is changing financial services.”
   £25/$50/€40

76. “PRINCIPLES IN PRACTICE: an antidote to regulatory prescription.”
   £25/$45/€40

75. “INSURANCE BANANA SKINS 2007: a survey of the risks facing the insurance industry.”
   £25/$45/€40

74. “BIG BANG: two decades on.”
   £25/$45/€40

73. “BANANA SKINS 2006”
   £25/$45/€40

72. “THE PERVERSITY OF INSURANCE ACCOUNTING: in defence of finite re-insurance.”
   £25/$45/€40

71. “SURVIVING THE DOG FOOD YEARS: solutions to the pensions crisis.”
   £25/$45/€40

70. “NOT WAVING BUT DROWNING: over-indebtedness by misjudgement.”
   £25/$45/€40

69. “BANANA SKINS 2005”
   £25/$45/€40
Shirley Beglinger has recently served as the first Generali Fellow in Insurance at the CSFI.

She is currently a principal in Insurance with the Shires Partnership, which she co-founded with Andreas Bachofner. During her career in insurance, she has worked with both Swiss Re and Aon. On the banking side, she spent time with Credit Suisse before moving into private banking.

She testifies regularly as an expert witness in financial institutions insurance litigation.
Sponsorship

The CSFI receives general support from many public and private institutions, and that support takes different forms. The Centre currently receives financial support from; *inter alia*:

- Ruffer
- Citigroup
- Ernst & Young
- ICMA
- Aberdeen Asset Management
- ACCA
- Accenture
- Arbuthnot
- Aviva
- Bank of England
- Barclays
- Chartered Insurance Institute
- City of London
- Deloitte
- Deutsche Bank
- Eversheds
- Fidelity International
- Finance & Leasing Association
- FINRA
- Fitch Ratings
- FRC
- FSA
- Gatehouse Bank
- HM Treasury
- HSBC
- ACT
- AFME
- Alpheus Solutions
- Bank of Italy
- Brigade Electronics
- Chown Dewhurst
- Credit Suisse
- IFSL
- LandesBank Berlin
- Lending Standards Board

The CSFI also received support in kind from, *inter alia*:

- Clifford Chance
- Edwin Coe
- Financial Times
- ifs School of Finance
- Linklaters LLP
- Lovells
- GISE AG
- JPMorgan
- PricewaterhouseCoopers
- GISE AG
- JPMorgan
- PricewaterhouseCoopers
- Jersey Finance
- KPMG
- LCH.Clearnet
- Lloyds Banking Group
- LogicaCMG
- London Stock Exchange
- Man Group plc
- McKinsey & Co
- Morgan Stanley
- Munich Re Group
- Nomura Institute
- NYSE Liffe
- PA Consulting
- Prudential plc
- Royal Bank of Scotland
- Royal London Group
- Santander
- The Law Debenture Corporation
- Thomson Reuters
- UBS Wealth Management
- UK Payments
- Z/Yen
- Zurich
- Lombard Street Research
- London Metropolitan University
- MacDougall Auctions
- Mobile Financial Services
- Quest 4
- Record Currency Management
- Serious Fraud Office
- Taiwan FSC
- The Share Centre
- THFC
- 1776 Consulting

The Centre has received special purpose funding from:

- CGAP and Citi (for Microfinance Banana Skins) and;
- PwC (for Banking Banana Skins and Insurance Banana Skins).

In addition, it has set up the following fellowship programmes:

- the Generali/CSFI fellowship in Insurance;
- the Visa/CSFI fellowship in European Payments and;
- the DFID/Citi/CSFI fellowship in Development.