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SOLVENCY II

A Panel Discussion

[Held by the Institute of Actuaries, 26 March 2007]

Introduction

The European Commission's project to develop a Europe-wide risk-based solvency supervision framework is well advanced, with the draft Directive due to be put before the European Parliament in June 2007. The consultation exercise which has helped to shape the proposals has been wide ranging, and will continue for some time to come. Actuarial input into the proposals has been extensive. As well as the activity of individual actuaries, the Groupe Consultatif has a large team of volunteers spread across a number of working parties, and the United Kingdom Actuarial Profession has two U.K. working parties set up, respectively, by the General Insurance and the Life Boards.

While many aspects of the proposed framework have been well debated across Europe and the overall shape of the likely final outcome is reasonably well understood, a number of significant issues still remain. It is important that actuaries are aware of what might be in store, and what could be done now to help to prepare for the new regime.

On the eve of the start of the third round of Europe-wide test calculations (Quantitative Impact Study 3, or QIS3 for short), therefore, it is appropriate to hold a Panel Discussion to explore some of the key issues and possible implications. A Briefing Note follows this introduction.

The meeting takes the form of presentations by the three panel members, and the discussion follows.

Briefing Note

Aim of Project

Solvency II is the European Union project which (quoting from the European Commission's 'Framework for Consultation') aims to develop: "a new solvency system to be applied to life assurance, non-life insurance and reinsurance undertakings, which Member States and supervised institutions are able to apply in a robust, consistent and harmonised way."

A three pillar system is envisaged, similar to Basel II:

— *Pillar 1:* quantification of capital requirements;
— *Pillar 2:* supervisory review process; and
— *Pillar 3:* market analysis of published data.

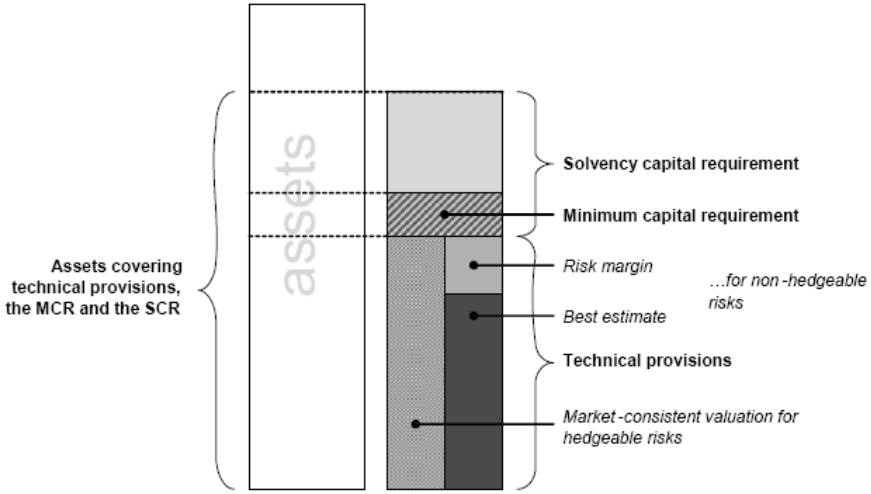

Figure 1. Solvency II; pillar 1

Pillar 1 encompasses two capital requirements, the minimum capital requirement (MCR) and the solvency capital requirement (SCR), sitting on top of technical provisions made up of the best estimate of the liability plus a risk margin, as shown in Figure 1, taken from CEIOPS Consultation Paper 20.

The SCR is to be calibrated to a probability (of being able to meet technical provisions) of 99.5% over a one-year time period. Breaching it will lead to regulatory intervention of some sort. A ladder of intervention is envisaged, depending on how far below the SCR the firm falls — ranging from a plan to restore capital to the SCR level as soon as possible down to forced closure on breaching the MCR (and failing to produce a credible recovery plan). A 'standard approach' to the SCR calculation is being developed — a combination of factor-based and scenario-based risk capital components, which then get combined through correlation matrices. There will also be the (very significant) option for firms to use their own 'internal model', subject to supervisor approval (or insistence). 'Partial internal models' are also envisaged in some circumstances.

Pillar 2 is likely to be similar to what currently happens in the United Kingdom — including the possibility of an Internal Risk and Capital Assessment (IRCA) requirement, more extensive than the current internal capital assessment (ICA).

Pillar 3 will comprise more accessible and meaningful public disclosure than at present in the U.K. (covering business strategy, governance, risk and

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capital management approach, as well as the basis underlying the Pillar 1 quantification), as well as confidential material required by the supervisor.

The Solvency II Directive will follow the Lamfalussy approach — i.e. the directive will be reasonably high level, and will concentrate on the key principles and the structure of the framework (referred to as a 'Level 1' or 'Framework' directive). 'Level 2' or 'Implementing' measures will be developed (mainly by the European Commission and the member states), which will put detail on the bones of the directive. 'Level 3 guidance' will also be developed by the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS), in order to support harmonised and consistent implementation.

Project Timetable

After several years of consultation, the draft Directive will be presented to the European Parliament in July 2007, with the implementation of the framework hoped to be by 2010 or 2011.

The third in a series of E.U.-wide pilot calculations, QIS3, will run from April to June of 2007. At least one more set of QIS is envisaged in 2008.

Development of implementing measures has already started, and is likely to run well into 2008 (if not beyond!).

Desired Outcome

While achieving consensus across E.U. member states is not easy, most in the industry would share Paul Sharma's desire (quoting from a speech in October 2006) for:

> "— a regulatory environment which incentivises and rewards insurance firms to use modern risk management practices that are appropriate to the size and nature of their business; and also
> — a more risk-sensitive and risk-responsive capital requirement that not only takes account of the risks on the liability side, but also on the asset side, and gives due credit to the use of risk mitigation techniques."

Key Issues of the Current Debate

(1) *General*

The form of the MCR — with the industry view that it should be based on (a percentage of) last year's SCR — the 'compact approach' — but with a counter view from some in the CEIOPS for a ('modular') factor-based approach (which may not move in parallel with the SCR).

Group issues — and the extent to which local subsidiaries need to hold the full SCR (with potential group diversification benefits expressed as additional regulatory capital), or whether they just need to cover MCR locally, with a promise of SCR capital from the group, should it be needed (with the group holding a diversified group SCR at the centre).

Pillar 3 — and the extent to which disclosures should be public or just

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confidential to the supervisor (particularly regarding any breaches of the SCR and whether or not the SCR is subject to any supervisor-required capital add-ons).

Small companies — how to get more of them more involved in the implementation discussions.

The use of internal models to calculate SCR, or partial models replacing elements of the SCR formula — by 'internal model', the CEIOPS appears to mean an economic capital and risk-based decision-making framework, rather than just a computational tool. Thus, obtaining regulatory approval for an internal model SCR could be significantly more extensive than the current U.K. ICA approval process.

(2) *Life insurance*

U.K. with-profits business — the standard approach to the SCR may not prove as suitable as some would like (e.g. in terms of allowance for management actions). If a better alternative cannot be found, many U.K. offices may be forced down the 'internal model' route (which may not be a bad outcome, but perhaps for the wrong reason).

(3) *Non-life insurance*

Provisions will have to be estimated on a best estimate basis, discounted for the time value of money. This is not common practice in the U.K.

The SCR formula in QIS3 does not allow future profits to be offset against capital requirements. This means that, if an insurer wishes to do this, then it will need to model most of its business in a partial model.

The SCR is aiming for a confidence level of 99.5% over one year. This does not include allowing for the run-off of claims to ultimate, so it is less strong than the current ICAS level.

21 March 2007

ABSTRACT OF THE DISCUSSION

The President (Mr N. J. Dumbreck, F.I.A.): The aim of the meeting is: to raise awareness of Solvency II; to encourage participation in QIS3, the quantitative impact study which is just about to begin; and to raise awareness of the work of the Groupe Consultatif in achieving European consensus.

With this in mind, we have invited a very distinguished panel to deliver presentations on four different aspects of Solvency II, which should encourage plenty of discussion.

I now introduce our panellists. First we have Ms Varney, who is Solvency II Project Manager at the Financial Services Authority (FSA). Then we have Mrs Morgan, who is Chair of the United Kingdom Actuarial Profession's Non-Life Solvency II Working Group. Our third speaker is Dr Hare, who is Chair of the U.K. Actuarial Profession's Solvency II Life Working Group. Finally, we have Dr Stölting, who is Manager of the Groupe Consultatif's Project on Solvency II.

Ms S. Varney (a visitor; giving a general overview of Solvency II)**:** I shall be giving background information about what the Solvency II project is, what stage it has reached, and, within that, what role QIS3 has. I am not proposing to cover what the content of QIS3 is in great detail. That is very much what Dr Hare and Mrs Morgan are going to cover, from the life and the non-life perspectives, respectively. Dr Stölting will give a slightly more European Groupe Consultatif angle on some of the issues.

First, from a U.K./FSA perspective, if we think about what our assessment of the Solvency II project is currently, to where it has progressed, how much progress it has made, and we consider the outstanding issues, it is important to recap briefly on what the objectives were which we had, and still have, in terms of the Solvency II negotiations.

Clearly, in the U.K. we went through a process of domestic reform, and we have carried over the principles of that to what we have been seeking in Solvency II. So, we are seeking for Solvency II to be a three pillar framework. We are seeking, within Solvency II, to have an increased focus on the quality of a firm's risk management, with appropriate incentives within the Solvency II framework to encourage firms to manage risk better, so that supervisors focus on the importance of risk management.

As I said, Solvency II will be a three pillar framework, so, I will recap briefly on what these pillars are. There are some differences in how you might think about Solvency II and the structure of the current domestic regime — a slight difference of emphasis.

Within Pillar 1 there will be asset and liability valuation standards, and, clearly, one very important aspect of that will be the technical provisions standard. There will be a minimum capital requirement (MCR), which is supposed to be a level of supervisory intervention, which is the ultimate level. In other words, if a firm breaches that level of capital, it would expect to be put into run off. Then the normal operating level of capital would be the solvency capital requirement (SCR). Within Solvency II there will be a hierarchy of ways in which that can be calculated. The default option, in essence, is what is called the standard approach or the standard formula. However, in addition, there will be the option for firms to use their own internal models, subject to getting these approved by the Regulator, or, indeed, for smaller firms there will be a simplified requirement, although it is not yet fully developed.

In addition, there will be Pillar II. That, in a Solvency II context, means the whole of the supervisory review process. So, in U.K. terms, that is really thinking about ARROW and ICAS together. However, there is still within that Pillar II process the ability for supervisors to require a capital add-on to the Pillar I capital requirements.

Pillar III will encompass both enhanced public disclosure and revamped supervisory reporting.

One other important aspect to appreciate about Solvency II is that it will be what is termed a Lamfalussy Directive, in contrast to the Banking Capital Requirements Directive. This means

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that the broad architecture, principles and key parameters will be set out in what is called the Level 1 Framework Directive, and then, underpinning that, will be Level 2 implementing measures, which give greater detail on how these key aspects will be implemented. Quite a lot will fall to the implementing measures in Solvency II, so that a number of the key formulae, and the calibration for these formulae, will be expressed as implementing measures, although the general structure of these formulae will be set out in the Level 1 text. Appreciating that is important for understanding what stage the Solvency II project has now reached, what the ongoing work is, and what role QIS3 will play in shaping those requirements.

In terms of what the FSA's role is in Solvency II, the FSA is a member of the Committee of European Insurance and Occupational Pension Supervisors (CEIOPS). This is an organisation which provides technical advice to the Commission. It is the Commission which holds the pen on drafting the framework directive proposal. That is subsequently negotiated in the Council of Ministers by the Finance Ministries and in the European Parliament.

This brings me to the timetable and where we are now. There is quite a lot of work which has been done on Solvency II. In terms of the CEIOPS producing advice to the Commission on the drafting of the Level 1 Directive, we are expecting the formal proposal of the Level 1 Directive to emerge in July 2007. As I said, that will then go into the co-decision process negotiated in the European Parliament and in the Council of Ministers.

In addition, the CEIOPS is running its third Quantitative Impact Study. We hope that the specification will be sent out to firms at the beginning of April 2007. Then firms will have between April and June to complete the spreadsheet and the questionnaire for this study. They should then send the results to the FSA by the end of June 2007. The FSA will analyse them and produce an analysis which is sent to the CEIOPS. The CEIOPS Report will emerge in, maybe, late October/early November 2007.

In terms of the implementing measures, the Level 2 measures to which I referred, work on these is already progressing within the CEIOPS. It is important to appreciate that the CEIOPS has not simply put its tools down and gone into hibernation until the Level 1 text is agreed. The work on the implementing measures is ongoing, but clearly it will be influenced by whatever changes there are which come through on the Level 1 text.

So, when do we expect firms to have to implement Solvency II? The current best guess is probably 2011.

This brings me on to QIS3. I want to set out what the scope of that will be and to note two key differences from what was in QIS2 in terms of coverage. It will, as QIS2 did, cover technical provisions, also the MCR and the SCR. The new parts, which will be tested in a much more systematic fashion than they were in QIS2, are own funds or available capital and group capital requirements.

There are a number of other things to note about QIS3. In terms of technical provisions, clearly in QIS2 there were two options tested. In QIS3 that has now converged to an agreement on a market consistent valuation standard, at least for hedgeable risks, and, for non-hedgeable risks, these are calculated as a best estimate plus a cost of capital risk margin.

From the FSA's perspective, and from the U.K.'s perspective, one reason why QIS3 is important is that it will undoubtedly be influential on negotiations. It will also be influential on the Level 1 text. We can expect that the QIS3 results will emerge just as the negotiations are beginning. It is also very important for the ongoing development of the implementing measures, and I would highlight, in particular, the calibration of the SCR. Also, from an actuary's perspective, QIS3 will give a good indication of what it is going to be like to implement Solvency II. It will be a good way to get Solvency II onto a board's agenda, and it will be a good opportunity to do some sort of gap analysis between where the actuary is today and where he/she will need to be by 2011.

From a policy perspective, I just want to summarise some of the open issues in terms of Solvency II negotiations (at least from a U.K. perspective), where we think that QIS3 will be quite influential. In terms of the Level 1 Directive text and the MCR, there is still ongoing discussion about what the appropriate level of calibration for the MCR should be and what form the calculation should take.

QIS3 will test two options. It will test a revised modular formula, which is currently the CEIOPS' preference, and, indeed, from what I have seen from discussions among the Finance Ministries, probably the majority preference there as well. However, it will also test the so-called CEA compact approach.

In terms of own funds, what will be in QIS3 will be, essentially, what is in the current draft of the Level 1 text. Therefore, to the extent that issues emerge from that, there are issues which need to be resolved in the Level 1 text.

Clearly, in respect of the group requirements and the group's debate more generally, it is going to be important that firms demonstrate that they can identify and can measure group diversification benefits, and deal sensibly with capital transferability issues.

In terms of the development of the implementing measures, there will be a substantial implementing measure giving more detail on the technical provisions' standard. There will also be, in effect, the SCR standard formula, which will be an implementing measure, and there will be ongoing work on the calibration of the various factors.

It is only fair, since I have just asked you to do a great deal of work on QIS3, to say what the FSA is doing to help with this. During March 2007 we held a number of workshops in conjunction with a number of the trade associations. There are a couple more ABI workshops coming up in April 2007. We are very grateful to the ABI for organising these.

In addition, throughout the QIS3 exercise, we will post on both the FSA website and on the CEIOPS website answers to frequently asked questions. In addition, I mentioned that there is ongoing work on the calibration of the SCR. In particular, we need to look at the calibration of the underwriting risk modules (i.e. the factors within them). We are encouraging firms, where they have internal models, in addition to letting the CEIOPS know the Solvency II formula which has been used, to provide us with the internal model numbers. We will then work with those firms so that we can ensure that we are getting the numbers on a like-for-like basis, and do some more work on calibration.

Mrs K. A. Morgan, F.I.A. (introducing Solvency II for general insurers)**:** I am very impressed with the ambition in Solvency II and the level of consultation from the FSA, from the CEIOPS, from the European Commission and the enthusiasm and engagement of all the key players. So far as the members of my working group are concerned, there are four key issues which are exercising our minds at the moment: best estimate provisions; reserve margins; the allowance for future profit in the SCR formula; and the one-year confidence level for the SCR.

Best estimate provisioning for general insurance is a new area for both the Profession and the industry in the U.K. It was not really a focus of work under ICAS, which focused on capital, so it is exciting that it is taking up a lot of thought in Solvency II. The General Insurance Board has carried out a great deal of work on this over the past couple of years through the GRIP project. This is really key for solvency assessment.

If you are a regulator, then you really want to know that reserves are calculated on a consistent basis across different companies and different member states. For general insurance, what this means is that best estimates need to be calculated as a mean, and also discounted, which, again, is very new for the U.K.

However, there are some issues. The first one is: how do you calculate a best estimate provision? Initially, the CEIOPS thought, and, in its draft for QIS3, suggested, that this should be the higher of two actuarial estimates, which clearly is not a best estimate. The Groupe Consultatif have engaged quite heavily with the CEIOPS on this, and have convinced them that that is not the right thing to do. My working group has produced a paper on considerations for assessing best estimate provisions, which is on the FSA website, so, if you are doing QIS3, it is there to give you some advice.

It is also an issue for small companies, companies which do not have a great deal of experience of setting provisions. How should they set best estimate discounted provisions? One of the approaches is to use a proxy method, and Dr Stölting is going to talk about how that is being tackled across Europe in more detail. It is not something in the U.K. of which we are generally in favour, but the FSA has asked the Board for Actuarial Standards (BAS) to look at

this in more detail. The BAS is setting up a group, chaired by Mr Julian Lowe, to do this. I will be involved in that on behalf of the Profession.

The second issue about which I want to talk is reserve margins. Again, this is another new area of focus. Most U.K. general insurance companies have margins in their provisions, but it is a very opaque process. They are inconsistent between different companies. So, the aim in Solvency II is to have a transparent and consistent approach. The initial thinking was to copy the Australian approach and to use percentiles, but, as Ms Varney mentioned, we are moving onto a cost of capital approach, which is an attempt to proxy a market value of liabilities. This is used in Switzerland, so that there is some experience at which to look.

There are some issues with this. It is not a guarantee of the adequacy of the provisions. Another interesting issue is to ask which cost of capital you should use. If you are a large, well diversified insurance company, you might be expected to have a lower capital value relative to a company which is not as well diversified. If you are using cost of capital, you might want to use your own capital level. However, because you are trying to work out the value of how much you are going to sell your liabilities for, it should be the capital for the company to which you are notionally selling which should be considered. So, there is a concept of using a reference company, a kind of standard, generic, non-life insurance company, to assess what capital to use. QIS3 suggests using your own company, but using the SCR formula rather than your internal model as a proxy for this. It is still a live issue.

The International Actuarial Association has a working group looking at reserves and reserve margins. This has been supported from the U.K. by a GIRO working party, chaired by Mr Martin White. It has concluded that the cost of capital is probably the most sensible and practical approach to this. Some of the thinking might lead you to conclude that percentiles are particularly inappropriate. So, the move away from percentiles in Solvency II is a good one, and, whilst the cost of capital is not perfect, nobody has thought of anything better yet. So, it seems a sensible way to go.

Another current issue about which we are thinking is the allowance for future profit in the SCR formula. When you are working out your SCR, you can use a standard formula or an internal model, or you can replace elements of the standard formula with a partial model. Previous iterations of the formula included an allowance for future profits on profitable business, and you set that off against your capital requirement. The new formula does not allow you to do that. So, this element has disappeared. It may well change when QIS3 comes out shortly; but the principle is quite interesting, because, if something is not in the formula, then you cannot replace it with the partial model. So, you have to think carefully about exactly what is in the formula, because you might end up effectively having to do a full internal model in order to achieve something which you think is quite sensible.

This is an issue, because, for small companies, they might not have the resources to set up a full internal model. If you are not allowed to allow for future profits, then it introduces an element of additional prudence into the capital assessment which may not be intended to be there. Because it is looking as though, under Solvency II, we will have to have the approval of models, not just the capital which converted them, then building your model is going to require more effort than currently under ICAS. So, this is another live issue.

The last issue on which I want to touch, is the one-year confidence level. The SCR is calibrated at 99.5% VaR over a one-year time period. What has not really been brought out for me is what the issue is for reserves. If you are modelling your reserves, what you would really like to know, particularly as a policyholder, is that the reserves are adequate to run off, not just for a one-year time period.

Mr Martin White and I did some work on this in 2006, and we believe that, if you look at your reserves at 99.5% confidence over one year, then over two years, three years or four years, the percentage goes down quite a lot and quite quickly. It is really important to look at reserves to run off rather than just over a one-year time horizon. Again, it is not clear how this is being tackled in the SCR formula.

Dr D. J. P. Hare, F.F.A. (introducing Solvency II for life insurers)**:** Many of the issues about

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which I will speak are similar to those already referred to by Mrs Morgan, since Solvency II affects both life and non-life insurers.

I will be discussing the following topics: the margin in technical provisions; the capital requirements which sit on top; some issues to do with groups; and some issues to do with disclosure. The working party of the Life Board, which was set up in the summer of 2006, has been doing some work on technical provisions, *k*-factors and with-profits business. I would like to describe this work to you.

Consider Figure 1 in the briefing note, which is taken from one of the CEIOPS consultation papers, CP 20. It shows how Pillar 1 works, whether you are talking about life or non-life. The idea here can be seen from the stacked bar on the right. The top bar is the SCR about which Ms Varney talked. Within that there will be the minimum capital requirement, the 'mustn't be breached' level, and then below that you have technical provisions.

Technical provisions come in two flavours. That is why there is a left and a right side to the bar. This summarises graphically what Solvency II is trying to achieve. On the right side you have the best estimate, by which is meant the mean of a distribution. Then you have a risk margin which sits on top, unless there is a hedge available, in which case you just value the hedge. So, the left side is the market-consistent value of the hedgeable assets.

The reason why I present the life side in this way is this. Is it clear into which side of that lower stack bar everything falls? The answer is: "not at the moment".

Figure D.1 is the latest definition of 'hedgeable' from the QIS3 pre-test spec. It defines 'hedgeable' as being something which has a sufficient deep, liquid and transparent market so that a firm could rapidly execute large volume transactions with little impact on prices. Maybe at some areas of the derivative space you could do that, but there are some areas where you certainly could not. The problem is that, in the U.K., we are valuing, happily, the time value of the cost of guarantees, extrapolating the market out, because we know that the market does not exist in 60-year options. Imagining how the market would behave if it was there is working fine in the U.K., we think, leading to balance sheet values which our auditors audit. What we do does not appear to pass the QIS3 definition, so that is one of the issues. I am not sure whether it would really matter in terms of the numbers on your balance sheet. It may just be a matter of systems' development problems rather than a real issue.

Moving on to consider the SCR, we see that the way in which it is built up is in a modular form, where you work out the risk capital which you need for many sub-components of the

- If a liability can be perfectly hedged or replicated on a **sufficient deep, liquid and transparent market**, the hedge or the replicating portfolio provides a directly observable price (mark-to-market).
- Deep, liquid and transparent markets are defined as markets where participants can **rapidly execute large-volume transactions with little impact on prices**.
- For non-hedgeable liabilities the valuation should correspond to the **explicit sum of a best estimate plus a risk margin**, the latter being determined according to a cost-of-capital (CoC) approach. However, for long-tailed non-life business alternative methods are envisaged.

Figure D.1. Solvency II; definition of 'hedgeable'

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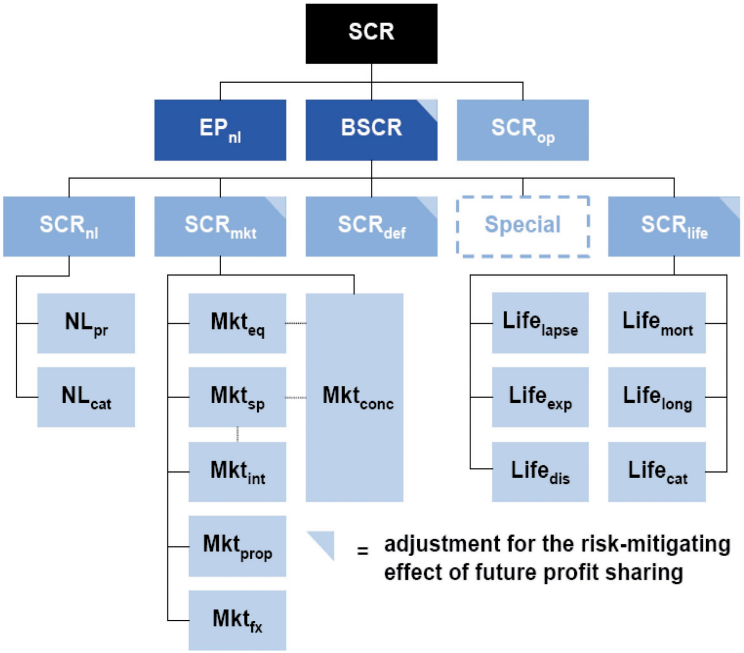

Source: CEIOPS CP20, 5.46

Figure D.2. Solvency II; structure of SCR

different risks. For example, the SCR market, which you can see on the left side of Figure D.2, is the market risk capital. It will be made up of capital for equity risk, for interest rate risk, for property risk, and so on. These amounts are then correlated together by a correlation matrix which correlates capital requirements rather than one which correlates risks within a separate model. You then continue this process until you get the capital which you need for all your different risks. You correlate these together, and, eventually, you end up with an SCR.

The trouble is, what happens if it is with-profits business and you can profit share with the policyholders? There have been various attempts at doing this. In QIS2 the *k*-factor was introduced, which was a kind of endpiece adjustment to quantify how much of the risk capital would effectively be provided by policyholders in lower terminal bonuses. The trouble is that, to get that number right, you need to work out what the terminal bonuses would have been pre and post profit sharing, and then back-solve. We can do that in the U.K. However, the whole idea is to make it simpler for people who cannot work out the numbers which we have just been discussing. There has been a separate attempt at a refinement of this for QIS3. This basically says that you can allow for profit sharing within these components, but you have to make sure, when you are working at the profit-sharing in each of the components, that you keep a note of how much it would be. You then correlate together the components without allowing for profit sharing. Then, at the end, the last piece you take off (unless the final QIS3 spec is different to that for the QIS3 pre-test) is the largest profit sharing which you ever got in any of your sub-components.

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The trouble is that the more sub-components which you have, the smaller the profit sharing will be in any particular one. There is, therefore, no guarantee that this is going to end up with the right answer. What we have been doing in the life working group is some work on this, and we have had various helpful discussions with the FSA. We recognise that this is a difficult issue — trying to squeeze U.K. with-profits business into a framework which is meant to suit participating business right across Europe. Therefore, even with the best of intentions, I suspect that we are not quite there yet, but some good work has been done.

What, then, might happen, if this does not work for U.K. offices, is that U.K. offices could go down the internal model route. That is quite a difficult issue, potentially, because we think, within the U.K., that we have ICAS and that we are well on the way to a Solvency II-type valuation. In many respects this is true, except that the picture of an internal model for SCR measurement is a much bigger thing than the ICAS regime — big though that was for us when it was first brought in (and still is).

I have heard a speaker from the CEIOPS say that we, in the U.K., are at the equivalent of primary school just now, and that we need to get to university. It is that big a jump. For those of you who work for life offices, like myself, it would be well worth asking what your firm is doing to develop an internal model. Also, are we deciding to do it because we have to, in order to get the right capital requirement, rather than because we want to, because it is a good way of running our business? It is hoped that we will be in the latter camp, but the former camp may well exist.

Certainly, within the U.K. Profession, we have been working on with profits. We have also been trying to produce educational material to quantify some of the different issues which need to be thought about in developing policies. We have been writing about risk margins, particularly on the life side. We have been writing about technical provisions and some of the issues for best estimates there. Some of the material is nearly finished, and, in due course, we will put it on the website. We have not been doing anything on group issues. It is a particularly fraught issue for some of the very big companies as to what extent they will be allowed to recognise diversification benefits locally.

We have talked a bit about Pillar III disclosure. A particularly contentious issue is how much will need to be disclosed in the event of non-compliance with capital requirements. For example, if you breach your SCR, or 'non-comply', to use the new, slightly softer phrase, when will you have to tell the market? The Commission is very keen on as open disclosure as possible from the industry.

Some of the other issues which are worth noting relate, not just to life, but to non-life business. 'Prudent person plus' is code for trusting management to run the company, but not entirely, and putting some sort of fixed limits around what management can do. It is possible that the admissibility rules, or some variation of them, will pass into Solvency II, at least for some period of time.

Alignment with the IASB is another topic for a sessional meeting, once the phase 2 paper comes out. The extent to which the treatment of U.K.-style with-profits liabilities might differ between the two regimes is something to watch out for, in particular.

Ms Varney mentioned eligible capital tiers. That is something about which people may want to think, in QIS3, to consider how their capital fits in the structure being proposed by the CEIOPS. We have not done anything on that in the Solvency II working party, since, to a certain extent, that is very much a company-specific matter.

What we have tried to do is get the small company voice heard. Some of the working group members have day-to-day experience of working with smaller companies. We are carrying out some research into proxy methods for dealing, in particular, with with-profits business, and what that might mean for SCR results for smaller companies.

The last thorny issue is: "Should actuaries have reserved roles?" There are some very strong views in the Commission which say: "No, you do not have reserved roles for lawyers or for accountants, so why should you have them for actuaries?" On the other hand, the actuarial skill set is something very important to have in running both life and non-life insurance companies.

So, there is still some debate on the extent to which the word 'actuary' rather than just 'actuarial techniques' will appear in the directive.

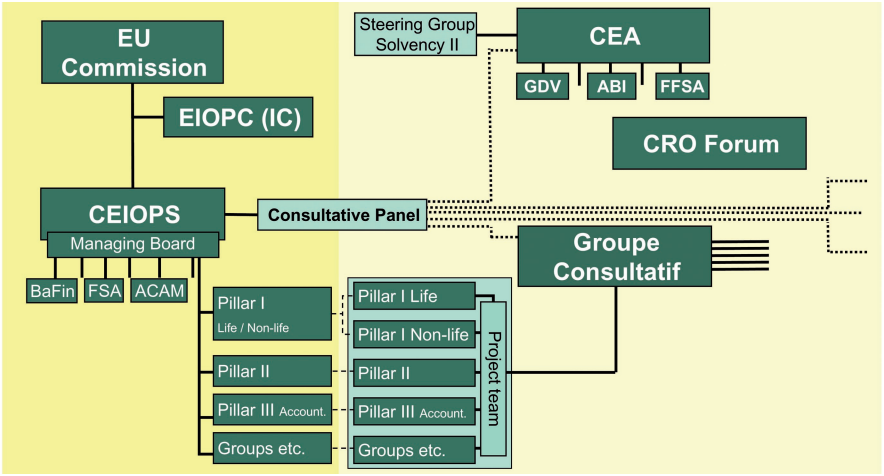
Dr R. Stölting (a visitor; introducing the European actuarial perspective of Solvency II)**:** First, I want to tell you something about how the Solvency II process has been organised. The E.U. Commission is in charge of working out the legislation and the European law, as Ms Varney has already mentioned. The CEIOPS has set up five groups, Pillar I, Pillar II, Pillar III and two other groups. The Pillar I group was initially split into life and non-life, and they have since been merged.

The Groupe Consultatif, which is the organisation of the European Actuarial Associations, mirrored immediately, at the beginning of Solvency II, the working group organisation with five working groups. We did not merge the Pillar I group, life and non-life, because we think that, from the actuarial point of view, many questions are either life or non-life, and there is little overlap. These five groups continue to exist. What is very important is that, right from the start of the project, there was a lot of contact at the working level. Therefore, our working groups are regularly in contact, at the working group level, with the CEIOPS. This is a good way to fulfil our mission, which is to give technical advice within the development of Solvency II.

There are, of course, other players, like the CEA, which is a lobbying organisation. The Groupe Consultatif is not a lobbying organisation. There is the CRO Forum, and so on. An overview of the different parties involved is shown in Figure D.3.

Our guidelines within the Solvency II process are summarised in Figure D.4. We see the main goal of Solvency II as being security for the policyholder. Within Europe, this was also the number one goal for a long time. Then there was a slight change, and now the Europe-wide harmonisation, in order to create a level playing field, has become the priority. Then come the policyholders.

We also think that a risk-based system, with risk-based principles, should be in Solvency II, and that there should also be market consistency. We are a professional organisation. We cannot give and provide significant help for purely political decisions, even if asked so to do. Otherwise, we would lose our credibility.



Source: Zusammenstellung der Münchener Rück

Figure D.3. Overview of initiatives/working groups

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- Security for the policyholder
- Risk-based principles and market consistency, together with a decision on calibration (risk tolerance) that has to be taken by political bodies
- Europe-wide harmonisation in order to create a level playing field
- Groupe Consultatif as a professional association – not as a lobby organisation

but:

- Difficulty for Groupe Consultatif in providing significant help for purely political decisions

Figure D.4. Main guidelines for Solvency II

So, which key questions have not already been mentioned? One is the acceptance of diversification for the calculation of the SCR; everybody wants to acknowledge and to accept diversification effects, since, otherwise, the insurance industry would not exist. The main reason for the industry to exist is diversification, and not to acknowledge this would be foolish. The problems are the extent to which this is recognised, and also that the concept of diversification is different in good and in bad times. The underlying problem here is the non-linearity of the dependency structure.

Then there is the calculation of SCR and MCR; should the MCR be a percentage of the SCR? If the answer is 'yes', then it is simple — everybody has to calculate the SCR, and the MCR follows on. Should the MCR be, in some sense, a smaller, very simplified formula, in comparison to the SCR? That question has not yet been decided.

There should be consideration of the risk of natural catastrophes. They are important in Europe. They need to be looked at in more detail. The problem is that we have some catastrophes which are Europe-wide, for example, a European storm covering the U.K., Belgium, the Netherlands and Germany. However, an earthquake in Greece, for example, is very important for Greece, but not for the U.K. or for Germany. It is remote. You have to look at all of these natural catastrophes, otherwise there is no harmonisation.

Then the big question is the approval of internal models for Solvency II. An even bigger question is: "What is an internal model?" You could say that nearly everything is an internal model, or that it can be extremely complicated and very sophisticated, and so on, but where is the truth? What is the definition?

Then we have technical provisions. The problem of technical provisions has turned out to be a controversial one, especially in non-life business. This was one of the results of QIS1. The impression was that the best estimate, plus risk margin, in comparison to the reserves of the technical provisions which you can find in the local balance sheets, had different levels, different gaps. This is a harmonisation problem. It is really a European problem. If you talk to American, Australian and Canadian actuaries, who all want to develop new solvency systems, everybody knows how much capital is needed for technical provisions. They have only one balance sheet rule within their countries, and therefore they can take this figure as a proxy. Even if it is not the best estimate plus risk margin, everybody comes up with a similar figure. This is not the case in Europe. QIS1 showed that there can be big differences across countries.

If you take the balance sheet from, say, the U.K., France or Germany, you may have big gaps — differences — to the best estimate plus risk margin. In order to get a harmonised system, we must, therefore, harmonise the technical provisions.

This problem has been publicised by the Groupe Consultatif. It has also been taken up lately by the CEIOPS. It is more of a problem for auditors, for example, from different countries. It has now become an actuarial problem. In some countries, even in the U.K., you do not have sufficient actuarial information for all companies. In some cases, for example, you do not have sufficient data or the development triangles for long-tail business. Therefore, two things are going to be done. First of all, the CEIOPS and supervisors will ask all companies to start, immediately, to collect the necessary data to build up a development triangle for the last ten years, within ten years, for example. That is one thing. The other problem is that, within ten years, it is hoped that we will already have Solvency II. What do we do in the meantime? We proposed proxy calculations as a temporary solution, although we, as actuaries, do not like to do unsatisfactory things, and a proxy for this calculation is unsatisfactory, because it is not pure actuarial work. However, the Groupe Consultatif said that we have to help the CEIOPS and the E.U. to get a harmonised system as quickly as possible. Therefore, we will help by making proxy calculations within Europe. In order to do this, working groups, comprising actuaries, supervisors and representatives from industry, will be created.

In the U.K. this has just happened. In Germany the process began a month ago, and in France it was four months ago. These three of the biggest nations in Europe will be the first where we will have some experience at a national level. This was our proposition to the CEIOPS. It will work out a so-called national proxy solution, because there are differences concerning laws regarding balance sheets, for example. Therefore, this must, first of all, be a national proxy. Then, of course, you have the problem of how to harmonise these national proxies. For this difficult harmonisation exercise, there will be a group installed and co-chaired by the CEIOPS and the Groupe Consultatif. It will carry out the difficult job of harmonising the results of the different national groups and of giving guidance to these groups and to the other countries.

Regarding QIS3, many things have already been mentioned. We have been involved in the technical preparation for QIS3. For us, the main difficulty, and this is the experience from QIS2, is the level of the technical knowledge required within companies, especially smaller companies and smaller countries. The availability of data is a big problem for smaller countries and companies. This is a problem which is often underestimated in the U.K., which tends not to have such a problem.

Mr P. W. Wright, F.I.A.: I support the broad thrust of Solvency II. However, if I were seeking to pour cold water over the whole exercise, it would not be difficult to point out the impossibility, for most of the sub-risk modules proposed for QIS3, of selecting, with any attempt at scientific accuracy, the 99.5% one-year VaR. It is interesting that this objection has not been raised very widely, if at all, with most objections to the basic framework for the SCR coming from those supporters of a tail VaR standard. Tail VaR is almost certainly a theoretically superior measure, but it is probably even harder to estimate.

In the U.K. we have become used to applying a 99.5% one-year VaR standard for the ICAS. Of course, we too have faced the impossibility of deriving 'correct' stress tests for the relevant risks, but a consensus view among the industry, the Actuarial Profession and the FSA, on many of them, has arisen over time. For equities, this consensus is that a fall of 40% to 45% is an appropriate stress test. I had suspected that continental supervisors would criticise this assumption by requiring a larger fall, but I see that we are talking about only a 35% fall for QIS3. Even worse, in my view, is the proposed 20% fall in property values. Can anyone really think that these stress tests represent one in 200 years events? Do these stress tests arise from objective risk analysis or from political motives to encourage investment in equities and in real estate? Are they driven by a feeling that sharp market falls will always be corrected in due course? This is a very dangerous assumption to make.

So far I have been talking about SCR as calculated from the standard calculation. Of course, as has been mentioned, some companies will be hoping to use internal models to derive the whole

or, I suspect in the vast majority of cases, part of the SCR. I am unclear as to whether such companies will be able to assume lower levels of market volatility and lower correlations between markets than those incorporated into the standard calculations. I look forward to the panel giving some clarification on this. Before leaving the SCR, I would also like to express surprise that, in a system which aims for comprehensive risk coverage, there is no sub-risk module for changes in equity and fixed-interest implied volatilities for use in the pricing of options and guarantees.

Turning to the calculation of technical provisions, I am pleased to note that the CEIOPS has elected for the cost of capital approach over the percentile approach for risk margins. At least this will make performing the calculations a practical possibility for most insurance companies.

However, I am concerned at long-tail general insurance liabilities being granted an 'opt-out' from the use of this cost of capital approach in QIS3. This, in my view, undermines the coherence of the whole system, and I would be interested to have the rationale for it explained. I would hope that any explanation was not simply that, for these particular liabilities, the answers on the cost of capital approach were higher than the alternative percentile approach.

Ms Varney: Clearly, in terms of the calibration points which Mr Wright raised, the CEIOPS will provide advice to the Commission. There will be particular calibrations tested out in QIS3, although I suspect that QIS3 may not be the last that you hear on this, and there may well be a QIS4 some time in 2008.

That said, Solvency II is a negotiation process, and the equity risk stress is recognised as a particularly sensitive issue within Solvency II. I do not doubt that it will probably come up in negotiation discussions between various finance ministries. Clearly, the CEIOPS will provide advice, but where that discussion will come out, longer term, it is hard to say.

Another point was raised on technical provisions and, in particular, on whether long-tail liabilities will be subject to the cost of capital approach or whether they have been carved out of it. Perhaps a more accurate characterisation of where that discussion is is that they are still under consideration. Whether the cost of capital approach is the right approach is still being debated. It is not correct to say that they have been carved out. You may well find that, ultimately, they get carved back in. That is an ongoing discussion.

Ms A. Olesen, F.I.A.: My question relates to internal models, which have been mentioned by all of the speakers. It is an extremely important part of Solvency II, particularly from an actuarial professional's perspective.

I am aware that, potentially, there is a big win here for individual companies, as the SCR standard approach might be calibrated quite high, with a reduction in regulatory requirement being possible through the use of internal models (subject to model approval). I have, however, heard the FSA recently state that there would be very few current ICAS models which would meet the likely approval process.

The internal model approval process will be developed further through the Solvency II implementing measures; however, I would be interested in what the U.K. industry should be doing now in relation to their ICAS models. Is it around further developing the actual models or is it about the control frameworks surrounding them?

Ms Varney: Perhaps I could offer you some information on what is currently in the draft Level 1 Directive text, which is obviously high level and principles based. As you suggest, there is substantial work going forward for the CEIOPS in terms of developing an implementing measure on what the model approval process will be. This will include, effectively, what those high level principles mean in terms of whether you pass or fail the test.

In terms of the Level 1 text, it is quite high level and principles based, which, from the FSA perspective, is a good thing. It envisages a number of tests. There is the so-called use test, which will be key. Effectively, it looks at whether the firm uses the model which generates the regulatory number in running its business and making its business and risk management and capital

allocation decisions. That is not to say that this will be the only thing about which they would think, but it would form a part of it.

There will be a calibration standard. That standard is framed very much like the ICAS calibration standard. So, you will need to generate a regulatory number which meets the 99.5% confidence level over a one-year horizon. However, it is recognised that firms may target other confidence levels, or, indeed, use a tail VaR measure rather than a VaR measure for their own purposes. It is just that, for generating the regulatory capital number, you have to demonstrate that it meets the Solvency II calibration standard.

In addition, there is what is called the statistical quality test, which will look at completeness, appropriateness and adequacy of data modelling assumptions, and all of that will be in there. However, there will also be an examination of the governance and the controls which surround the model. So, how does the firm itself ensure that there is good understanding of the model, what it does well, and what its weaknesses are, change controls, what is the board level understanding of the model, and so on? There is quite a lot in there.

Clearly the firm will also need to have a regular process of model validation, so that it ensures for itself that the model has a reasonable predictability. The model approval process will look at all of these things together in the round.

There is quite a lot of discussion about different values from ICAS, and what sort of gap firms will have to bridge. This is a road which we will have to travel together. The FSA is very willing to work with the industry ahead of Solvency II implementation for the firms which are keen to seek model approval. To give a few pointers, there are some things which have come out of ICAS which are clearly going to be worked on further within the ICAS process, as we go forward. One of these is the extent to which firms have embedded ICAS within their decision-making frameworks. That will vary from firm to firm.

Possibly, what will take up a great deal of time and resource is more around validating the model itself. Something which I mentioned in relation to QIS3 is that we will be keen to get internal model numbers in for calibration purposes. In addition, this will also give firms an opportunity to enter into a dialogue with the FSA, and to begin to benchmark where they are today, compared to where they might need to be. That can only be based on our best expectations of where the implementing measure will come out. That will play out over time, but it will be very informative, in terms of the FSA input into the development of that implementing measure.

Mrs Morgan: The process which Ms Varney has described sounds very similar to the model approval process under Basel II for banks. I have been quite heavily involved in that with my employer, and it strikes me that there would be some benefit in getting to know people who have worked on Basel projects to find out which processes they have been through to get their ICAS models approved. There is no point in reinventing the wheel.

Mr L. J. Faulkner, F.I.A.: I am jumping ahead a little to Pillar III with my question. The briefing note for this meeting said that the intention of Solvency II is to ensure more accessible and meaningful public disclosure than that available at present in the U.K., and that one of the areas for increased disclosure would be business strategy. How are you proposing to prevent these additional disclosure requirements leading to anti-competitive behaviour?

Dr Hare: That is a good question. If you are interested in this, what you want to read is CP 15, which sets out the proposals from the CEIOPS. It has now received the responses, and it has given its final view to the Commission.

It would also be worth reading DP 7, which was the discussion paper which the FSA produced in 2001 or 2002. It discussed what regulatory reporting could look like in the future from the perspective of various different stakeholders. The people preparing these documents are well aware that there is a competitive advantage point which firms will not want to lose. However, the definition of commerciality may not be strong enough yet, so it is a good point which you make. I suspect that firms will not be oblivious to that, and we then risk bland disclosure. Maybe we will end up somewhere in the middle.

Ms Varney: I can add to that. In addition to what the CEIOPS has put in CP 15, which is obviously what is in the public domain, there is some Level 1 text under development at the moment. Incorporated within it, and in a slightly different guise within CP 15, there is the solvency and financial condition report, which is intended to be disclosed publicly. This will require some information along the lines which have been suggested. Details on exactly what shape they will take has yet to be developed. There will be further CEIOPS consultations on that topic.

It is worth noting that, if there are already relevant public disclosures under international financial reporting, they can be cross referenced. Solvency II is not trying to duplicate information which is already in the public domain. Getting that right and getting the public/private balance right will be very critical to the Solvency II/Pillar 3 debate.

Mr M. B. Chaplin, F.I.A.: I have two issues. One has not really been mentioned so far, but has been a point of discussion across Europe. It is: "What other non-insurance liabilities should be included in the SCR calculation, and in what way?" I understand that the CEA had, at one point, pushed for excluding all liabilities. This was rebutted by the CEIOPS, perhaps understandably, and, in particular, with regard to issues such as staff pension schemes and how they should be allowed for in the SCR.

The second question relates to Ms Varney's comments about the MCR. There is currently a debate as to whether it should be calculated using a compact approach reference in the SCR, or a percentage of the SCR, both using a factor-based formula calibrated to, I believe, a 90% VaR over one year. I would like the views of the panel in comparison to the CEIOPS's slight majority view favouring the factor-based approach. Do they prefer the compact approach, and, if so, why? Also, do they feel that a calibration standard of a 90% confidence level over one year is appropriate — in particular. is one year right and is it correct to use a 90% confidence level?

Dr Stölting: At the beginning of Solvency II, when the Groupe Consultatif was asked for advice on how the MCR should be calculated, we immediately recommended a percentage of the SCR approach. This was because we know that, if the percentage is less than 100%, then the MCR will certainly be smaller than the SCR.

If you use a different formula, then you never know. This was one of the results of QIS2. If a simplified formula for the MCR is used, one of the proposals now for QIS3, then the CEIOPS told us that they will also calculate a percentage of the SCR themselves. If you use a simplified formula, then you always have the problem of getting to a kind of 90%, or whatever it is now, risk. You must omit some risks. Your MCR formula is even more standard than the SCR, in the sense that it does not value correctly the underlying risks. This is always the problem, but I do not have the solution. It depends on the results of QIS3.

Ms Varney: There is an ongoing discussion on the extent to which liabilities on the balance sheet, other than technical provisions, should be stressed by the SCR. The Commission is very keen on a whole balance sheet approach, with no particular simplifications. It argues that this ensures that firms which are on internal models and firms which are on standard formulae are treated on a like-for-like basis. Exactly how that all works, and to what extent, for example, pensions liabilities and other liabilities might be stressed by the standard formula, is a moot point. You will find a particular treatment prescribed in QIS3, for example. However, discussions are still ongoing between the Commission and the CEIOPS on these points.

Mr Chaplin also raised a point about the MCR, and, in particular, about the so-called modular approach. I will make a few comments about this. I am not saying that these are necessarily my views or those of the FSA. They are points which have been made in favour of a modular approach, which you might want to dispute.

One is that some supervisors and finance ministries have concerns about moving to an unknown, untried, untested Solvency II system with a relatively sophisticated SCR, which requires judgement. Therefore, what they want is a reasonably simple and legally defensible MCR formula. They think that this is delivered better by a modular approach.

Another argument in favour of the modular approach is that if, instead, you apply a fraction to the SCR, it does not give you a uniform confidence level across different firms. Therefore, the assumption is that, if you calibrate each of the MCR modules to the desired confidence level, it gives you a better approximation of the 90% confidence level for firm to firm.

A third aspect to the debate is how it all plays out in the context of the U.K. group's proposal. The latter says that, if you are going to assess a group capital requirement which takes account of group level diversification benefits, then it would be much simpler if you had a supervision system based on the lead supervisor model.

Therefore, the group SCR amount of capital would be calculated and held at group level. Then the solo entities within the group would hold their technical provisions, and, over and above that, would hold their MCR. Clearly, in that context, what the level of the MCR is, how it is calculated, and the degree to which the solo supervisor relies on the group supervisor or the group model for that number is quite sensitive.

One further thing to add in respect of the compact approach is to ask whether the third, or whatever it is, of the SCR would be based on the SCR standard approach or whether it would be based on an internal model's number. Clearly, it is of paramount importance that, for the coherence of the framework overall, the relationship between the MCR and the SCR should be predictable, and that the MCR should be well behaved. However, that debate will run.

Mrs Morgan: The question shows how much there is still to debate on Solvency II and how important it is to engage now. Because there is so much, my working group has been focusing its efforts on what we consider to be the key actuarial aspects. It would be helpful to get feedback on whether you think that these are the right ones.

It would be frustrating if we get to the end of Solvency II only to discover that we had missed something quite major. Therefore, it is important to engage at a detailed level on all the proposals.

Dr Hare: It is well appreciated that there is a danger of a Twin Peaks regime surviving in Solvency II if we have an MCR which moves in a different way to the SCR. That was particularly the case with with-profits business in QIS2. Unless we go carefully, it will be the case again.

One ray of hope is that I heard of one office which, when it worked out the MCR on the QIS3 pre-test approach, ended up with a negative number, so maybe it is not as bad as I feared!

Mr M. G. White, F.I.A.: I should like to echo Mr Wright's comments about the reality of the non-life tail. My main point is to do with the harmonisation and the sharing of knowledge. I was very interested to hear the comments of Dr Stölting about the Groupe Consultatif initiative to examine proxy values as part of the harmonisation of technical provisions. I think that this offers plenty of scope for actuaries from different countries to work together, and I would hope to see more representatives of European companies at future GIRO conferences.

On a separate matter, I would be keen to hear the thoughts of Dr Stölting on the extent to which the big European reinsurers can feed in their knowledge of the different conditions existing in the different insurance markets, especially the small countries, where I would expect there to be a greater reliance on reinsurance.

Dr Stölting: I experienced the second problem which you raise when I wanted to build up a group on technical provisions within our project for non-life business only. You have to distinguish between life and non-life business, because the problems are quite different. For life business, you normally have sufficient actuarial knowledge and sufficient data. Therefore, the problems are usually with non-life work.

In non life, the Groupe Consultatif asked all the national actuarial associations whether they wanted to send some experienced non-life reserving actuaries to the group. There was no answer. Therefore, I built up a small group of actuaries who were working within some of my large

clients in France, the U.K. and Germany to look at the issues. This group was merged with the Pillar 1 group at the last Groupe Consultatif's meeting.

It is always a problem to find a sufficient number of experienced actuaries working for large non-life companies who have enough time to spend on such a project. There is so much to do, especially now that we have the new IAS and IFRS regulations to consider. Therefore, once again, we decided at the Groupe Consultatif to help with this proxy approach, even though it is a non-actuarial method. We need actuarial input to ensure that the problem does not get worse.

Mr P. J. Copeman, F.I.A.: I have a couple of questions. First, returning to internal models, I wonder whether the panel would like to hazard a guess as to what proportion of companies they would expect to be using internal models, either in total or in part — and do they believe that the answer varies by size of company and country?

Secondly, and allied to that, I was interested in Dr Stölting's comments on harmonisation being the number one objective. That is clearly a very challenging objective. If part of this is to do with regulators approving internal models, it strikes me that the experience which we have in the U.K. is that that is not a straightforward process. It requires much resource, training and experience. Is there scope here for some regulatory arbitrage? I cannot see that all the countries across Europe are going to be able to do that in the same way at the moment.

Dr Stölting: I do not think that anybody can answer your first question, since it depends on precisely how an 'internal model' is defined.

Maybe it is worth mentioning here the work on the IAA side. In the Insurance Regulation Committee, there was a request from the IAIS to work out a guidance paper on internal models. The first draft will be discussed at the next IAA meeting in Mexico in May 2007.

This work, of which the CEIOPS is also aware, has been recognised as being worthwhile by the E.U. It is keen to receive an actuarial guidance note on internal models. The E.U., the lawmakers, needs some grounds for discussion and the CEIOPS needs something on which it can rely. This is an open question. Some characteristics, as Ms Varney has mentioned already, are known and are obvious; but it is not clear how sophisticated the internal model should be. Therefore, there is no clear answer to the first question.

Harmonisation also depends on definition. I do not know how Solvency II will work. In the Lamfalussy process, there are not only different levels involved, but there is a kind of loop with the fourth level, where it goes back to the E.U. Commission to be looked at. It will see that there are different applications or interpretations of Solvency II rules. As a result, it will ask the different supervisors to adjust the interpretation, and this will probably be the case for internal models.

Mrs Morgan: Regarding harmonisation, it is good that the E.U. has this goal. You have to have something to aim towards. Regarding internal models, it would be good to think that companies use them because they want to, that is because they add value, give a good understanding of the risks in their organisation, and because there is a good business reason to do it — rather than just being pushed into it for Solvency II. I would like to see 100%, but I think that I am being optimistic.

Mr J. P. Ryan, F.I.A.: Presumably the banking internal models have a very similar structure to the internal models which we are discussing. My understanding is that they have worked well, and, presumably, that the FSA has been happy with them. Is it possible to give us some background as to how banks came up with their internal models?

Also, since, presumably, harmonisation has taken place, with several mergers occurring, but with no regulatory arbitrage taking place, the problems about harmonisation seem to have been solved here. It would be very helpful if you could give us more information about this.

Ms Varney: I can offer a couple of comments which draw parallels to the CRD. Clearly, from an FSA perspective, we will use our CRD experience in terms of model approval processes, or, at

least, bear it in mind as we develop the insurance implementing measure. We also wish to work with firms ahead of the date at which Solvency II switches on, to ensure that we are in a position to offer model approval from day one to any firm which meets the required standards.

There are a number of parallels with the CRD which are worth noting. One idea which is within the CRD, which is likely to be carried across to Solvency II, is in connection with groups. Where a group is seeking internal model approval, the group supervisor (or the parent supervisor) and the supervisors of the subsidiaries should work together, so that there is a single approval process. The CRD also describes what should happen in the event that the supervisors cannot agree.

Clearly, in terms of getting a shared understanding and consistent application between supervisors, there is much more work which needs to be done above and beyond that. There will doubtless be further work within the CEIOPS, both with regard to the Level 2 implementing measure and Level 3 guidance, including how it should be applied.

We are mindful of the process which has been gone through on the banking side. To be clear, on the banking side models are allowed in three contexts. For some time firms have been allowed to model the market risk in their trading books. More recently, under Basel II/CRD, they can now model their credit risk. They can also adopt what is called the advanced approach on operational risk.

There is, I suppose, a relatively high degree of prescription within CRD about how firms can go about modelling their credit risk and a rather higher degree of modelling freedom in relation to operational risk. My guess is that Solvency II will probably come somewhere between these two in terms of how much freedom it offers firms and to what extent it sets down parameters.

The other point which I make is that there is clearly a big difference between Solvency II and CRD, in the respect that banks can model specific risks. They can model their market risk; they can model their credit risk; they can model their operational risk. They cannot have a whole capital model. The latter will clearly be possible under Solvency II. What Solvency II is envisaging is quite a big step beyond where CRD has got to. To that extent, you cannot draw a parallel between Basel/CRD and Solvency II. We will have to work out that gap between us.

Mr Ryan: I congratulate the Sessional Meetings Committee on getting the date right for this discussion, since it is the 17th anniversary of the largest insolvency in the London Market. Out of that came operational risk. I was wondering what action was being done on that.

As a separate point, I would encourage people to think about using smaller tests and standard benchmarking. In my experience, one can get quite a good idea, fairly easily, on whether a company is under reserved or not, by using some fairly basic tools. This has worked well, for example, when analysing new companies in territories where there is a limited amount of data.

Ms Varney: I can say a little about the treatment of operational risk within the Solvency II framework. Clearly, there is a Pillar 2 dimension to it. There will be a supervisory focus on how well it is managed from a qualitative perspective. In addition, there is a Pillar 1 aspect. There will be a capital requirement, or at least there will be a module within the SCR, which relates to operational risk. This will, by necessity, be a fairly blunt tool, but it makes the point that capital needs to be held against that risk. Operational risk can, of course, be a source of losses. The capital requirement will also, it is hoped, provide an incentive for firms to model operational risk and measure it better. If you would like to know more about exactly how the SCR assesses the capital requirement for operational risk, you will need to watch the QIS3 space.

Dr Stölting:: I would not stop anybody wanting to do some work in relation to modelling operational risk within an insurance framework. However, if there are spare resources, I think that there are other things, which are at least as important as operational risk, to model with respect to insurance companies.

The operational risk for banks is far more important than for insurance companies, and is probably better known. With insurance business, we are only just beginning to build up a suitable data base and to define what operational risks are.

I believe that, at this stage, it would be more worthwhile trying to get more precision in modelling other risks, such as the technical provisions, the technical risk and the capital risk within the internal model, than in putting great efforts into improving ways to model the operational risk.

Ms Y. Braun (a visitor; Assistant Director, Financial Regulation, Association of British Insurers)**:** I should like to reinforce what Ms Varney has said, and stress the importance of taking part in QIS3. Whilst doing this, it is very important to take seriously what the CEIOPS has said in its specifications, namely that it is supposed to happen on a best estimates basis.

We at the ABI, together with one of the large consultancy firms, are holding a series of seminars. We plan to hold some in-depth seminars in April 2007, to try to encourage greater participation from the U.K. industry. We also have an actuarial resource at the ABI, because we have an actuary seconded to the ABI from mid-April, who has quite a lot of experience on QIS2. We will publish that in due course.

On operational risk, I should just like to say that, while it is fair to say that the insurance sector is at the beginning of the operational risk journey, the ABI has done quite a lot of work on an external database for operational risk. It is called the Operational Risk Insurance Consortium (ORIC), and it uses the Basel categories for operational risk. It has been going now for about a year and a half, and it covers more than 50% of the sector, both for life and for non-life insurance in the U.K.

Now to a question about harmonisation. Last week, at the FSA's insurance sector conference, Dr Steffen, who is now the Chairman of the CEIOPS, said that, while for Pillar 1 there would be maximum harmonisation, there might not be quite as high a level of harmonisation for Pillar 2. I wondered whether there was, perhaps, a danger that, in the end, the supervision of insurers Europe-wide might remain quite different.

Ms Varney: On Pillar 2, that remains to be seen. I was at the conference, and I too heard the comments of Dr Steffen. Nevertheless, my perception of the draft Commission text which is emerging is that it is clearly envisaging quite a high level of harmonisation.

Dr Stölting: I can only repeat that the application of a formula is easier to harmonise than, for example, the in-depth approval of an internal model. You need to have far more knowledge to approve an internal model than to understand how an SCR formula is applied.

Therefore, I think that, once again, for Pillar 2 there will be this loop process and that this will continue for years.

The President (Mr N. J. Dumbreck, F.I.A.): That is probably a good point to close our discussion. We had four objectives for the meeting: to raise awareness of Solvency II — and I think that we have done that; to raise awareness of the Groupe Consultatif's work in achieving European consensus — and I think that we have done that; to give you a chance to express views — I guess that we have had more questions than we have had views. Nevertheless, we have had a very good discussion. The fourth point was to encourage participation in QIS3. I hope that you have been encouraged to do this. It is clear that there is still quite a long way to go in resolving some aspects of Solvency II. We will get a much better system at the end of it if more companies are willing to participate in the impact studies.

It remains for me to express my thanks, on behalf of you all, to our panel members for giving us the benefit of their extensive knowledge on the subject of Solvency II. I should also like to thank all those who participated in the discussion.