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Accompanying document to the

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

concerning life assurance on the taking-up and pursuit of the business of Insurance and Reinsurance

SOLVENCY II

IMPACT ASSESSMENT REPORT

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SOLVENCY II - IMPACT ASSESSMENT REPORT

This report commits only DG MARKT's Insurance and Pensions Unit that has prepared it. It is to serve as basis for comment and it does not prejudge the final form of any decision to be taken by the Commission.

Financial markets are pivotal for the functioning of modern economies. The more integrated they are, the more efficient the allocation of economic resources and long run economic performance will be. Completing the single market in financial services is thus a crucial part of the Lisbon economic reform process; and essential for the EU's global competitiveness.

European financial market integration has been driven forward by the Financial Services Action Plan 1999-2005 (FSAP). Its central philosophy has proved sound: financial industry's performance has improved; there is higher liquidity, increased competition, sound profitability and stronger financial stability despite much external turbulence. With progressive implementation of FSAP measures in the coming years, these benefits will only increase. But efforts have to continue.

The Solvency II project is one of the key outstanding items from the FSAP. The Solvency II project aims to overhaul prudential regulation and deepen integration of the EU insurance market. The project is closely linked with international developments in accounting, supervision and actuarial science and will take account of the developments in the banking area under Basel II.

Prudential regulation plays an important role in shaping the environment in which insurers operate. However, the regulatory environment is also shaped by European and national legislation in other areas including contract law, competition and taxation. This impact assessment report focuses solely on the impact of changes in the prudential regulatory environment.

1 PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

The need to review EU insurance solvency rules was acknowledged in the third generation Insurance Directives[1] adopted in the 1990's. The Directives required the Commission to conduct a review of the solvency requirements. The Müller Report[2], prepared by EU insurance supervisors in 1997 for the Commission, noted several weaknesses in the EU regime and made some concrete recommendations for change, including increasing the level of the minimum guarantee fund. It also recognised that the relatively low level of the required solvency margin meant that an earlier intervention point was needed.

Following this review, a limited but expedited reform[3] was agreed by the European Parliament and the Council in 2002 – Solvency I – which raised the minimum guarantee fund as recommended. Solvency I also gave increased powers to supervisors to intervene at an earlier stage if deemed necessary to protect policyholder interests, even if the undertaking remained in compliance with the required solvency margin.

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1 Directives 92/49/EEC and 92/96/EEC

2 Müller, H. (Chairman) (1997), *Solvency of Insurance Undertakings*, Report by the Conference of Insurance Supervisory Authorities of the Member States of the European Union.

3 Directives 2002/12/EC and 2002/13/EC

However, it became clear during the Solvency I process that a more fundamental and wider-ranging review of the overall financial position of an insurance undertaking was required. Subsequently, this review has become known as Solvency II.

Work on the Solvency II project has been greatly assisted by and has made use of the new Lamfalussy financial services committee architecture which was extended to insurance in 2003 (See Annex A.3 – Lamfalussy process). In particular, the new European Insurance and Occupational Pensions Committee (EIOPC) and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS), along with their predecessor organisations the Insurance Committee and the EU Insurance Supervisors' Conference, have been extensively consulted throughout the project.

1.1. Solvency II - Phase I

Given the significance of the Solvency II project, it was decided that the work should be split into two phases. The work to be conducted in the first phase included:

- an analysis of the current EU regime, and supplementary Member State rules;
- a comparative analysis of insurance solvency regimes operated in other jurisdictions;
- an analysis of international developments in accounting, actuarial science and insurance supervision as well as prudential rules applied in banking;
- an analysis of the use being made of internal models by insurance and reinsurance undertakings to manage their business; and
- an analysis of a number of specific issues including technical provisions, asset-liability management, reinsurance and insurance groups.

The analysis included commissioning two external reports both of which were published in 2002. The *KPMG Report* (See Annex C.1a-b) looked at the methodologies used to assess the overall financial position of an insurance undertaking from the perspective of prudential supervision. The *Sharma Report* (See Annex C.2), a study conducted by the EU Insurance Supervisors' Conference, looked at the practical lessons that could be learned from EU supervisors' past experience as well as analysis of emerging trends in the risks faced by insurance undertakings (See Section 7 of this report for a brief summary of these reports and their findings). In addition, to these external reports, Commission Services also produced a number of working papers that were discussed with Member States and other stakeholders[4].

This analysis was used to determine whether action at EU level was necessary and, if so, what legislative procedure should be followed. Furthermore, this work enabled analysis to be conducted of the advantages and disadvantages of the various high level options relating to the overall design of the new solvency regime.

[4] http://ec.europa.eu/internal_market/insurance/solvency2/workpapers_en.htm

1.2. Solvency II - Phase 2

Following the completion of the first phase and the comparison of the various options for the overall design of the new solvency system, the key policy principles underpinning the new solvency system were agreed upon in consultation with stakeholders.

These principles were published by the Commission Services, following consultation with the predecessor of EIOPC, the Insurance Committee, in a Framework for Consultation[5] published in July 2004. In addition to the Framework for Consultation, three waves of Calls for Advice[6] were issued to CEIOPS, regarding different aspects of the new solvency system.

The Calls for Advice included a request for the testing of the quantitative impact of different detailed options by CEIOPS. In line with this request, CEIOPS carried out a preparatory field study (*PFS* – See Annex C.3) in 2005; a first Quantitative Impact Study (*QIS1* – See Annex C.4) in 2005; and a second Quantitative Impact Study (*QIS 2* – See Annex C.5) in 2006. The *PFS*, *QIS1* and *QIS2* tested methods regarding the calculation of technical provisions and capital requirements.

In parallel, a number of assessments were prepared of the likely impact of the introduction of the new solvency system on:

- The macro-economy, by the Commission's Directorate General of Economic and Financial Affairs (*DG ECFIN Report* – See Annex C.6);
- Financial stability, by the European Central Bank (*ECB Report* – See Annex C.7);
- Insurance products and markets, by the CEA, AISAM & ACME[7] (*Industry Reports* - See Annex C.8a-e);
- Consumers, by FIN-USE[8] (*FIN-USE Report* - See Annex C.9); and
- Supervisory authorities, by CEIOPS (*CEIOPS Report* – See Annex C.10).

This analysis was used to determine which options should be chosen for the new solvency system (See Section 7 of this report for a brief summary of these reports and their findings).

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5 http://ec.europa.eu/internal_market/insurance/docs/markt-2506-04/framework_en.pdf

6 http://ec.europa.eu/internal_market/insurance/solvency2/consultation_en.htm

7 Comité européen des assurances (CEA), Association Internationale des Sociétés d'Assurance Mutuelle (AISAM) and Association of European Cooperative and Mutual Insurers (ACME). Commission Services also asked industry representatives to assess the net administrative costs associated with the introduction of the new system.

8 FIN-USE is a forum of user experts in the area of financial services established by the Commission in 2004.

1.3. Involvement of CEIOPS

CEIOPS[9] is a key partner and source of technical expertise for the Solvency II project. Its contribution to the project has been substantial, and its involvement will also be needed later on in the process.

1.3.1. CEIOPS' Solvency II working groups

CEIOPS set up a number of working groups consisting of experts from the national supervisory authorities to prepare its technical advice (Pillar 1, initially split between life and non-life; Pillar 2, Pillar 3, and Group/Cross-sectoral issues). In addition, one permanent CEIOPS committee, the Financial Stability Committee, has been involved in the Solvency II project through its organisation of the Quantitative Impact Studies (*PFS*, *QIS1* and *QIS2*). Outside parties, experts and stakeholders have been invited to contribute their expertise and insight into the work of the various working groups.

CEIOPS has also set up the Task Force on COnvergence and iMPact ASSessment (COMPASS) looking at the impact of Solvency II on supervisory authorities, including the net administrative costs associated with the introduction of Solvency II.

1.3.2. CEIOPS' consultation processes

Consultation and transparency are essential elements of the Lamfalussy process. The creation of a robust regulatory framework and the adoption of effective and convergent supervisory practices rely both on a clear and complete knowledge of the EU insurance market, and on the development of common widely accepted approaches towards insurance supervision.

In this regard, CEIOPS has committed to work in an open and transparent way. Before sending its advice to the Commission, CEIOPS publicly consults on its draft advice. This approach is in line with CEIOPS' Public Statement of Consultation Practices published in February 2005[10].

In addition to publicly consulting on its draft advice, CEIOPS also

- consults informally at working group level with outside experts, and other stakeholders, throughout the development of its advice to the Commission;

- holds regular public hearings to allow stakeholders to express their views;

- reports to a Consultative Panel composed of some 16 experts, who either work in the insurance industry or work for organisations representing end-users of insurance products.

1.4. Solvency Expert Working Group

The Solvency Expert Working Group is a Commission working group that was set up originally as a sub-committee of the Insurance Committee. The members of the working group are Member States' solvency regulation experts drawn from their competent authorities and representatives from the relevant responsible ministries (mainly Ministries of Finance).

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9 http://www.ceiops.org

10 http://www.ceiops.org/media/files/consultations/statementonconsultation/cp_0401_ps.pdf

From the beginning of the project the Solvency Expert Working Group has met 3 to 5 times a year. In 2006, the Solvency Expert Working Group met 8 times, and has already met 3 times in 2007. Stakeholders have been asked to present their views on the project at many of these Solvency Expert Working Group meetings.

1.5. Other public consultation

In June 2006, DG MARKT organised a public hearing which drew 191 participants. In addition, the Commission Services ran an online public questionnaire published on "Your Voice in Europe" which attracted over 147 responses (*Commission Questionnaire* - See Annex C.11a-b). DG MARKT also sent a detailed questionnaire to 58 undertakings from across Europe, and this was followed up by face-to-face interviews with 17 of those undertakings (*Company interviews* - See Annex C.12).

In addition, throughout the project the Commission Services have maintained close contact with other key stakeholders and have followed international developments, including the work of the International Association of Insurance Supervisors[11] (IAIS), the International Accounting Standards Board[12] (IASB) and the International Association of Actuaries/Groupe Consultatif[13] (IAA/GC).

1.6. Inter-Services Steering Group

An Inter-Services Steering Group was set up to follow progress and feed in views from different services of the Commission. The group had representation from Directorate Generals SANCO, ECFIN, EMPL, JLS, ENTR, the Joint Research Centre as well as the Secretariat General. The Steering Group met three times, in December 2005, July 2006 and February 2007. The Insurance and Pensions Unit also ran an intra-DG MARKT focus group to discuss the Solvency II project.

2. PROBLEM DEFINITION

2.1. Grounds for regulation and supervision of insurance

The economic and social importance of insurance is such that intervention by public authorities, in the form of prudential supervision, is generally accepted to be necessary. Not only do insurers provide protection against future events that may result in a loss, but they also channel household savings into the financial markets, and into the real economy.

The reasons generally cited for the necessity of public intervention are:

- Insurers collect premiums up-front, but are only obliged to pay if an event occurs at some future date (inverted production cycle);
- Policyholders understand less than the insurer about the latter's ability to fulfil the terms of an insurance contract (solvency);
- Policyholders understand less than insurers about the risks underlying an insurance contract (conduct of business);

[11] http://www.iaisweb.org
[12] http://www.iasb.co.uk
[13] http://www.actuaries.org ; http://www.gcactuaries.org

- The interests of policyholders and insurers are not the same (agency conflicts).

Consequently, intervention by public authorities has tended to focus on introducing measures that seek to guarantee the solvency of undertakings, or minimise the disruption and loss caused by insolvency.

In addition, in order to address imbalances in the knowledge and understanding of contracting parties, historically also the form and content of insurance contracts have tended to be regulated as well as their pricing. Indeed, "form and rates" type restrictions were only abolished in the EU in the early 1990s. Reinsurance, however, as it is conducted between two knowledgeable parties, has tended to be subject to less public intervention.

2.2. The existing regulatory framework

The rationale for EU insurance legislation is to facilitate the development of a Single Market in insurance services, whilst at the same time securing an adequate level of consumer protection. In this respect, the European Court of Justice concluded in 1986[14] that Member States could demand compliance with their own rules if the existing rules regarding the calculation of technical provisions and the valuation, diversification, matching and localisation rules of assets backing technical provisions were not sufficiently harmonised – that is to say – unless a certain common minimum level of consumer protection was agreed at EU level.

The development of the necessary legislative framework began in the 1970s with the first generation Insurance Directives[15], but was only completed in the early 1990s with the third generation Insurance Directives. The third generation Insurance Directives established an "EU passport" (single licence) for insurers based on the concept of minimum harmonisation and mutual recognition. The main focus of the Directives is setting out rules for establishing prudent technical provisions; setting out rules relating to assets backing technical provisions; and setting out rules for a required solvency margin, to be calculated using simple, harmonised fixed ratios.

2.3. Weaknesses of the current EU regime

Although Solvency I updated the EU regime in 2002, a number of structural weaknesses remain. In particular, the regime is not risk sensitive; it has not ensured the removal of all restrictions preventing the proper functioning of the single market; it does not properly deal with group supervision; and it has been superseded by industry, international and cross-sectoral developments (See Annex A.1 – Solvency II Problem Tree).

2.3.1. Lack of risk sensitivity

One of the key problems with the current EU regime is its lack of risk-sensitivity. A number of key risks, including market, credit and operational risk are either not captured at all in the required solvency margin or are not properly taken into account. The current EU regime is not forward looking. The required solvency margin calculation is based on past data. Member States have the option to value assets at their historic cost and to apply a discount rate to life liabilities consistent with the condition of the government bond market at the time the contract was concluded.

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[14] Case 205/84 (Commission vs. Germany)

[15] Directives 79/267/EEC, 73/239/EEC and 73/240/EEC

The current required solvency margin also gives little or no credit for risk mitigation tools such as reinsurance, securitisation and derivatives and does not give EU insurers credit for diversification effects across lines of business or between legal entities. Furthermore, the current EU regime contains many quantitative requirements, but has very few requirements focussing on qualitative risk factors, such as organisation of risk management and quality of governance, and does not require supervisors to conduct regular reviews of these qualitative aspects.

This lack of risk sensitivity has the following consequences:

- It does not incentivise insurers to manage their risks adequately, or to improve and invest in risk management;
- It does not ensure accurate and timely intervention by supervisors;
- It does not facilitate optimal allocation of capital.

As a result, the current EU regime does not offer an optimum level of policyholder protection. The *Sharma Report*, which analysed recent insurance failures and 'near misses', illustrated how policyholder protection was undermined by the current EU regime as a result of its lack of risk sensitivity.

One of the main conclusions of the report is that the primary causes of failures and 'near-misses' between 1996 and 2001 were poor management and inappropriate risk decisions rather than inadequate capitalisation per se. Furthermore, the analysis showed that the current required solvency margin did not act as a useful early warning indicator that the insurer was getting into financial difficulties.

The value of detecting and addressing the root causes of insurance failures can be substantial if, as a result, the causal chain precipitating insolvency is interrupted and its adverse effects contained. For example, it was estimated that only 40% of gross insurance liabilities of £12.5 billion resulting from insolvencies that occurred in the UK mostly in the 1990's would eventually be recovered[16].

Answers provided by Member States to Commission Services in response to a Questionnaire on Insurance Guarantee Schemes[17] conducted in 2003, suggest that between 1999 and 2003 annual losses throughout the EU arising from insolvencies in the non-life sector alone, were in access of €500 million.

CEIOPS' survey on failed insurers and 'near-misses' in 2005[18] confirmed the findings of the *Sharma Report* - i.e. that the current solvency margin does not provide sufficient early warning for an intervention to be launched and that bad management decisions lay behind many of the problems. In more than 75% of the cases examined by CEIOPS, the reported solvency ratio up to one year before failure was more than 100%, and in 20% of the cases, the reported ratio was over 200%.

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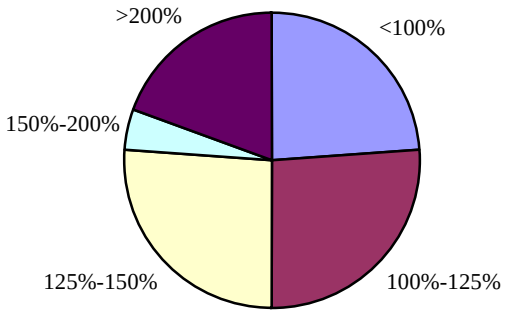
16 Davies, H. (2002), *'Rational Expectations' – What Should the Market, and Policy Holders, Expect from Insurance Regulation?*, AIRMIC Annual Lecture.

17 http://ec.europa.eu/internal_market/insurance/docs/markt-2528-03/markt-2528-03_en.pdf

18 CEIOPS (2005), *Answers to the European Commission on second wave of Calls for Advice in the framework of the Solvency II project.*

Reported Solvency Ratio up to 1 Year before Failure



Source: CEIOPS

As well as undermining policyholder protection, the lack of risk sensitivity of the current regime also impacts the international competitiveness of EU insurers and reinsurers, because it does not give appropriate credit for the use of risk mitigation techniques and diversification effects and does not provide for optimal allocation of capital.

Given the importance of insurers as institutional investors in European capital markets, the lack of risk sensitivity of the required solvency margin not only results in a sub-optimal allocation of capital between lines of business and across the industry, but also throughout the economy as a whole.

2.3.2. Restrictions on the proper functioning of the Single Market

The present EU framework sets out minimum standards that can be supplemented by additional rules at national level. These additional rules distort and undermine the proper functioning of the Single Market in insurance. This increases costs for EU insurers (and policyholders), hinders competition within the EU and undermines the international competitiveness of EU insurers and reinsurers.

The lack of harmonisation across the EU has increased over the years as Member States have updated their rules to bring them into line with developments in financial markets, actuarial science, and risk management techniques and technology. The current EU regime has been left behind, and a gap has emerged between regulatory requirements and industry best practice.

Most Member States operate an 'EU-minimum plus' regime whereby insurers are subject to more stringent requirements than those set out in the Insurance Directives. There are also continuing significant differences in the way in which supervision is conducted, which further undermines the creation of a level playing field and the integration of the EU insurance market.

The key underlying difference between the approaches adopted by Member States when supplementing the rules laid down in the Insurance Directives relates to the importance attached to technical provisions and capital requirements. Other areas where different approaches are applied include the eligibility and valuation of assets as well as the quantitative limits applied to investments.

The *KPMG Report* includes comparative analysis of rules and methods applied in different Member States including the approaches adopted towards the valuation of assets, the calculation of technical provisions and the calculation of solvency requirements as well as the differing investment rules applied (See example table below, taken from the *KPMG report* related to differences in the statistical methods used to calculate technical provisions).

Statistical methods applied in practice

Country	Methods most commonly used in practice
Denmark	Actuarial methods are used to determine IBNR and IBNER. Large companies apply a variety of techniques and compare results with expectations. In small companies less sophisticated techniques are used.
France	Except for motor, for which there is a requirement to use several statistical calculations (loss ratio and average claims cost), there is freedom to use statistical methods. In practice the most common methods used are triangulation techniques, including chain ladder on paid claims, loss ratios, and Bornhuetter-Ferguson.
Germany	Many companies use the loss ratio method recommended by the supervisory authority. There is also a trend towards chain ladder methods. Companies that draw up financial statements under US GAAP or IAS use a variety of techniques and compare the results.
Italy	Triangulation methods are used but other actuarial models are not typically used except where companies prepare US GAAP financial statements.
Netherlands	In general non-life actuarial techniques are not well developed / applied in the Netherlands and if adopted are only applied by large companies / groups. A lot of chain ladder techniques are used and some more advanced methods. Others apply average claims and experience.
Portugal	Triangulation methods based on paid claims, in particular chain ladder, basic link ratio and separation method.
Spain	Triangulation methods, in particular different weightings of the chain ladder method are the most commonly used. Some undertakings use a considerable variety of methods. It is a regulatory requirement to apply at least two different statistical methods over a five year period and take the higher figure.
Sweden	Triangulation based on paid claims is the most commonly used method with the method based on incurred claims also being used. Smaller companies with small and volatile business use loss ratio / average claims methods. The results of different techniques are often blended together or a simple average taken.
United Kingdom	Triangulation based on paid claims is the most commonly used method with the method based on incurred claims also being used. It is common to compare the results of different methods. Smaller companies with small and volatile business use loss ratio / average claims methods.

Source: KPMG

The *KPMG Report* also analyses and looks at the potential impact of changes in future international accounting and regulatory standards. Since the *KPMG Report* was published in 2002, further changes have taken place. For example, in the UK an entirely new prudential regime for insurers (Individual Capital Adequacy Standards) has been introduced.

2.3.3. Sub-optimal arrangements for the supervision of groups

It is widely accepted that an insurers' capacity to operate across the EU is often most readily achieved through a group structure, partially for fiscal reasons and partially in order to be closer to their customers. The current approach of 'supplementary' supervision of groups, as set out in the Insurance Groups Directive[19], is based on a model of loose, voluntary co-

[19] Directive 98/78/EC

operation between supervisory authorities, where the main focus remains on the subsidiaries of the group.

The 'solo plus' supervisory view of groups has increasingly become detached from the reality of how groups are actually structured and organised. The organisation of groups has become increasingly centralised as enterprise-wide risk management systems have been introduced and key functions such as treasury, risk management, modelling and investment management have been consolidated.

The lack of real supervisory convergence and coordination, as well as the differing rules applied by Member States, impose an unwarranted administrative burden on groups, arising from unnecessary duplication of effort, which undermines the development of a competitive and well-functioning single insurance market (See *Industry Reports* - Annex C.8e). The gap between the way groups are managed and supervised not only increases costs for insurance groups but also increases the danger that some key group-wide risks may be overlooked.

2.3.4. Lack of international and cross-sectoral convergence

The IAIS has produced a number of high level papers in recent years regarding solvency standards for insurers, including a paper setting out a new Framework for insurance supervision, a Cornerstones paper and a Structure paper[20].

These papers set out the principles that a modern insurance solvency regime should meet as well as the key elements a solvency regime should have. In addition to the work being done on solvency standards, the IAIS is also closely following the insurance contracts project of the IASB and has produced its own papers on the valuation of insurance liabilities. International assessments of a jurisdiction's regulatory framework conducted by organisations such as the International Monetary Fund (IMF) use IAIS standards as a benchmark.

The work of the IAIS on the development of new solvency standards and on the valuation of technical provisions is moving towards an economic risk based approach with respect to the assessment of insurance solvency and a market consistent approach with respect to the valuation of liabilities. These approaches are radically different from the philosophy underlying the current EU regime.

In the banking field, steps have recently been taken to introduce a more risk sensitive capital regime via the international Basel II[21] agreement and the European Capital Requirements Directive[22] (CRD).

There are an increasing number of insurers and bancassurance groups operating internationally. In addition, insurers these days often find themselves competing with banks offering similar products in the same market. A lack of international and cross-sectoral convergence risks undermining the international competitiveness of insurers and the competitiveness of insurers vis-à-vis banks in those markets where they compete against each

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[20] IAIS (2005), *A new framework for insurance supervision: Towards a common structure and common standards for the assessment of insurance solvency*; IAIS (2005), *Towards a common structure and common standards for the assessment of insurer solvency: cornerstones for the formulation of regulatory financial requirements*; *IAIS (2007), Common structure for the assessment of insurer solvency*

[21] http://www.bis.org

[22] Directive 2006/48/EC and 2006/49/EC

other directly. Lack of cross-sectoral consistency also increases the possibility of regulatory arbitrage.

2.4. Is action necessary at EU level?

The lack of risk sensitivity of the current EU regime does not provide incentives for insurers to manage their risks properly, or improve and invest in risk management and does not facilitate accurate and timely intervention by supervisors nor optimal allocation of capital.

In order to address the weaknesses of the current EU regime, Member States have introduced additional rules that have resulted in widely diverging regulatory requirements and supervisory practices throughout the EU. The resulting lack of harmonisation undermines the proper functioning of the Single Market and imposes significant costs on insurance groups operating in more than one Member State.

Although in theory it is possible that Member States could introduce similar regulatory regimes to rectify problems in the current system, and that supervisory authorities could better co-ordinate their supervisory activities, thus removing the obstacles to the proper functioning of the Single Market, there is little evidence of this occurring in practice.

Indeed, current experience would suggest that the opposite is the case. Action is necessary to bring about change, and this action needs to be taken at EU level in order to ensure that a more harmonised framework is put in place that will deepen the integration of the EU insurance market, enhance policyholder protection and improve the international competitiveness of EU insurers and reinsurers.

3. OBJECTIVES OF THE SOLVENCY II PROJECT

The Solvency II project has three sets of objectives; general, specific and operational objectives (See Annex A.2 – Solvency II Objectives).

- General Objectives are the overall goals of the Solvency II project.

- Specific Objectives are the immediate goals of the Solvency II project – the targets that first need to be reached in order for the General Objectives to be met.

- Operational Objectives are deliverables the Solvency II project should produce. These generally will be directly verifiable.

The four general objectives of the Solvency II project are to deepen the integration of the EU insurance market, enhance the protection of policyholders and beneficiairies, improve the competitiveness of EU insurers and reinsurers and promote better regulation.

The primary objective of the Solvency II project is to deepen integration of the EU insurance market in line with the legal base underpinning Community legislation in this area (Articles 47(2) and 55 of the Treaty). However, in order to achieve this objective it is necessary to agree a common minimum level of consumer protection for policyholders and beneficiaries in line with the 1986 decision of the European Court of Justice[23].

In addition to these two objectives, the Solvency II project also forms part of the Financial Services Action Plan which is designed to drive forward market integration in order to

[23] Case 205/84 (Commission vs. Germany)

improve long run economic performance. Completing the single market in financial services is thus a crucial part of the Lisbon economic reform process; and essential for the EU's global competitiveness.

Consequently, when assessing the merits of the various policy options and approaches set out in this report regarding the design of Solvency II, the aim is to deliver a system that addresses the weaknesses of the current regime, in particular with respect to removing obstacles to the proper functioning of the single market, whilst achieving an appropriate balance between the objectives of enhancing the protection of policyholders and beneficiaries and improving the international competitiveness of EU insurers and reinsurers.

3.1. General Objectives

3.1.1. Deepen the integration of the EU insurance market

Legislative action has been taken over the last 35 years to facilitate the development of a Single Market in insurance services. Nevertheless, obstacles remain to the full integration of the EU insurance market. One of the main reasons for this is the lack of harmonisation of Member States' rules and a lack of convergence of supervisory practices. Solvency II should deepen the integration of the EU insurance market by removing these obstacles.

3.1.2. Enhance the protection of policyholders and beneficiaries

Policyholder protection is the primary reason for prudential supervision, and agreeing what level of protection policyholders should be afforded has proved to be one of the major stumbling blocks in creating a Single Market in insurance. The lack of risk sensitivity of the current EU regime undermines policyholder protection. Solvency II should enhance the protection of policyholders and beneficiaries.

3.1.3. Improve the international competitiveness of EU insurers and reinsurers

The current EU regime has been left behind by developments in financial markets, actuarial science, risk management technology and techniques, international supervisory and accounting standards. This imposes unnecessary costs on insurers and undermines their international competitiveness. Solvency II should improve the international competitiveness of EU insurers and reinsurers.

3.1.4. Promote Better Regulation

The current EU insurance regime is based on a complex web of Community legislation, diverging national implementations and differing supervisory practices. Solvency II should make full use of impact assessments and studies pre and post adoption, and should result in a more comprehensible, more easily accessible and more consistently applied regime across all Member States.

3.2. Specific Objectives

3.2.1. Improve the risk management of EU insurers and reinsurers

The current EU regime does not focus adequately on risk management and it does not provide incentives for EU insurers to measure and properly manage their risks. For example, insurers are not provided with incentives to consider the qualitative aspects that influence their risk-

standing (e.g. managerial capacity, internal risk control and risk monitoring processes, etc). Solvency II should ensure that the new regime requires, and provides sufficient incentives for, insurers to improve their risk-management.

3.2.2. Advance supervisory convergence and co-operation

A number of insurance groups operate in several Member States and the cross-border provision of services has also increased. However, Member States have widely differing supervisory rules and practices. These differing rules and practices undermine the Single Market and increase costs for insurers operating in more than one Member State. Solvency II should advance supervisory convergence and co-operation.

3.2.3. Encourage cross-sectoral consistency

The lack of consistency between the current EU insurance regime and the regulation and supervision of other financial sectors undermines the competitiveness of EU insurers and reinsurers, increases the possibility of regulatory arbitrage and makes supervision of financial conglomerates less effective and efficient. Solvency II should encourage cross-sectoral consistency.

3.2.4. Provide for a better allocation of capital resources

The lack of risk sensitivity of the current regime distorts allocation of capital resources both between lines of business and across the industry as a whole. The lack of risk sensitivity also impacts on the investment strategies of EU insurers and reinsurers, which in turn has implications for EU capital markets and the wider economy. Solvency II should promote better allocation of capital resources.

3.2.5. Promote international convergence

The EU has the most open financial market in the world and is fully committed to the opening of global financial markets. The principles and standards currently being developed by the IASB and the IAIS are likely to supersede those underpinning the current EU insurance regime. Solvency II should be compatible with current and future international standards, and should further international convergence.

3.2.6. Increase transparency

The current lack of harmonisation of Member States' rules and the lack of convergence of supervisory practices, as well as the lack of risk sensitivity of the current EU regime, makes it difficult for prospective and existing stakeholders to properly understand and compare the financial position of insurers, and the risks they are subject to. Solvency II should increase transparency.

3.3. Operational Objectives

3.3.1. Codify and recast the existing Insurance Directives

As part of Solvency II, 13 existing insurance Directives (including Life, Non-life, Reinsurance, Insurance Groups and Winding-up Directives) will be codified and recast into one single text. The text of the existing Directives will be adapted and restructured to make it more accessible. The only substantive changes that will be made are those necessary for the introduction of the new solvency regime.

3.3.2. Harmonise the calculation of technical provisions

The current EU legislation does not provide for a sufficiently harmonised calculation of technical provisions across Member States. The calculation of technical provisions is one of the areas where differences between Member States are most marked. Solvency II should ensure that a harmonised approach to the calculation of technical provisions is adopted.

3.3.3. Introduce risk-sensitive harmonised solvency standards

The current solvency requirements are not risk sensitive. They do not provide adequate incentives to improve risk management, nor do they facilitate timely and proportionate intervention by supervisors. Solvency II should introduce more risk-sensitive harmonised solvency standards.

3.3.4. Introduce proportionate requirements for small undertakings

Small insurance undertakings play an important role in the economic environment and should not be subjected to unnecessary regulation. Solvency II should ensure that all quantitative and qualitative regulatory requirements imposed on insurers are proportionate to the nature, scale and complexity of the insurer and its operations.

3.3.5. Harmonise supervisory powers, methods and tools

Supervisors have diverging powers, practices and methods. The current EU insurance regime is supplemented by additional requirements in Member States. Solvency II should ensure that supervisors have the same powers, and that they apply methods and tools in a consistent manner.

3.3.6. Harmonise supervisory reporting

Supervisory reporting requirements vary widely across Member States. These differing requirements impose unnecessary costs on insurers operating in more than one Member State. Solvency II should harmonise and streamline supervisory reporting requirements.

3.3.7. Promote compatibility of prudential supervision of insurance and banking

The current EU insurance regime differs markedly from the new risk-sensitive banking regime introduced by the CRD. Solvency II should ensure that the regulatory and supervisory approaches adopted for insurance are compatible with those in the banking field.

3.3.8. Promote compatibility of valuation and reporting rules with the international accounting standards elaborated by the IASB

Solvency II should ensure that valuation rules, supervisory reporting and public disclosure requirements are compatible with the international accounting standards elaborated by the IASB. Solvency II should not result in all insurance undertakings being required to make full use of IAS/IFRS. Certain prudential valuation rules, reporting and disclosure rules may however be similar to IAS/IFRS rules.

3.3.9. Promote compatibility of the prudential regime for EU insurers with the work of the IAIS and the IAA

Solvency II should ensure that solvency standards applied to EU insurers and reinsurers are in line with the work of the IAIS and the IAA. In particular, Solvency II should ensure that the solvency standards applied to EU insurers and reinsurers are compatible with the IAIS Framework for supervision and Cornerstones for the formulation of regulatory financial requirements.

3.3.10. Ensure efficient supervision of insurance groups and financial conglomerates

Solvency II should ensure that supervisory tasks are appropriately split between the competent supervisors in order to ensure efficient supervision of insurance groups and financial conglomerates.

4. POLICY OPTIONS, IMPACT ANALYSIS AND COMPARISON

The Solvency II project has considered, analysed and compared a number of policy options. The policy options have been split into "high level" and "low level" policy options. The high level options were compared and analysed during Phase I. Analysis and comparison of the low level options and further detailed analysis of the impact of the direction chosen at the end of Phase I was conducted during Phase II.

High Level Policy Options

A number of high level options have been analysed and compared, including whether a change is needed, and if so, what legislative procedure should be followed. In addition, a number of key questions regarding the overall design were analysed. These included the extent to which lessons could be learned from Basel II and the CRD; how insurance groups should be supervised; how small and medium sized insurers should be treated; whether the calculation of technical provisions should be harmonised; and what approach should be taken with respect to the calculation of capital requirements. More detail on each high level option is provided below, together with a short summary setting out which option was taken and why. Detailed analysis and comparison of each option is presented in Annexes B.1-B.7.

4.1. Status quo versus change? (Annex B.1)

At the start of the Solvency II project, four possible courses of action were considered: stick with the Solvency I amendments; make specific targeted modifications to the Solvency I regime addressing only major deficiencies identified as part of the analysis; wait for the development of an international solvency solution by the IAIS before embarking on reform of the EU insurance *acquis*; or build a new EU solvency system from scratch, rather than using Solvency I as a base or waiting for an international solvency solution to be developed.

These options can be summarised as and will be referred to in the rest of this report as follows:

- **Option 1.1**: No change;
- **Option 1.2**: Update the existing directives;

- **Option 1.3**: Wait for international solvency solution;
- **Option 1.4**: Develop new EU solvency system.

Significant weaknesses were already identified in 1997, and the limited reform in 2001 was only a stop-gap measure needed to improve policyholder protection whilst a more fundamental reform was undertaken.

The underlying structural problems of the current regime (See Section 2) are such that sticking with the current regime (Option 1.1) or making targeted amendments to the existing directives (Option 1.2) would not be sufficient to address the problems identified. In addition, significant developments in the banking sector (Basel II/Capital Requirements Directive) mean that maintaining cross-sectoral consistency would not be possible if only minor amendments were made.

Whilst waiting for an international solution would reduce the risk of the new EU regime diverging from future global standards (Option 1.3), it would mean that weaknesses in the current EU regime would remain unresolved in the medium to long term.

Consequently, **Option 1.4** was chosen**,** as this option in comparison to the others most effectively and sustainably, meets the objectives of deepening the integration of the EU insurance market, enhancing policyholder protection, and improving the international competitiveness of EU insurers.

Policy Option Comparison - Policy Issue n° 1: Status quo vs. Change

Policy Option	Relevant Objectives					
	3.1.1 Deepen integration of the EU insurance market		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers	
	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
1.1 No change	0	0	0	0	0	0
1.2 Update existing directives	0	0	+	0	0	0
1.3 Wait for int'l solution	+	++	+	++	++	++
1.4 Develop new solvency system	++	++	++	++	+	++

4.2. What legislative approach should be taken? (Annex B.2)

The "Lamfalussy" process (See Annex A.3 – The Lamfalussy Process) is a new dynamic approach to the development of financial services regulation and supervision, designed to deliver more integrated and efficient regulatory and supervisory structures that fits in well with the general Better Regulation Agenda. The extent to which to utilise this approach in Solvency II, and in particular, the extent to which Solvency II should make use of implementing measures as the legislative tool to introduce the technical details of the new solvency system, is a question of key importance when deciding the legislative approach[24].

The extent to which a particular legislative project can be used to simplify and make EU legislation more accessible should also be considered. For Solvency II, the issue was whether or not to consolidate the existing insurance *acquis* which is spread across 13 Directives. In

[24] A new Inter-institutional Agreement (See Decision of the European Council, 1999/468/EC and 2006/512/EC) between the legislative partners was agreed in 2006, introducing a new "scrutiny" procedure, giving the Parliament a greater possibility to control the delegation of powers to the Commission.

particular, the treatment of life and non-life insurance undertakings is dealt with in different Directives, as is the treatment of insurance groups and reinsurers.

The options regarding the legislative approach can be summarised as, and will be referred to in the rest of this report as:

- **Option 2.1**: Update the existing directives with only level 1 legislation;
- **Option 2.2**: Update the existing directives with level 1 legislation and level 2 implementing measures;
- **Option 2.3**: Codify the existing direct insurance, reinsurance and groups directives and update with only level 1 legislation;
- **Option 2.4**: Codify the existing direct insurance, reinsurance and groups directives and update with level 1 legislation and level 2 implementing measures.

Codifying the existing Directives and integrating the new principles in one single document would make European Law clearer and more accessible to all stakeholders. In addition, the use of level 1 and level 2 implementing measures, would make it easier to update legislation in the light of future market and technological developments as well as international developments in accounting and insurance regulation. Furthermore, using the full Lamfalussy architecture will result in a more harmonised treatment of insurers across Europe.

Consequently, **Option 2.4** was chosen, as this option most effectively and sustainably contributes to the promotion of Better Regulation, cross-sectoral and international convergence, and the advancement of supervisory convergence and cooperation.

Policy Option Comparison - Policy Issue n° 2: what legislative approach should be taken?

Policy Option	Relevant Objectives					
	3.1.4 Promote Better Regulation		3.2.3 & 3.2.5 Encourage cross-sectoral consistency and promote international convergence		3.2.2 Advance supervisory convergence and co-operation	
	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
2.1 Update existing directives with only level 1 legislation	0	0	0	0	0	0
2.2 Update existing directives with levels 1 & 2	+	+	++	+	+	+
2.3 Codify existing directives & update with only level 1 legislation	+	0	0	0	+	0
2.4 Codify existing directives and update with level 1 legislation and level 2 implementing measures	++	++	++	++	++	++

4.3. Consistency of prudential supervision of the insurance and banking sector (Annex B.3)

The Capital Requirements Directive (CRD) for credit institutions and investment firms was adopted by the Council and the European Parliament in June 2006[25]. The Directive introduced an updated supervisory framework in the EU, reflecting new rules on capital standards for internationally active banks agreed at G-10 level by the Basel Committee on Banking

[25] Directives 2006/48/EC and 2006/49/EC

Supervision. The Directive came into force on 1 January 2007 and applies to the majority of banks and investment firms operating in the EU.

Given that insurers and banks now compete in many markets offering similar products and that there are now a large number of Bancassurance groups operating in Europe, one of the key policy issues regarding the new solvency regime is the extent to which new capital rules for insurers should be aligned with that of other financial sectors, including banking.

The question of alignment of insurance and banking capital rules is also important because as a result of the growing linkages between the insurance and banking sectors (See *ECB Report*), the insurance industry is increasingly being viewed as a potential source of vulnerability for financial stability.

A key feature of the new banking rules often referred to as Basel II, is the introduction of a three pillar structure. The first pillar relates to minimum capital requirements; the second pillar to supervisory review processes; and the third pillar to measures designed to foster market discipline (i.e. disclosure requirements)[26].

The options regarding the extent to which Solvency II should follow the same approach as the Basel Committee can be summarised as, and will be referred to in the rest of this report, as follows:

- **Option 3.1**: Retain current quantitative supervisory approach;
- **Option 3.2**: Adopt first and second Basel Pillars (quantitative and qualitative);
- **Option 3.3**: Adopt all three Basel Pillars including market discipline;
- **Option 3.4**: Adopt adjusted more harmonised Basel three pillar approach

The current insurance solvency regime is based on three different sets of quantitative rules. First, rules regarding the calculation of technical provisions. Second, rules regarding the types of assets that can be used to cover technical provisions. Third, rules regarding minimum capital requirements (often referred to as the required solvency margin).

The introduction of harmonised Pillar 2 requirements, similar to those under Basel II, in the new solvency regime would enhance policyholder protection through the introduction of qualitative risk management standards for insurers. They would also ensure more effective and efficient supervision resulting from a better understanding by supervisors of the risks run by insurers. In particular, the introduction of Pillar II requirements in the new solvency regime would enhance policyholder protection by ensuring more accurate and timely interventions by supervisors (See *Sharma Report*). Furthermore, the requirement for insurers to perform their own risk and solvency assessment would improve risk and capital management and help align regulatory and industry practice[27].

The introduction of Pillar II requirements in the new solvency regime would, though, require increased supervisory resources (See *CEIOPS Report*), especially if internal models are allowed to be used in the calculation of capital requirements and to perform the internal risk and capital assessment, as is the case in Basel II. In particular, new specialist staff will need to be recruited and existing staff will need to be re-trained.

[26] http://www.bis.org/publ/bcbsca.htm
[27] Financial Services Authority (2006), *Insurance Sector Briefing: Risk Management in Insurers*

The introduction of Pillar 3 requirements, similar to those under Basel II, in the new solvency regime would also enhance policyholder protection by providing incentives for insurers to maintain adequate financial resources. The introduction of disclosure requirements would also increase transparency and therefore confidence in the insurance sector as a whole, which should result in a reduction in the cost-of-capital of insurance undertakings (See *Industry Reports* – Annex C.8c).

However, in the short-term there is a risk that increased transparency could have some negative impacts. For example, some undisclosed information available to insurance undertakings (risk management, customer information, etc) may provide them with a competitive advantage. Hence requirements to disclose this information could in some circumstances have a negative short-term impact on profitability. Another potential short-term negative impact following the introduction of new disclosure requirements relates to publication of breaches of capital requirements, which could aggravate the situation of insurance undertakings in financial difficulties. New disclosure requirements will also increase the administrative burden on insurance undertakings (See *Industry Reports* - Annex C.8c).

Option 3.4 was retained, in line with the conclusions of the *KPMG Report*, as it more effectively meets the objectives of advancing supervisory convergence and cooperation and increasing transparency than option 3.3. Even though, as it goes further with respect to harmonisation than the CRD, Option 3.4 contributes less effectively than Option 3.3 to the objective of promoting compatibility of prudential supervision of insurance and banking.

Policy Option Comparison - Policy Issue n° 3: Consistency of prudential supervision of insurance and banking

Policy Option	Relevant Objectives							
	3.2.2 Advance supervisory convergence and co-operation		3.1.2 Enhance the protection of policyholders and beneficiaries		3.2.6 Increase transparency		3.3.7 Promote compatibility of prudential supervision of insurance and banking	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
3.1 Retain current quantitative supervisory approach	0	0	0	0	0	0	0	0
3.2 Adopt first and second Basel Pillars (quantitative and qualitative)	+	++	+	++	+	0	+	++
3.3 Adopt all three Basel Pillars including market discipline	+	+	++	+	+	+	++	+
3.4 Adopt adjusted more harmonised Basel three Pillar approach	++	+	++	+	++	+	+	+

4.4. Group supervision (Annex B.4)

Under Solvency I the focus of supervision is on legal entities, although supplementary provisions are applied to solo entities forming part of an insurance group (the so-called "solo plus" approach).

There are a large number of insurance groups operating within the EU on a cross-border basis. The internal control and risk management systems of many of these groups are managed centrally and do not necessarily correspond to the legal structure of the group.

Consequently, under the current prudential regime the supervision of groups operating on a cross-border basis is rarely aligned to the way in which the group organises and manages itself. This is particularly true when it comes to capital management and the use of internal models, which are often designed and implemented centrally and take account of diversification effects across entities (See *KPMG Report* – Section 3).

This raises the question of what role solo and group supervisors should play in the supervision of legal entities within a group, particularly if internal models are allowed to be used under Solvency II (See Section 4.7).

The supervisory models discussed included: 1) retaining a "solo plus" approach to supervision, but with increased cooperation and coordination between European supervisory authorities; 2) entrust all the tasks involved in the prudential supervision of the different entities within a group to the group supervisor; or 3) reallocating responsibilities between solo and group supervisors, such that for example the solo supervisor is responsible for monitoring core aspects, whilst the group supervisor is responsible for monitoring capital allocation within the group.

The options regarding the supervisory arrangements of insurance groups can thus be summarised and will be referred to in the rest of this report as follows:

- **Policy Option 4.1**: Retain current solo plus approach;
- **Policy Option 4.2**: Assign responsibility for prudential supervision of a group to a single lead supervisor;
- **Policy Option 4.3**: Re-allocate responsibilities of solo and group supervisors.

Option 4.1 is criticised by the European insurance industry, because it bears the brunt of the extra administrative costs arising from this supervisory approach: as there is no real group supervisor under Option 4.1, insurance groups do not have any clear contact point with whom to discuss their general strategy, they need to send the same information to several supervisors - in accordance with various reporting formats - and sometimes receive contradictory instructions from solo supervisors (See *Industry Reports* – Annex C.8e). Moreover, lack of coordination can be especially damaging with respect to the recognition of diversification effects across entities forming part of a group, as this would result in insurance groups being required to hold more own funds than necessary, which would hamper efficient capital allocation within the insurance sector and the EU economy as a whole, and would increase costs for insurers (i.e. cost of raising idle own funds).

On the other hand, Option 4.1 provides a lot of comfort to solo supervisors, who can monitor and enforce all requirements at the solo level and ensure strong policyholder protection. Therefore, as far as policyholders are concerned, option 4.1 is likely to have mixed indirect effects: on the one hand, it is very conservative and delivers prudent capital requirements; on the other hand, it increases costs for insurers and ultimately puts upward pressure on insurance premiums.

Option 4.2 is strongly supported by the EU insurance industry, as it assigns full responsibility for the supervision of a group to a single lead supervisor and addresses most of the pitfalls identified with Option 4.1. Option 4.2 however raises a number of significant practical concerns, especially for cross-border insurance groups: it implies that the lead supervisor is able to hire enough staff, with the appropriate language and technical skills, to carry out by himself the supervision of all entities forming part of a group; and it provides no incentive to develop a common European supervisory culture, which may seriously hamper harmonisation across the EU. At least in the medium term, lead supervisors would face serious practical difficulties to carry out the supervision of entities in another Member State and it cannot be excluded that the timeliness of supervisory action and policyholder protection would suffer from that change.

Option 4.3 aims at achieving an appropriate balance between options 4.1 and 4.2. Indeed, by appointing a lead supervisor who coordinates supervisory actions, it ensures information flows between all relevant supervisory authorities and delivers all the benefits of option 4.2 (i.e. reduced administrative costs, better capital allocation, increased competitiveness, and lower insurance prices). In addition, it dodges all practical problems raised by the second option, since tasks are efficiently shared between the solo and the lead supervisors, providing for optimal policyholder protection and promoting supervisory convergence.

Option 4.3 nevertheless has one possible negative implication. The recognition of diversification effects implies that well diversified entities, or those which are part of an insurance group will, in practice have lower capital requirements than single solo entities which are less well diversified. Although this is fully in line with the basic economic principles underpinning the proposal, and does not entail lower protection for policyholders, it may nevertheless act as a catalyst to the already existing trend of consolidation in the EU insurance market and increase already existing competitive pressures on small and medium-sized insurers.

Option 4.3 has been retained as the best option since it achieves a fair balance between the other two options. It most effectively and efficiently contributes to the following three objectives: deepening the integration of the EU insurance market, enhancing policyholder protection, improving international competitiveness of EU insurers and reinsurers and ensuring efficient supervision of insurance groups and financial conglomerates.

Policy Options Comparison - Issue n° 4: group supervision

Policy Option	Relevant Objectives							
	3.1.1 Deepen integration of the EU insurance market		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers		3.3.10 Ensure efficient supervision of insurance groups and financial conglomerates	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
4.1 Retain current "solo plus" approach	0	0	++	+	0	0	0	0
4.2 Assign responsibility for prudential supervision of a group to a single lead supervisor	+	+	0	0	++	+	+	+
4.3 Re-allocate responsibilities of solo and group supervision	++	++	+	++	++	++	++	++

4.5. Small and medium sized undertakings (Annex B.5)

The current insurance regime applies to the vast majority of insurance companies operating within the EU. The smallest insurers are exempted, but nevertheless there remain a very large number of small and medium sized companies and mutual associations that are covered, many of whom are operating in niche markets. The diversity of the EU insurance markets raises the question, whether a single one-size-fits-all approach should be taken for Solvency II, or whether the regime should be tailored to take account of the specificities of small and medium sized enterprises (SMEs).

The specificities of SMEs could be taken into account in a number of different ways. One possibility would be to develop separate regimes for large and small companies. This could be achieved either by developing two new separate regimes, or by continuing to apply the current regime to smaller insurers, whilst introducing a new solvency system for larger insurers. Another possibility is to apply the same principles to large and small insurers alike, but allow for a range of methods to be used in order to meet those principles, tailored to the nature, size and complexity of the insurer.

The options regarding the treatment of small and medium sized undertakings can thus be summarised and will be referred to in the rest of this report as follows:

- **Policy Option 5.1**: Same regime for all insurers, large and small alike;

- **Policy Option 5.2**: Separate regimes for large and small insurers;

- **Policy Option 5.3**: Same principles for all insurers, but range of methods available to meet those principles.

Given the heterogeneity of the EU insurance market, applying the same regime to both large and small insurers (Option 5.1) is likely to result in the introduction of a system that would be too complex and costly for small and medium sized firms, on the one hand, whilst not providing sufficient incentives for larger insurers to improve their risk management, on the other.

The most direct way to take account of the specificities of smaller insurers would be to apply a separate regime to them (Option 5.2)**.** This approach would ensure that administrative costs were not unduly burdensome for smaller insurers and that a regulatory regime for large insurers could be introduced that was aligned to industry best practice. However, Option 5.2 would only deliver harmonised risk-sensitive solvency rules if an insurer's size is a good proxy for complexity and risk, which is not always true. The use of different solvency regimes would therefore introduce the risk that a different level of policyholder protection would be applied to large and small insurers' policyholders – e.g. if the requirements for SMEs were underestimated, this would endanger small insurers' policyholders.

Another way to take account of the specificities of smaller insurers is to apply the same principles to all insurers, whilst allowing for a range of methods to be used that take account of the nature, scale and complexity of their operations (Option 5.3). Such an approach would allow for simplified methodologies to be applied (e.g. for technical provisions and capital requirements), where an insurers' operations are relatively straight-forward. Conversely, larger insurers, or insurers with more complex risk profiles, would be required to use more sophisticated methods. Similarly qualitative requirements regarding governance, internal control and risk management would be applied in a proportionate manner. This would ensure that administrative costs are commensurate with the nature, scale and complexity of an insurer's operations, whilst at the same time providing appropriate incentives for all insurers to improve their risk management. Moreover, Option 5.3 is similar to the one adopted in the banking sector.

Option 5.3 has been retained as the best option as it most effectively meets the objective of introducing proportionate requirements for small undertakings and introducing harmonised risk-sensitive solvency standards. Even though it less effectively contributes to the harmonisation of technical provisions than Option 5.1, it is much more efficient with respect to that objective.

Policy Options Comparison - Issue n° 5: small and medium sized undertakings

Policy Option	Relevant Objectives					
	3.3.4 Proportionate requirements for small undertakings		3.3.3 Introduce risk sensitive harmonized solvency standards		3.3.2 Harmonize the calculation of technical provisions	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
5.1 Same regime for all insurers, large and small alike	0	0	+	0	++	0
5.2 Separate regimes for large and small insurers	+	++	+	++	0	++
5.3 Same principles for all insurers, but range of methods available to meet those principles	++	+	++	++	+	+

A separate important question regarding the treatment of SMEs relates to whether the smallest insurers should be exempted from the regime altogether. Some small insurers are exempted from the current regime. Although, this question is not considered in the analysis above the box below provides some data regarding the impact of choosing different exemption thresholds and conditions under Solvency II.

Exemption threshold under Solvency II

The current exemption threshold is set at €5 million annual premium income, and it only applies to mutuals (~674 undertakings concerned out of a total of 1301 mutuals and 3225 non mutuals[28]). In the context of Solvency II, a couple of options for the exemption threshold have been considered: keep the current rule; or retain the current threshold of €5 million, but extend it to all legal forms of undertakings (~1638 undertakings concerned); increase the threshold to €10 million and enlarge it to all legal forms of undertakings (~1954 undertakings concerned).

4.6. Calculation of technical provisions for prudential and accounting purposes (Annex B.6)

Under the current regime, Member States generally require insurance and reinsurance companies to apply the same valuation standards for both accounting and supervisory reporting purposes, in particular with respect to the calculation of technical provisions. However, these valuation standards, including the methods applied to calculate technical provisions, vary widely from Member State to Member State.

Given the important role that the calculation of technical provisions plays in any solvency regime, this raises the question whether the calculation of technical provisions should be harmonised for supervisory purposes under Solvency II, and if so should this harmonised approach be carried over to the accounting rules.

The question is linked to international developments and Phase II of the IASB's Insurance Contracts project, particularly now that EU listed companies are required to present IAS accounts.

The options regarding the calculation of technical provisions for prudential and accounting purposes can thus be summarised and will be referred to in the rest of this report as follows:

[28] Based on a survey in which 22 Member States participated, see CEIOPS (2005), *Answers to the European Commission on third wave of Calls for Advice in the framework of the Solvency II project*, Call for Advice No. 23, Annex F

- **Policy Option 6.1:** Retain current rules regarding the calculation of technical provisions;

- **Policy Option 6.2**: Harmonise and align calculation of technical provisions for both accounting and prudential purposes;

- **Policy Option 6.3**: Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged.

Option 6.1 was discarded early on in the project, as the current existence of very different national rules is one of the key problems of Solvency I (See Section 2). It has negative impacts: on the whole EU industry, as it prevents meaningful comparison and fair competition across Member States; on lead supervisors and cross-border groups, who are confronted with varying financial requirements and reporting formats; and on policyholders, who are faced with greater uncertainty on the financial strength of insurers, because good practice is not encouraged and shared.

Conversely, Options 6.2 and 6.3 provide for better transparency and comparability across insurers and reinsurers, as well as for common risk-based tools for supervisors. As a consequence, they would enhance policyholder protection. On the other hand, insurers would incur significant up-front costs introducing harmonised new rules. The main drawback of Option 6.2 is that it would probably delay the whole Solvency II project, until the outcome of the IASB's work is known. This would result in considerable short-term opportunity costs. Option 6.2 was therefore discarded on efficiency grounds.

Option 6.3 was retained as a good compromise and the most effective and efficient option with respect to the following two objectives: harmonise calculation of technical provisions and harmonise supervisory methods, tools and powers. In addition, even though Option 6.3 does not provide full harmonisation with IFRS rules, it nevertheless clearly promotes compatibility with those standards since the valuation standards laid down in the draft Directive are broadly in line with IFRS latest developments.

Policy Options Comparison - Issue n° 6: calculation of TP for prudential and accounting purposes

Policy Option	Relevant Objectives					
	3.3.2 Harmonise calculation of technical provisions		3.3.5 & 3.3.6 Harmonise supervisory methods, tools, powers and reporting		3.3.8 Promote compatibility of valuation and reporting rules with the IFRS rules	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
6.1 Retain current rules regarding the calculation of technical provisions	0	0	0	0	0	0
6.2 Harmonise and align calculation of technical provisions for both accounting and prudential purposes	++	0	++	0	++	++
6.3 Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged	++	++	++	++	+	+

4.7. Calculation of capital requirements (Annex B.7)

Under the current regime the minimum solvency margin does not capture all the risks an insurer is exposed to. As a consequence, a number of Member States have introduced supplementary solvency rules. In particular, with respect to investment risk, as it is not captured in the current regime. These supplementary rules often involve the use of stress and scenario tests – i.e. capital requirements are based on the worst-case outcome from a set of scenarios applied to an insurance company's operations.

In the United States, a new Risk-Based Capital (RBC) system was introduced in the 1990s. The principle underlying the RBC system is to assign a capital requirement to each of the main risks facing insurance companies: the calculation methods used, which are more complex than the current EU system, are standardised but take account of the characteristics of each company. A cumulative capital requirement is then calculated by combining the capital requirements assigned to each risk.

However, neither the current EU regime nor the US RBC system take a full economic capital approach targeting a specific confidence level and time horizon – e.g. they are not designed with the objective of ensuring that no more than a specified percentage of insurance companies would be expected to fail over a given time horizon. In addition, neither regime allows for internal models to be used in the calculation of capital requirements instead of the standard formula.

The options regarding the calculation of capital requirements can thus be summarised and will be referred to in the rest of this report as follows:

- **Option 7.1**: Update the current required solvency margin calculation;
- **Option 7.2**: Introduce an advanced scenario-based approach;
- **Option 7.3**: Introduce a European RBC system, similar to the RBC system in the US;
- **Option 7.4:** Introduce a system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either calculated using a standard formula, or an internal model.

Despite limited one-off implementation costs, Option 7.1 was discarded because of the underlying structural problems of the current solvency regime (See Section 2).

Options 7.2 and 7.3 were seriously considered as they would clearly encourage EU insurers to improve their risk management as compared to Solvency I, enhancing policyholder protection. That said, advanced scenario-based approaches may suffer from subjectivity issues (i.e. how do you simulate such a complex scenario in practice?) and a European RBC system would not properly capture complex risk interactions, nor the impact of innovative risk-mitigation techniques.

Option 7.4, by introducing an economic risk-based approach, should provide very strong incentives for EU insurers to improve their risk management, to the benefit of policyholders. Such an approach is based on the true risk profile of insurance undertakings: it captures a wide-range of financial risks, as well as interactions between risks, the impact of risk mitigation techniques, and diversification effects.

Option 7.4 will result in better allocation of capital for insurers, align regulatory requirements with industry practice, and make supervision more effective and efficient (more accurate and timely interventions by supervisors).

In addition, Option 7.4 strikes the right balance between risk-sensitivity and simplicity: using a standard formula to calculate risk-based capital requirements will limit the implementation costs for smaller insurers; and large firms are offered the opportunity to use more sophisticated methods, if desired. Implementation of internal models will nevertheless be expensive to both develop and maintain.

Option 7.4 leaves little room for interpretation when a standard formula is used (maximum harmonisation of regulatory capital requirements), thus reducing the burden for insurance undertakings operating on cross-border basis.

However, with respect to internal models, there is considerable subjectivity regarding the design, parameters and data sets to be used. Increased supervisory cooperation and coordination will be required to ensure real harmonisation in this regard. In addition, validation of internal models by supervisors will require considerable actuarial and risk management knowledge, as well as increased supervisory resources (See *CEIOPS Report*).

Option 7.4 was retained as the best option, in line with the conclusions of the *KPMG Report*, as it effectively and consistently meets the objectives of improving the risk management of EU insurers and reinsurers, providing for a better allocation of capital resources, and advancing supervisory convergence.

Policy Option Comparison - Policy Issue n° 7: Calculation of capital requirements

Policy Option	Relevant Objectives							
	3.2.1 Improve the risk management of EU insurers and reinsurers			3.2.4 Provide for a better allocation of capital resources			3.2.2 Advance supervisory convergence and cooperation	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
7.1 Update current solvency required margin calculation	0	0	0	0	0	0	0	0
7.2 Introduce a scenario based approach	++	0	0	++	0	0	0	0
7.3 Introduce European RBC system, similar to the RBC system in the US	+	+	0	+	+	0	+	+
7.4 Introduce system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either calculated using a standard formula or an internal model.	++	+	+	++	+	+	+	+

Low Level Policy Options

Following consideration of the overall direction of the new regime (high level policy options), a number of subsequent lower level policy options were analysed and compared. These options included methods for the calculation of technical provisions; the level of calibration of the capital requirements; and how the capital requirements should be designed. In addition, various options regarding the treatment of investments were considered. More detail is provided on each low level policy option below, together with a short summary setting out which option was taken and why. Detailed analysis of each option is contained in Annexes B.8-B.13.

4.8. Methods for the calculation of technical provisions (Annex B.8)

It was agreed during Phase I of the Solvency II project that the calculation of technical provisions for prudential purposes should be harmonised (See Section 4.6). However, the approach to be applied to determine the new harmonised calculation was left for Phase II of the project.

A number of options were tested in the *PFS*, *QIS1* and *QIS2*, all of which were based on a best-estimate plus risk margin approach.

With respect to the calculation of the best-estimate, the key question relates to whether cash-flows should be discounted using the relevant risk-free interest rate or not, as this option was left open to Member States under the current regime.

With respect to the calculation of the risk margin, a number of different methodologies and approaches were considered, in line with discussions taking place internationally both within the IAIS and IASB. In the *PFS* and *QIS1*, a percentile approach was tested (75th percentile and 90th percentile). In *QIS2* a 75th percentile and cost-of-capital approach were tested.

The options regarding the harmonised calculation of technical provisions for prudential purposes can thus be summarised and will be referred to in the rest of this report as follows:

- **Policy Option 8.1**: Undiscounted best estimate with percentile risk margin calculation;
- **Policy Option 8.2**: Discounted best estimate with percentile risk margin calculation;
- **Policy Option 8.3**: Discounted best estimate and cost-of-capital risk margin calculation.

Important remark: The calculation of technical provisions on a discounted basis is broadly in line with a market consistent approach to valuation. Regarding pure unit-linked business, this policy issue is irrelevant, since unit-linked liabilities are already valued on a market-consistent basis under Solvency I and will continue to be valued in the same way under Solvency II. Another important issue regarding the calculation of technical provisions is whether financial guarantees embedded in insurance contracts should be valued on a market consistent basis or not.

When correctly applied, discounting provides a better measure of the true economic value of insurance liabilities, and promotes sound risk management, as it will require insurers to further analyse the underlying risk drivers (e.g. settlement patterns and time value of money). Furthermore, explicit discounting does not necessarily imply that the level of policyholder protection is weakened, because prudence is provided by both the inclusion of a risk margin and the imposition of capital requirements. Therefore, Option 8.1 was discarded.

With respect to the calculation of the risk margin, the percentile approach raises significant practical concerns, which counts against Option 8.2. Conversely, the cost-of-capital approach seems to be reasonably easy to compute - in particular for SMEs, as it allows for simplifications - provides the same level of prudence in most cases, and better corresponds to the way the insurance industry manages its risks.

Option 8.3 is in line with all those considerations and is expected to have a positive overall impact. In particular, the discounting rules should lead to a significant decrease in non-life insurance technical provisions (~ -15%) according to the results from *QIS2*, especially in southern countries where discounting is currently unauthorised. This should put downward competitive pressure in respect of mass risk insurance (e.g. motor and household insurance) and policyholders should ultimately benefit from this decrease in costs. On the other hand, with respect to life insurance technical provisions, the impact of discounting using market rates is less material, since it is largely offset by the inclusion of expected discretionary bonuses in the best estimate and market consistent valuation of contractual guarantees.

Option 8.3 encourages insurers, both large and small, to better understand their risks, which should indirectly enhance policyholder protection and financial stability. It should also promote better capital allocation within the insurance sector and the EU economy as a whole.

Option 8.3 has been retained as the best option as it is the most effective and efficient solution with respect to the following objectives: harmonised calculation of technical provisions, introducing harmonised risk-sensitive solvency standards, harmonised supervisory methods, tools and powers, and proportionate treatment of small undertakings. In addition, it

seems to be a more sustainable solution, since the most recent IFRS developments tend to rely on the same philosophy, in line with a fifth objective (i.e. compatibility with IFRS rules).

Policy Options Comparison - Issue n ° 8: Methods for the calculation of technical provisions

Policy Option	Relevant Objectives									
	3.3.2 Harmonise the calculation of technical provisions		3.3.5 Harmonise supervisory methods, tools and powers		3.3.8 Promote compatibility of valuation and reporting rules with the IFRS rules		3.3.3 Introduce risk-sensitive harmonised solvency standards		3.3.4 Small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
8.1 Undiscounted best estimate with percentile risk margin calculation	+	0	+	0	0	0	+	0	0	0
8.2 Discounted best estimate with percentile risk margin calculation	++	+	++	+	0	0	++	+	0	0
8.3 Discounted best estimate with cost-of-capital risk margin calculation	++	++	++	++	+	+	++	+	++	++

4.9. Calibration of the Solvency Capital Requirement (SCR) (Annex B.9)

It was agreed at the conclusion of Phase I of the project that the Solvency Capital Requirement (SCR) for the new system should be based on the amount of economic capital corresponding to a specific ruin probability and time horizon, calculated either using a standard formula or internal model.

The specific choice of ruin probability and time horizon was though left to Phase II. Under *QIS2*, the results were calibrated to a ruin probability of 0.5% over a one year time horizon (a working hypothesis introduced into the Framework for Consultation in July 2005). The results of *QIS2* were benchmarked against the current solvency requirements in order to ascertain what the impact of using a ruin probability of 0.5% over a one year time horizon would be and whether or not it should be adjusted up or down.

However, it should be noted that the main focus of *QIS2* was the design of the standard formula for the SCR, not calibration. Therefore the results and analysis provided below should be regarded as purely indicative and provisional. In particular, *QIS2* focussed on solo capital requirements. Group requirements and requirements based on internal model calculations are being tested for the first time as part of QIS3. Consequently, this analysis will need to be updated in the light of QIS3. The results of QIS3 will provide a more precise indication of the overall impact on capital requirements.

The options regarding the ruin probability to be used for the SCR can thus be summarised and will be referred to in the rest of this report as follows:

- **Option 9.1**: Use a 0.5% ruin probability over a one-year time horizon for SCR;

- **Option 9.2**: Use more onerous capital standard – i.e. higher capital requirement;

- **Option 9.3**: Use less onerous capital standard - i.e. lower capital requirement.

A Value-at-Risk measure subject to a 99.5% confidence level over a one year time horizon (equivalent to a probability of ruin of 0.5%), is believed to roughly correspond to a "secure" financial strength (or BBB) rating for an insurer.

Standard & Poor's assigns a BBB rating level to firms with "good" capital adequacy (i.e. actual capital at disposal of the firm is 100 to 125% of the minimum economic capital considered necessary). Imposing a more onerous capital standard (option 9.2) would imply

asking for a higher rating, e.g. an A rating, corresponding to "strong" capital adequacy (i.e. 125% to 150%); or on the other hand, a lower rating (option 9.3), e.g. a BB rating, corresponding to "vulnerable" capital adequacy (below 100%) - See *KPMG Report*.

Imposing a more onerous capital standard (Option 9.2) would be preferable from a policyholder perspective, as it effectively contributes to the objective of enhancing policyholder protection. However, imposing a higher capital requirement would also increase costs for EU insurers and undermine their international competitiveness. Conversely, imposing a less onerous capital standard (Option 9.3) would be preferable from the perspective of the industry, allowing them to compete more effectively on internationally, but would provide a lower level of protection for policyholders.

The chosen ruin probability of 0.5% over a one year time horizon can be viewed in two different ways. Either that a specific insurer would be expected to fail once every two hundred years or that on an annual basis, one in every two hundred insurers will fail.

For comparison purposes, in the banking sector, the capital requirements for credit and operational risk has been calibrated to a 99.9% confidence level over a one year time horizon, whereas for market risk capital requirements are calibrated to 3 times a 99% confidence level over a time horizon of ten days[29]. Therefore, the banking approach relies on the same philosophy, even though the chosen calibration is different, depending upon the risks being considered. The higher confidence level for credit and operational risk is usually justified on the grounds of financial stability and the lower time horizon for market risk in the trading books of banks on the grounds that this business is generally short-term in nature.

Although the main focus of *QIS2* was on the design of the standard formula for the SCR, rather than on its actual calibration, it did provide some initial indication of the possible impact of the new capital requirements based on a ruin probability of 0.5% over a year time horizon.

The impact of the capital requirements tested under *QIS2* differed from Member State to Member State (24 countries took part to *QIS2*). Generally, the *QIS2* results indicated that the SCR tested was higher than the current solvency requirements, particularly in the case of non-life business.

However, it is important to note that the baseline varies considerably from Member State to Member State, depending on:

- the current valuation criteria adopted for assets (historical cost vs. a market consistent approach);

- current valuation criteria adopted for technical provisions (e.g. whether or not technical provisions are discounted);

- the existence of additional capital requirements in some Member States on top of the current required solvency margin (e.g. the Enhanced Capital Requirement in the United Kingdom).

[29] Directive 2006/48/EC and 2006/49/EC

Therefore, a better indicator of the overall impact of the requirements tested under *QIS2* is the "effective" relationship between the SCR and the Solvency I capital requirement, taking into account changes in the valuation criteria for assets and liabilities[30]. This ratio compares the new explicit capital requirement (SCR) based on economic principles with the "overall requirements" of Solvency I, including both explicit requirements (the required solvency margin) and implicit requirements (prudence embedded in the current valuation criteria for assets and liabilities, e.g. assets valued at historical cost, and no discounting of technical provisions).

In the life sector, the "nominal" relationship between the SCR and the required solvency margin indicated that the tested requirement under *QIS2* was between 1 and 3 times higher than at present. However, the "effective" relationship between the SCR and the required solvency margin differed from Member State to Member State. For Member States, where assets are valued at historical cost, the life capital requirement was effectively lower than the required solvency margin (sometimes as much as 50% lower), whereas for Member States where assets are already valued on a market-consistent basis, the life capital requirement was higher than the required solvency margin.

In the non-life sector, the "nominal" relationship between the SCR and the required solvency margin indicates that the requirement tested under *QIS2* was between 2.5 and 4.5 times higher than at present. However, the "effective" ratio showed a much smaller increase, once the consequences of the introduction of market consistent valuation of assets and discounting of technical provisions are taken into account.

Although caution is needed - as *QIS2* did not test the new definition of capital elements eligible to cover the new requirement and did not analyse the impact of current additional capital requirements in some Member States - the impact of the requirement tested under QIS2 on the solvency position – i.e. the relationship between available capital and required capital - of firms can be qualitatively assessed.

In the life sector, eleven countries indicated that available capital under *QIS2* specifications expressed as a percentage of the SCR was lower than available capital as defined under the current regime expressed as a percentage of the required solvency margin, although in most cases the percentage was still over 100%. In other words insurers would not be required to raise additional capital to meet the requirements tested under *QIS2*. Conversely, six countries reported that on average capital requirements would be lower.

In the non-life sector, sixteen countries indicated that on average the ratio of available capital over capital requirements was lower under *QIS2* than under the current regime. Again on average the percentage was though still over 100%. However, there were a not insignificant number of non-life insurers who would be required to raise additional capital to meet the requirements tested under *QIS2*.

Overall, the *QIS2* results indicated that in the case that the requirements tested under *QIS2* were introduced the European insurance industry would hold sufficient capital to meet them without having to raise additional funds, even in the non-life sector where the impact was

[30] The effective ratio is equal to: SCR / (Solvency I capital requirement + differences between the current statutory/accounting valuation of assets and liabilities and their valuation according to the new Solvency II principles).

greater. However, some small non-life undertakings, mostly mono-liners and/or mutual companies reported that they would be required to raise additional capital. This was partly due to the presence of a size factor adjustment in the *QIS2* specification which has been eliminated from the SCR formula that will be tested in QIS3.

Concerns were also expressed about the calibration of the capital charge for equity and property risk (corresponding to a shock of 40% of the market value of equity investments and 20% of property) in *QIS2* by some stakeholders, because it was considered to be inappropriate and overly conservative. In their opinion, the proposed treatment did not properly reflect the interaction between assets and liabilities and in particular the use of equity to match long-term liabilities. Experience shows that volatility in equity is high in the short term, but less significant over the long term.

Option 9.1 has been retained as the best option, after being tested in *QIS2*, as it achieves an appropriate balance between the objective of enhancing policyholder protection and improving the international competitiveness of EU insurers and reinsurers.

Policy Options Comparison - Issue n° 9 - calibration of the Solvency Capital Requirement

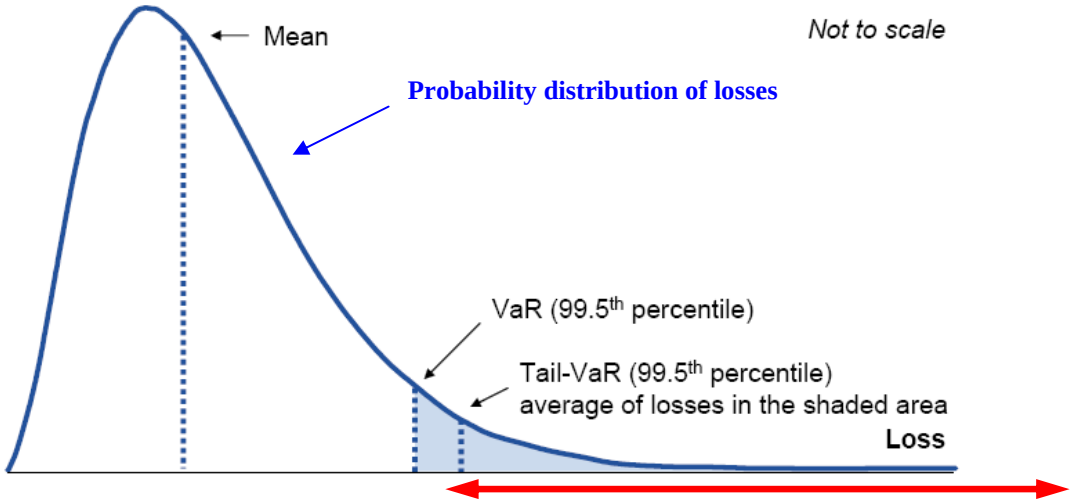
Policy Option	Relevant Objectives					
	3.3.3 Introduce risk sensitive harmonized solvency standards		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
9.1 Use 0.5% ruin probability over a one year time horizon for SCR	++	+	+	+	+	+
9.2 Use more onerous capital standard - i.e. higher capital requirement	++	0	++	0	0	0
9.3 Use less onerous capital standard - i.e. lower capital requirement	++	++	0	++	++	++

4.10. Choice of a risk measure for solvency purposes (VaR vs. TailVaR) (Annex B.10)

With respect to the definition of an appropriate risk-measure so as to calculate the Solvency Capital Requirement (SCR), there was considerable debate regarding whether it should be expressed as a Value-at-Risk figure (VaR) or a Tail Value-at-Risk figure (TailVaR).

The following graph represents how VaR and TailVaR are derived from a probability distribution with a 99.5% confidence level (e.g. a 0.5% probability for the insurer to be ruined in the case of VaR) over one year.

Figure: graphical definition of VaR and TvaR



This question does not impact the overall calibration of the SCR, as the confidence level applied to a TailVaR measure can be adjusted downwards to deliver an equivalent probability of ruin, but it is especially important for insurers and reinsurers wishing to use an internal model.

The options regarding the risk measure to be used for the SCR can thus be summarised and will be referred to in the rest of this report as follows:

- **Policy Option 10.1**: Use Value-at-risk measure;

- **Policy Option 10.2**: Use Tail-value-at-risk measure;

- **Policy Option 10.3**: Use Value-at-risk measure, but allow insurers using an internal model to use alternative risk measures as long as they deliver an equivalent level of policyholder protection;

The main disadvantage of Option 10.1 is that VaR does not meet all the theoretical and actuarial qualities for a risk measure. These theoretical weaknesses lie behind the concerns of some supervisors calling for optimal policyholder protection. On the other hand, Option 10.1 has many practical advantages, since it is easy to understand and implement, and is already used by the majority of insurance companies and by the banking sector. Consequently, Option 10.1 would limit initial implementation costs for many companies.

Conversely, Option 10.2 establishes an excellent risk measure in theory, TailVaR, but raises numerous practical concerns: it is likely to cause significant additional costs for the industry; it introduces cross-sectoral consistency issues, as the other financial sectors refer to VaR; and TailVaR is often difficult to implement properly, and therefore subject to significant modelling error, to the detriment of policyholder protection.

Option 10.3 achieves common ground between the first two options. Indeed, it establishes VaR as a benchmark, which seems to be the most practical solution for a great number of insurers, but does not prevent companies that are willing and able to build a more sophisticated internal model to use TailVaR as a risk measure. This approach also provides flexibility to take into account technological progress.

Option 10.3 was retained as the best option, since it has very few drawbacks. Overall it is the most effective, efficient and consistent solution with respect to the following objectives: introducing harmonised risk-sensitive solvency standards, proportionate treatment of small undertakings, harmonised supervisory methods, tools and powers, and promoting compatibility of prudential supervision of the insurance and banking sector.

Policy Options Comparison - Issue n ° 10: Choice of a risk-measure for the SCR (VaR vs. TailVaR)

Policy Option	Relevant Objectives							
	3.3.7 Promote compatibility of prudential supervision of insurance and banking sector		3.3.5 Harmonise supervisory methods, tools and powers		3.3.3 Introduce risk-sensitive harmonised solvency standards		3.3.4 Proportionate requirements for small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
10.1 Use Value-at-Risk measure	++	+	++	+	++	+	++	+
10.2 Use Tail Value-at-Risk measure	+	0	++	+	++	0	0	0
10.3 Use Value-at-Risk measure, but allow insurers using an internal model to use alternative risk-measures as long as they deliver an equivalent level of policyholders' protection	++	++	+	++	+	++	++	++

4.11. Design of the SCR standard formula (Annex B.11)

The design of the SCR standard formula was left until Phase II. In *QIS2*, various options were tested for each risk module in the standard formula, along with the methods for aggregating the results of each of those risk modules.

In particular, different factor- and scenario-based approaches were tested for each risk module under *QIS2* and the results were compared and analysed both quantitatively and qualitatively. This analysis included consideration of the ease with which smaller insurers could perform the calculations.

The options regarding the design of the SCR standard formula can thus be summarised and will be referred to in the rest of this report as follows:

- **Option 11.1**: Use scenario-based approach for all SCR risk modules;

- **Option 11.2**: Use factor-based approach for all risk modules.

- **Option 11.3**: Use mixed approach, scenarios for some SCR risk modules and a factor-based approach for others;

- **Option 11.4**: Use mixed approach, scenarios for some SCR risk modules and a factor-based approach for others, but provide simplified factor-based approaches for those risk modules where scenarios are used;

A number of possible approaches exist to calculate capital requirements using a standard formula. These range from simple factor-based approaches (where a specified factor is multiplied by a risk exposure measure) to more complex scenario-based approaches (where

insurers are required to test their solvency position against a range of adverse scenarios). Factor-based approaches (Option 11.2) benefit from being simple to describe and to calculate. Their main drawback is some lack of risk-sensitivity, as they cannot capture all the specificities of an individual insurer's risk profile. Conversely, scenario-based approaches (Option 11.1) are more risk-sensitive and potentially dynamic, but it can be difficult to determine scenarios that are truly representative of a worst case event for the vast majority of insurers, and scenario-based approaches are more complex to implement and more costly to maintain than a factor-based approach.

The SCR standard formula tested in *QIS2* was based on a modular approach (i.e. individual risk exposures are assessed and then aggregated). Factor-based and scenario-based approaches were tested for each risk module under *QIS2*, in order to analyse their respective impacts and qualities. The results of *QIS2* pointed towards the use of a mixed approach. That is to say the use of factor based approaches for some risk modules and scenarios for others, and where a scenario-based approach was chosen, to develop simplified factor-based approaches to be used as a proxy by firms with simple risk profiles.

This approach (Option 11.4) provides large firms with incentives to improve specific areas of risk management, where a scenario-based approach is used, even though this will entail significant implementation and on-going costs for those firms. Regarding small and simple insurers, the possibility to use factor-based approaches for all SCR risk modules should ensure a straight-forward implementation of the new regime, limiting administrative costs. Improved risk analysis by both firms and supervisors should enhance policyholder protection, particularly where scenario-based approaches are used.

Option 11.4 was therefore retained, in line with the feed-back from *QIS2* and in line with the conclusions of the *KPMG Report*, as it efficiently and effectively meets the objectives of introducing harmonised risk-sensitive solvency standards and establishing proportionate requirements for small undertakings.

Policy Options Comparison - Issue n° 11: design of the Solvency Capital Requirement

Policy Option	Relevant Objectives			
	3.3.3 Introduce risk sensitive harmonised solvency standards		3.3.4 Proportionate requirements for small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
11.1 Use scenario based approach for all SCR risk modules	++	0	0	0
11.2 Use factor based approach for all risk modules	0	0	++	++
11.3 Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others	+	+	+	+
11.4 Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others, but provide simplified factor based approaches for those risk modules where scenarios are used	+	++	++	++

4.12. Calculation of the Minimum Capital Requirement (MCR) (Annex B.12)

At the conclusion of Phase I of the project, it was agreed that the new solvency regime should include not only a Solvency Capital Requirement (SCR), but also a Minimum Capital Requirement (MCR) calculated in a more simple and robust manner than the SCR.

The SCR and the MCR are the two extremes of the so-called "ladder of supervisory intervention". If available capital falls below the SCR, supervisors take proportionate

corrective measures. In the event that available capital falls further, the severity of the measures applied is increased, and in the event that the MCR is breached ultimate supervisory action is triggered. The concept of the supervisory ladder is in line with the IAIS's Guidance Paper No. 6 on Solvency Controls Levels.

During Phase II of the project, a number of different options were discussed regarding the calculation of the MCR. These included using a percentage of the SCR (or "compact approach"), a simplified version of the SCR calibrated to a lower level of confidence (or "modular approach"), and a calculation similar to that under Solvency I.

The options regarding the calculation of the MCR can thus be summarised and will be referred to in the rest of this report as follows:

- **Option 12.1**: MCR calculated as a percentage of the current solvency margin requirement;

- **Option 12.2**: MCR calculated as percentage of the SCR;

- **Option 12.3**: MCR calculated using simplified version of the SCR.

Option 12.1 has the advantage of ensuring continuity with the current regime and minimising implementation costs. On the other hand, it would clearly bring the disadvantages of the existing system into Solvency II, namely the lack of risk-sensitivity. This option was consequently discarded.

Option 12.2 would have the main advantage of providing automatic reassurance that there is a sufficient difference between SCR and MCR, allowing for the proper functioning of the supervisory ladder of intervention. Moreover, it would be consistent with the new risk-based framework and introduce low incremental burden on insurers. Its main drawback is that the calculation of the MCR would rely on the SCR calculation: as a consequence, national courts would be required to check all the assumptions underlying the SCR in order to verify the calculation of the MCR. Moreover, from the point of view of supervisors, the MCR would not provide additional information when compared to the SCR.

Option 12.3 corresponds to a simplified factor-based version of the SCR standard formula concentrating on the main risk categories, calibrated to a lower level of confidence than the SCR (see previous section). This would allow for some risk-sensitivity to be retained, whilst optimising for simplicity. In particular, the MCR calculation would be relatively simple for national courts to verify, in the event authorisation to take ultimate supervisory action is required. Even though relatively straight-forward, Option 12.3 would be more costly for the industry to implement than the approaches outlined in Options 12.1 and 12.2.

Data was collected on all three approaches as part of QIS2. A number of concerns were raised regarding Options 12.1 and 12.3, as they did not appear to deliver a clear hierarchy of regulatory requirements, in which the SCR was above the MCR. Consequently, two new methodologies have been developed and shall be tested in QIS3:

- a revised "modular" approach to the MCR, developed by CEIOPS in its post-QIS2 advice, along the lines of Option 12.3;
- an alternative "compact" MCR, put forward by the CEA, equal to a percentage of the SCR calculated in accordance with the standard formula or using an internal model, along the lines of Option 12.2.

Only after examining the results of QIS3, will a final decision on the design of the MCR be taken.

Policy Options Comparison - Issue n° 12 Calculation of the Minimum Capital requirement MCR

Policy Option	Relevant Objectives					
	3.1.2 Enhance protection of policyholders		3.3.3 Introduce risk sensitive harmonised solvency standards		3.3.9 Promote compatibility with the work of IAIS and IAA	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
Option 12.1: MCR calculated as a percentage of the current solvency margin requirement	0	+	0	+	0	+
Option 12.2: MCR calculated as percentage of the SCR	+	++	++	++	+	++
Option 12.3: MCR calculated using simplified version of the SCR	++	+	+	+	+	+

4.13. Investment rules (Annex B.13)

Unlike the current regime, where the required solvency margin does not take account of investment risk, under Solvency II the SCR will capture quantifiable risks, including investment risk, to a much greater extent. This raises the question whether investment rules regarding the admissibility of assets, as well as the imposition of quantitative limits, are still necessary, and if so whether they should apply only to assets covering technical provisions, or assets covering both technical provisions and the SCR.

The current regime includes a requirement for insurers to manage their investments in a "prudent manner"; the "IORP" Directive[31] dealing with pension funds is based on the "prudent person" principle. The current insurance directives are supplemented by a series of detailed investment rules regarding the admissibility of assets covering technical provisions, as well as quantitative limits on investments. These rules are then further elaborated by additional investment rules at national level, further restricting the assets that can be used to cover technical provisions.

The "prudent person" principle is a long-established legal principle and practice governing the management of investments. The principle encapsulates the ideas of portfolio diversification and broad asset-liability matching, based on the premise that the manager of the investments should be seeking to manage them as if they were his own, with due diligence and skill, thus avoiding undue risks to the beneficiaries.

Quantitative restrictions and asset admissibility rules (which are an extreme form of quantitative restrictions – a 100% deduction) limit holdings of certain types of assets within the portfolio. Both the prudent person approach and an approach based on quantitative limits seek to ensure that there is no significant mismatch between assets and liabilities, and that assets are sufficiently well diversified and liquid.

The options regarding investment rules can be summarised as and will be referred to in the rest of this report as follows:

- **Option 13.1**: Retain current investment rules and Member State options;
- **Option 13.2**: Introduced harmonised investment rules;
- **Option 13.3**: Abolish investment rules but retain the prudent person principle;
- **Option 13.4**: Abolish investment rules and prudent person principle.

[31] Directive 2003/41/EC

The current investment rules (Option 13.1) provide policyholders with assurance that assets backing technical provisions will be invested in line with quantitative limits set out in the Directive and that these quantitative limits are relatively straight-forward for supervisors to verify and are easy to legally enforce.

However, the current investment rules do not provide incentives for insurers to improve their risk management and increase the administrative burden placed upon insurers resulting from a lack of alignment of regulatory requirements and industry practice. The lack of harmonisation of investment rules across Member States also increases costs for insurers operating on a cross-border basis and results in an uneven level of policyholder protection across the EU.

Furthermore, studies show that quantitative restrictions get in the way of efficient asset allocation and securities selection, leading to sub-optimal return and risk-taking. The size of this effect is difficult to estimate. However, in the case of life insurance, it has been suggested that the impact on investment returns resulting from the use of strong quantitative restrictions rather than the prudent person principle could be as much as 200 to 300 basis points[32]. Currently, the extent to which Member States restrict investments via the use of quantitative limits varies considerably. However, even if one were to restrict analysis to those Member States imposing the strictest limits and assume improvements in investment returns an order of magnitude lower than those suggested above one could still expect to see improved returns at EU level in the order of hundreds of millions of Euros. Gains arising from these improved returns would be distributed between policyholders and the industry, in the form of reduced premiums, higher discretionary bonuses and increased profitability. As well as reducing investment returns, quantitative limits also restrict insurers' ability to channel funds into venture capital and start-ups, which is not optimal from the perspective of the Lisbon agenda.

Abolishing investment rules and not introducing the prudent person principle (Option 13.4) would not provide policyholders with assurance that assets, backing technical provisions, were being invested in their best interests, although insurers would be required to hold capital to cover the risk they ran. In particular, it would be more difficult for Supervisors to intervene in the event that they believed that policyholders' interests were being jeopardised by an insurer's investment management activities. Moving away from prudent person principle would also undermine cross-sectoral consistency, particularly vis-à-vis occupational pension funds, as the IORPs Directive uses the prudent person principle. Furthermore, abandoning the prudent person principle would not promote international convergence as it would not be in line with IAIS Insurance Core Principle 21 on investments.[33]

Option 13.3 – Abolish investment rules but retain the prudent person principle - was therefore retained as it more effectively and efficiently meets the objectives of deepening integration of the EU insurance market, enhancing policyholder protection, improving the international competitiveness of EU insurance sector, and providing for a better allocation of capital resources.

[32] Bijapur, M., Croci, M., Michelin, E., and Zaidi, R., (2007) *An Empirical Analysis of European Life Insurance Portaolio Regulations*, Occasional Paper Series, 24, Financial Services Authority, London and Davis (2002).

[33] IAIS (2003), *Insurance Core Principles and Methodology*, ICP 21: "The supervisory authority requires insurers to comply with standards on investment activities. These standards include requirements on investment policy, asset mix, valuation, diversification, asset-liability matching, and risk management.

Policy Option Comparison - No 13: Investment Rules

Policy Option	Relevant Objectives							
	3.1.1 Deepen integration of EU insurance market		3.1.2 Enhance policyholder protection		3.1.3 Improve int'l competitiveness of EU insurers		3.1.4 Provide for a better allocation of capital resources	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
13.1 Retain current investment rules and Member State options	0	0	0	0	0	0	0	0
13.2 Introduce harmonised investment rules covering all assets	++	+	+	0	0	0	0	0
13.3 Abolish investment rules but retain prudent person principle	+	++	++	++	++	+	++	+
13.4 Abolish investment rules and prudent person principle	++	++	0	0	++	++	++	++

5. OVERALL EXPECTED IMPACT OF SOLVENCY II

This section provides an overview of the expected overall impact of the introduction of a system designed in accordance with the policy options selected in section 4 (See Annex 4 – Solvency II Outline).

The analysis conducted and the feedback received from stakeholders and interested parties confirm that the introduction of a new economic risk-based solvency regime, making full use of the new Lamfalussy architecture, is the most effective and efficient means to meet the general objectives of the Solvency II project. Namely, to deepen the integration of the EU insurance market, enhance protection of policyholders and beneficiaries, to improve the international competitiveness of EU insurers and reinsurers, and to promote better regulation.

5.1. Retained approach for Solvency II: an economic risk based approach

A system based on sound economic valuation principles will reveal the true financial position of insurers, increasing transparency and confidence in the whole sector. Introducing risk-based regulatory requirements will ensure that a fair balance is struck between strong policyholder protection on the one hand and reasonable costs for insurers on the other.

In particular, capital requirements will reflect the specific risk-profile of each insurance company. Insurers that manage their risks well - because they have rigorous policies, use appropriate risk-mitigation techniques, or diversify their activities - will be rewarded and allowed to hold less capital. On the other hand, poorly managed insurers or insurers with a larger risk appetite will be asked to hold more capital in order to ensure that policyholder claims will be met when they fall due.

Solvency II will result in much greater emphasis being placed on sound risk management and robust internal controls. The responsibility for an insurers' financial soundness will be pushed back firmly to its management, where it ultimately belongs. Insurers will be given more freedom – i.e. they will be required to meet sound principles rather than arbitrary rules. Regulatory requirements and industry practice will be aligned and insurers will be rewarded for introducing risk and capital management systems that best fit their needs and overall risk profile. In return, they will be subject to strengthened supervisory review.

The new regime will also enhance transparency and public disclosure. Insurers applying best practice will be further rewarded by investors, market participants and consumers.

The new Lamfalussy architecture will enable the new regime to keep pace with future market and technological developments as well as international developments in accounting and insurance regulation. In addition, although the same high level principles will apply to all

insurers, implementing measures will enable the rules to be proportionate to the nature, scale and complexity of each insurer. The new Lamfalussy architecture, by advancing supervisory convergence and cooperation, will also result in a more harmonised treatment of insurers across Europe. In addition, the codification of the *acquis* and integration of the new principles in one single document will make European law clearer and more accessible to all stakeholders, in line with the Better Regulation Agenda.

5.2. Benefits for stakeholders

Overall, considerable benefits are expected from the Solvency II project and the expected impact on all interested parties is positive.

Industry

The direct beneficiaries of Solvency II will be insurers. In addition to promoting sound risk management, aligning supervisory requirements with market practices and rewarding well-managed companies, the new regime will also establish a true level playing field and will contribute to a further integration of the EU insurance market.

The international competitiveness of EU insurers and reinsurers will be improved through the alignment of regulatory quantitative requirements with the true economic cost of the risks they run. In particular, the new regime will enable insurers to take full credit for the risk mitigation tools (including reinsurance, securitisation and derivatives) that they use internally for risk and capital management purposes, develop new innovative products and take account of diversification benefits across lines of business and risk classes, at both legal entity and group level.

Supervisors

Insurance supervision will also greatly benefit from Solvency II. Supervisors will obtain better supervisory tools, enabling more timely and effective action, as well as powers to conduct comprehensive reviews of all the risks insurance and reinsurance undertakings face. In particular, sharing of tasks between solo and group supervisors will provide for a better understanding of entities forming part of an insurance group and will enhance supervisory cooperation and convergence.

Policyholders

The main indirect beneficiaries of Solvency II will be policyholders. First, the new regime will ensure a uniform and enhanced level of policyholder protection across the EU, reducing the likelihood that policyholders lose out when insurers get into financial difficulties. Second, the introduction of an economic risk-based approach will give policyholders greater confidence in the products of insurers, as Solvency II will promote better risk management, sound pricing of products, and strengthened supervision. Third, Solvency II will increase competition, especially for mass retail lines of business, such as motor and household insurance, putting downward pressure on many insurance prices, and will increase choice by encouraging product innovation.

The economy as a whole

As well as increasing the international competitiveness of insurers, the alignment of regulatory requirements with economic reality will provide for a better allocation of capital at

firm level, at industry level, and within the EU economy. This will result in a decrease in the cost of raising capital for the insurance sector, and possibly also for the EU economy as a whole, through the role of the insurance industry as an institutional investor. More efficient allocation of risk and capital within the economy will also promote financial stability in the medium to long term.

5.3. Potential short-term side-effects

Although the overall impact of Solvency II on all parties will be positive, the analytical work conducted has raised a number of potential short-term issues that need to be borne in mind. These issues relate primarily to existing features of insurance markets that will be highlighted by the introduction of an economic risk based solvency regime. Depending on the reaction of stakeholders, there may be some short-term negative impacts. In general, the greater the extent to which insurers anticipate the introduction of Solvency II, the less likely it is that these short-term negative impacts will occur (See Section 6.1, Summary of econometric analysis performed by the ECB).

Initial implementation costs

Solvency II will spur significant up-front costs, both for the industry and supervisors, if they have not already introduced modern risk management systems or moved to a system of risk based supervision. In particular, there will be a need for new IT systems (e.g. new valuation standards) and additional qualified staff (e.g. internal models). Solvency II will induce important cultural changes. The analytical work conducted in the preparation of this report anticipates that the initial net cost of implementing Solvency II for the whole EU insurance industry will be between €2 and €3 billion (See section 5.4). However, in the long run, these costs will be largely outweighed by the expected significant benefits.

Insurability

As risks will receive a regulatory treatment in line with their true economic cost, long-term/high-severity insurance lines will attract higher quantitative requirements (technical provisions and solvency capital). In the short-term, this may result in a reduction of coverage for some types of insurance, although where the insurance activity is economically viable, insurers will in the long-term be able to continue to provide such coverage, through the use of risk mitigation techniques, the introduction of new innovative products and by adjusting prices.

For example, at least in the short-term, while insurers adapt their product offers, insurance undertakings may be less willing to offer traditional financial guarantees embedded in long-term savings products[34], as these are not always explicitly priced as of today. As a result, the introduction of Solvency II could result in a temporary transfer of investment risk from insurers to households.

[34] Solvency II will only impact the part of long term savings products which are underwritten by private insurers to prepare for retirement; a significant proportion of pensions provision will fall outside the scope of the proposal, as pension funds provided by IORPs are not included in the Solvency II Directive.

Cross-subsidisation

Similarly, transparent pricing will highlight possible present cross-subsidisation between high-frequency/low-severity business lines (e.g. motor insurance) and low-frequency/high-severity business lines (e.g. aviation insurance). Because of competitive pressures, it cannot be excluded that insurers will decide to limit cross-subsidisation, which might lead to an increase in prices in certain areas. While it seems socially commendable to penalize "bad" drivers and require them to pay higher motor insurance premiums than "good" drivers, the answer is not so clear with respect to health and accident policyholders.

The question is whether it is socially optimal that one specific group of policyholders (e.g. motor insurance policyholders) subsidises another group of policyholders (e.g. disability insurance policyholders).

Social impact of Solvency II

Private insurance plays an important social role as it complements the State as a provider of social protection, in particular with respect to health insurance and pensions. This role is becoming even more important today given the considerable demographic and social changes facing society, like the ageing of the population.

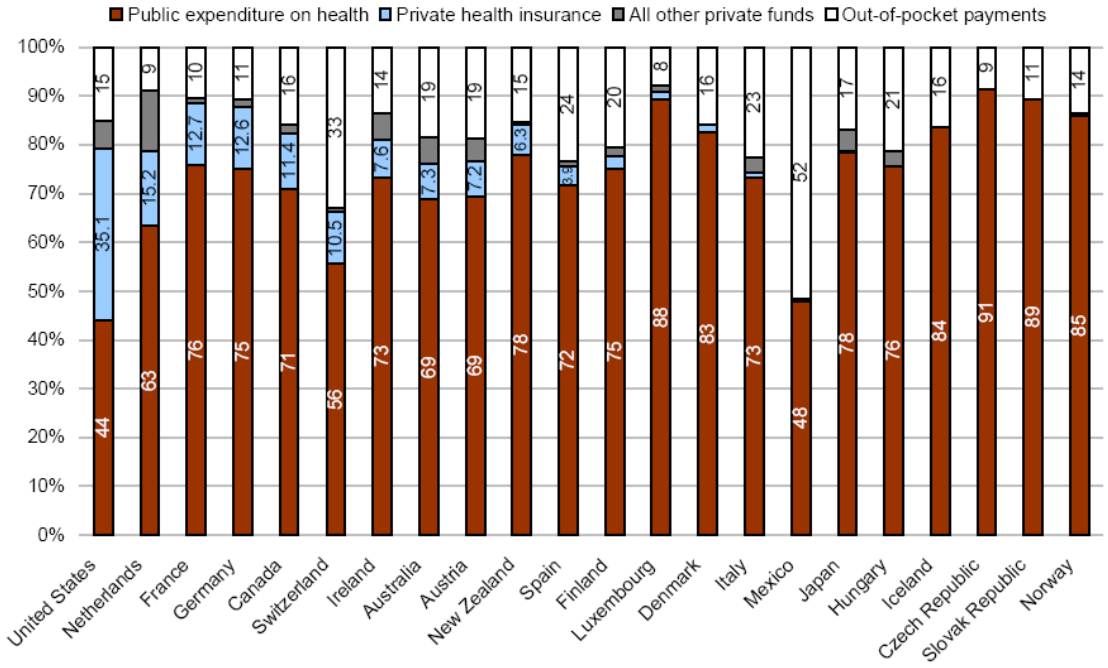
The function of private insurance in social fields depends on the interaction with, and the extent of, the social protection provided by publicly funded systems, and consequently differs considerably from one Member State to another.

Taking health as an example, whereas in most countries private health insurance represents a supporting role to public systems, in Germany and in the Netherlands it represents the sole form of coverage for significant population segments, performing a substitutive role with respect to the public system: in Germany, high-income population groups are able to opt out from the social sickness fund system by buying a private health insurance policy, and independent workers are only able to buy private health insurance (in total, around 9% of the population); in the Netherlands the upper third of the income threshold is excluded from the public system, and is responsible for buying their own private coverage. In France private health insurance plays a specific role as it complements and "tops up" reimbursement by the social security system covering around 85% of the population[35].

The following figure shows the split of health expenditure by source of health financing (public expenditure, private health insurance, other private funds, out-of-pocket payments) in OECD countries.

[35] OECD Health Working Papers N° 15 (2004), *Private health insurance in the OECD countries: the benefits and costs for individuals and health systems*

Figure 1. Health expenditure by source of health financing, 2000



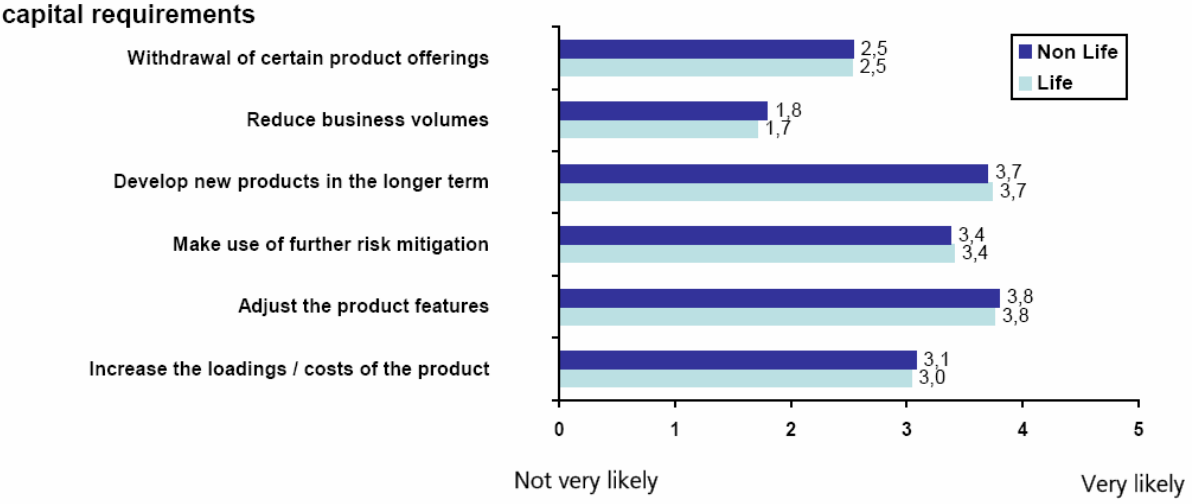
Source: OECD Health Data 2003, 2nd edition.
Note. Countries are ranked by decreasing size of PHI

As part of the Solvency II project efforts have been made to ensure an appropriate assessment of the quantitative requirements applied to lines of business where private insurance plays a social role (health, disability, workers' compensation), taking into account the specificities of different Member States. Further refinements have been introduced following the results of QIS 2. In the standard formula, with respect to the calculation of the Solvency Capital Requirement, a specific risk module is provided for "special health underwriting risk", where health insurance is pursued on a technical basis similar to that of life insurance (e.g. in Germany and Austria); for the purposes of QIS3, accident and health has been sub-divided into three groups: workers' compensation (intended to cover the situation where private insurers play a predominant role, like in Portugal), health insurance (short-term health insurance, like in France), and other business.

However, following the introduction of Solvency II, risks will receive a regulatory treatment in line with their true economic cost. Consequently, where current pricing policies and valuations are not based on sound economic principles, insurers may adjust their product offerings. This could result in a reduction of coverage for some types of insurance, or an increase in prices, to align them with the true economic cost of the insurance.

The following chart shows how respondents to the industry survey regarding insurance products and markets (See Annex C.8a) would react to economically justified increases in capital requirements. The most likely actions indicated were adjustments to product features, greater use of risk mitigation and development of new products in the long term with increases in costs and reducing business volumes or withdrawal from such product lines considered much less likely.

Likely implications for products with an economically justified increase in capital requirements



While the adjustment of product offerings in response to economically justified increases in capital requirements is optimal from the perspective of the creation of an efficient and transparent insurance sector, the potential social impact of any resulting changes following the introduction of the new solvency regime will have to be carefully monitored and assessed, taking into account the specificities of each Member State, in order to ensure that long-term sustainable solutions to any issues that arise are developed.

Equity investment

Unlike under the current regime, market risks will be subject to capital requirements under Solvency II and the new framework may thus have an impact on the investment strategies of insurers. Insurers are major institutional investors and consequently any change in their investment behaviour must be carefully monitored.

The macro-economic and financial stability analysis conducted has shown that some very positive outcomes are expected (e.g. increased liquidity of the EU corporate bond market), but some potential negative impacts cannot be excluded. In particular, under Solvency II fixed-income assets will receive a lower capital charge than equities as they are less volatile over the solvency time horizon. As a result insurers could decide to rebalance their portfolios, in order to better match assets and liabilities, and in particular purchase more bonds at the expense of equity, if they determine that the potential increased investment return on equities does not offset the resulting higher capital requirements. This might affect EU equity markets in the short term.

Solvency II and equity investment

Under Solvency I, there is no capital requirement related to market risk, and insurers are not charged for holding equity, nor any other volatile financial assets. However, investments are split into two categories:

- *"assets covering technical provisions", which back obligations vis-à-vis policyholders and are subject to a number of quantitative restrictions (asset eligibility criteria and quantitative limits);*
- *"free assets", i.e. any other assets, which are not subject to quantitative restrictions under Solvency I.*

Under Solvency II the distinction between assets covering technical provisions and other assets, as well as the current quantitative restrictions, will be abolished. Instead, equity investments along with all other assets will be subject to a capital requirement commensurate with the company's specific market risk profile. As equity investments are more volatile than fixed-income assets over a one-year period, it is likely that investments in shares will be subject to a higher capital charge than investments in bonds. It will be up to insurers to decide, whether their expectations regarding investment returns on more volatile assets are sufficient to compensate them for the additional costs arising from the need to hold more capital

However, Solvency II will not fundamentally change the treatment of investments backing unit-linked life assurance business. Today, these assets are not subject to any quantitative restrictions, nor capital requirements for market risk, as this risk is borne by policyholders not insurers; they are only subject to a capital charge for operational risk. In line with the overall Solvency II risk-based approach, this will continue to be the case going forward.

Insurers are important institutional investors: in 2005, their investments amounted to € 5 900 billion. Pending the settlement of their obligations vis-à-vis policyholders, insurers usually invest the premiums they collect in property and capital market instruments, in particular equities. The table below[36] provides some information on life and non-life insurers' equity investments at the end of 2005

EU25 insurance industry - 2005	Life sector	Non-life sector
Total amount of investments for the sector (€ Bn)	4 800	1 100
and respective weight of the sector (%)	81%	19%
Proportion of investments backing unit-linked products	**32%**	**-**
Proportion of participations and affiliated entities	5%	14%
Proportion of shares (equity)	23%	20%
Proportion of holdings in investment pools	0%	1%
Total: proportion of "equity-like" investments (excluding unit-linked business)	**28%**	**35%**

[36] Based on *European insurance in figures* by CEA (2006) and a CEIOPS survey conducted in 2006.

Life insurance accounts for more than four fifths of insurers' investments, € 2 880 billion[37] of which correspond to "equity-like" investments (including unit-linked business). Most of these life investments back savings products: as a consequence, the amount of free assets held today by life insurers in equity is rather low and consequently is unlikely to be materially impacted by the introduction of Solvency II. One third of life insurance contracts are unit-linked policies and two thirds are participating or euro-linked contracts. Thus, Solvency II is not expected to spur dramatic changes in life insurers' investment behaviour: first, the treatment of assets backing unit-linked policies (which accounts for 32% of life investments) will not really change under Solvency II; second, the loss-absorbing capacity of discretionary bonuses related to participating and euro-linked contracts will be fully recognised - as these bonuses can be adjusted downwards if the value of equity falls. As a consequence, the new capital requirements related to equity investments should not discourage life insurers from investing in shares. From a macro-economic viewpoint, this is especially important, as more and more EU citizens write life insurance savings products to prepare for retirement.

The non-life sector holds about € 385[38] billion of "equity-like" investments, of which more than 70% back insurance obligations. The expected impact of Solvency II on the non-life sector is less clear-cut than for the life sector. First, the amount of "free assets" that will be subject to new capital requirements (e.g. participations) is significant. Second, as opposed to life contracts, there is no direct link between the value of non-life insurance liabilities (which are discounted using the risk-free interest rate) and investments in equity, and an important fall in equity would indeed negatively impact the financial standing of the insurer. Therefore, holding equities rather than bonds will result in a higher capital charge; this will throw light on the current asset-liability mismatch risk being run by a number of insurers and will encourage them to review their asset allocation accordingly. Solvency II thus may trigger a move towards bonds at the expense of equity in the non-life sector, with two potential implications:

- *First, it should have a positive impact on the liquidity of the EU corporate bond market, facilitating funding of EU companies.*
- *Second, it may result in some short-term downward adjustments with respect to EU equity markets. Even though there is evidence that these adjustments are unlikely to cause any disruption to financial markets as the EU insurance industry is already anticipating Solvency II* (See Section 6.1, Summary of econometric analysis performed by the ECB) *non-life insurers' demand for equity may decrease.*

Whereas the first above-mentioned potential effect would clearly contribute to the Lisbon Agenda, by making loans more accessible, the second effect could have a negative impact. Independently from these considerations, in both sectors, investments in non-listed items are currently very low: as a matter of fact, Solvency I limits these kinds of investments to 1% of technical provisions. Under Solvency II, this restriction will be removed and an increase in the proportion of non-listed investments in assets backing technical provisions is expected, which should promote SMEs' funding and venture capital, in line with the Lisbon Agenda.

[37] This represents 38% of EU25 total securities capitalisation; excluding unit-linked business, life insurers' investments in equity amount to € 1340 billion, which corresponds to 16% of EU25 total securities capitalisation.

[38] This represents 4% of EU25 total securities capitalisation.

Consolidation

The recognition of diversification effects implies that well diversified entities, or those which are part of an insurance group will, in practice have lower capital requirements than single solo entities which are less well diversified. Although this is fully in line with the basic economic principles underpinning the proposal, and does not entail lower protection for policyholders, it may nevertheless act as a catalyst to the already existing trend of consolidation in the EU insurance market and increase already existing competitive pressures on small and medium-sized insurers. This however does not mean that small and medium sized insurers would be expected to quit the market in a disorderly way following the introduction of Solvency II, but rather that they would be incentivised to look for new partnerships and alliances. Moreover, many small and medium sized insurers are specialised insurers that carefully monitor and manage their risks, and benefit greatly from being close to their customers. Where this is the case, these natural competitive advantages will be fully recognised and will result in lower capital requirements for those companies.

5.4. Administrative costs

Given that Solvency II is a level 1 Framework Directive and that detailed reporting requirements will only be introduced at level 2, it was not possible to use the EU Standard Cost Model prescribed by the Commission's Impact Assessment guidelines when assessing the administrative costs associated with the introduction of new legislation.

However, as part of *QIS2*, information was collected on the administrative costs relating to the introduction of Solvency II. This information fed into the assessment made by the CEA (See *Industry Reports* - Annex C.8c) of the likely additional administrative burden of the introduction of Solvency II.

In addition to the *QIS2* information the CEA also took account of information gathered when new regimes were introduced in the UK and Switzerland, as well as information relating to the introduction of the Capital Requirements Directive for banks.

These numbers were then used to identify a likely range of the additional administrative costs on the insurance industry related to the introduction of Solvency II, by removing extreme values, and were netted down by 50% to take account of work already planned or done by insurers with respect to the introduction of an economic risk based approach in order to arrive at a net estimate (See table below).

SOLVENCY II ADMINISTRATIVE COSTS ON INSURANCE INDUSTRY

(in billion €)

Approach	Initial Costs, One-Time	Ongoing Costs, Annual	Comments
QIS 2 [1]	2,7	0,4	QIS2 was a partial test, on "best effort" basis - outcome at lower range
ICAS	4,8	1,0	ICAS aimed at internal model building
SST	1,7	0,7	Swiss market is small and advanced market - outcome is lower bound
ANIA	N/A	1,2	ANIA estimated only ongoing costs
Basel II	6,5-9,5	N/A	Basel II is less comparable, outcome at upper range
Overall Range	**1,7-9,5**	**0,4-1,2**	
Subjective Gross Estimate [2]	4,0-6,0	0,6-1,0	
Reduction for work already planned / done: 50%	2,0-3,0	0,3-0,5	
Net Estimate [3]	**2,0-3,0**	**0,3-0,5**	

Notes:

[1] For more details underlying this approach please refer to the standard cost model.

[2] Excluding extreme values.

[3] The impact of tax relief on the associated expenses is not included as this will vary by type of business and jurisdiction.

Source: CEA

The data collected as part of *QIS2* was also used by DG Markt's Insurance and Pensions Unit to populate the EU Standard Cost Model at a high level, before taking account of the 50% reduction (See Annex A.5 – Administrative costs).

The additional administrative costs[39] (initial €2-3 billion and on going €0.3-0.5 billion) will be offset by direct benefits arising, for example, from a lower cost-of-capital for insurance undertakings, as transparency and confidence in the insurance sector will increase. Using current overall capital requirements of around €300 billion a year (See Industry Reports – Annex C.8c) as a rough guide, then even a small drop (0.05% to 0.1% say) in the cost of capital could be expected to produce savings of the order of €100 to €200 million a year for the EU insurance industry.

However, the main benefit that will offset the administrative costs associated with the introduction of Solvency II will be the ability of insurers to actively manage their risk and capital requirements and thus optimise their risk/return profile, for example through the use of innovative risk mitigation techniques and by diversifying their activities and investments. Given the overall size of EU insurers' balance sheets, even a small improvement in the efficiency of the industry with respect to the management of risk should deliver tangible

[39] Additional administrative costs are the amount of future administrative costs to be incurred when Solvency II comes into force, in addition to the work already done / planned by EU insurance companies as "good practice". CEA estimates that 50% of the total administrative costs associated with Solvency II actually correspond to "good practice".

benefits. Using improvements in investment returns as a rough proxy for efficiency gains would suggest that even a very small improvement in the efficient management of risk could be expected to result in improved returns of several billion Euros a year, as EU25 insurers investments amount to almost €6000 billion (See *Industry Reports* - Annex C.8b). These gains would be shared between policyholders and the industry, in the form of reduced premiums, higher discretionary bonuses and increased profitability.

Further analysis of the administrative costs and associated benefits will be conducted at level 2 once detailed reporting requirements have been developed. In preparation for this work, DG MARKT in conjunction with other stakeholders, is determining the baseline to be used when calculating costs (i.e. the current administrative cost of submitting supervisory returns).

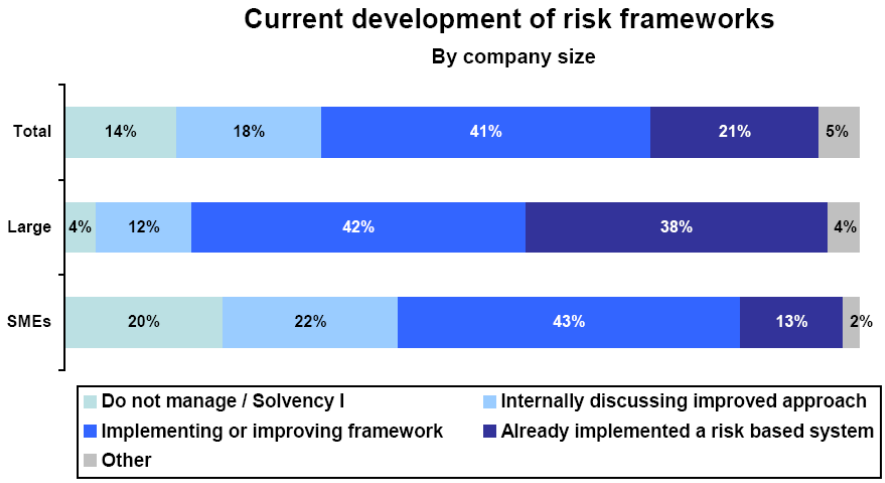
5.5. Dangers of not following an economic risk based approach

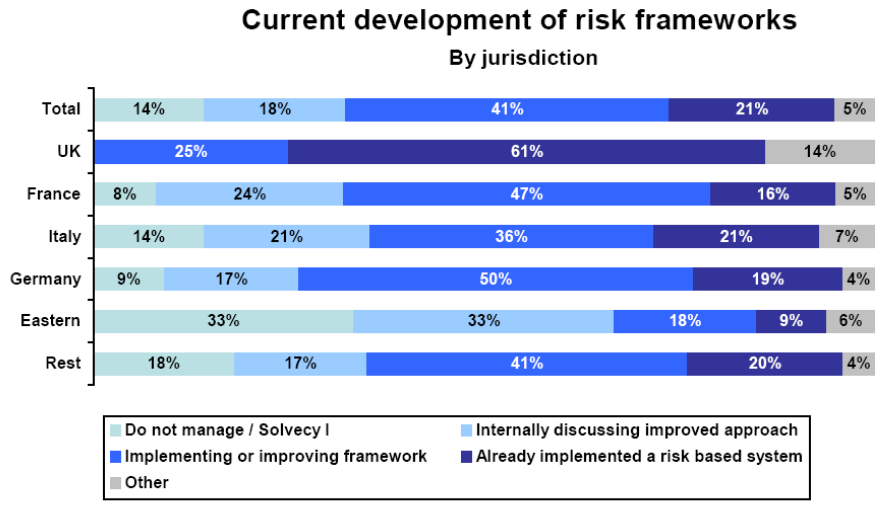
QIS2 represented the first real test of various options regarding the calculation of the SCR. Although QIS2 was not a calibration exercise, it illustrated that care will need to be taken in the design of the standard formula in order to ensure that it delivers a capital requirement that is consistent with a Value-at-Risk measure calibrated to a 99.5% confidence level and one year time horizon, when developing implementing measures, and that further quantitative impact studies are required.

If Solvency II does not result in insurers being required to hold capital in line with the economic cost of the risks they run, this could undermine the effectiveness and efficiency of Solvency II. In particular, it could increase the likelihood and severity of some of the potential short-term side effects described above.

For example, the CEA suggests (See *Industry Reports* - Annex C.8c) that if the final implementation of Solvency II is not in line with sound economic principles this could more than double the implementation costs. This assessment is based on the assumption that there would be no reduction for work already planned or done.

This assessment is supported by responses to the industry survey regarding insurance products and markets (See *Industry Reports* - Annex C.8a) which asked insurers to state the extent to which their current risk management framework and/or their planned development work was in line with an economic risk based regulatory framework (See graphs below).





6. MONITORING AND EVALUATION

The new regime for the prudential regulation of insurance will be implemented taking advantage of the Lamfalussy financial services architecture. The Solvency II proposal will be a level 1 Framework Directive adopted in co-decision by the European Parliament and Council.

6.1. Next steps and development of implementing measures

The Solvency II Framework Directive will set out the key principles underpinning the new solvency system. The overall architecture, including the general design of the SCR standard formula, will be a key part of the Directive. Once the Directive has been adopted, implementing measures will be developed and introduced using comitology.

The Commission will issue formal mandates to CEIOPS to provide advice on possible implementing measures only once the Framework Directive has been adopted. However, in order that CEIOPS is able to respond in a timely manner to those mandates the Commission will ask CEIOPS to continue its work on the development of further technical detail during negotiations in Parliament and Council.

The Commission will ask CEIOPS to run further quantitative impact studies covering all aspects of the new regime. The results of the third quantitative impact study (QIS3) are due in the second half of 2007 and will come in time for negotiations in Parliament and Council. Depending on the outcome, it may result in amendments being made to the general design of the capital requirements set out in the proposed Solvency II Directive.

The results of the fourth quantitative impact study (QIS4) will be the main quantitative input into CEIOPS future advice on possible implementing measures. The Commission does not exclude the possibility, however, that a further quantitative impact study will be required after QIS4 to fine tune the calibration of the new solvency regime before it enters into force. In addition, the administrative costs associated with the implementing measures regarding future reporting requirements will be assessed in accordance with the EU Standard Cost Model.

DG MARKT has also asked the ESAF (Joint Research Centre of the European Commission), in collaboration with DG ECFIN, to develop a quantitative model to assess the macro-economic impact of Solvency II. This model will be used to perform a quantitative assessment of the likely impact of Solvency II on the macro-economy. This quantitative assessment will complement the qualitative assessment already performed by DG ECFIN. The model will be developed during 2007 and Commission Services will ask CEIOPS to collect the data necessary to perform the assessment as part of QIS4.

In addition, during negotiations in Parliament and Council and whilst implementing measures are being developed, Commission Services will ask the European Central Bank to periodically re-run the econometric analysis performed as part of its work on the impact of Solvency II on financial stability, in order to monitor the continued anticipation of the introduction of the new regime by the EU industry. This analysis will enable Commission Services to ensure that there is a smooth transition from the old to the new regime and consequently that the potential for any short-term negative impact on financial stability arising from the introduction of Solvency II is minimised.

Econometric analysis performed by the ECB

The ECB Report includes a quantitative assessment looking at whether insurers have changed their asset allocation in anticipation of the introduction of Solvency II. Although the new solvency rules as well as their potential impact on required capital and investment risk are still not perfectly known, anticipation of the introduction of a new risk-based capital regime may already have induced changes in insurers' behaviour.

At one extreme, if insurers' expectations regarding the final outcome of Solvency II prove entirely correct, then no significant impact on balance sheets should be observed at the time of its implementation. One way to analyse the impact of Solvency II is therefore to test for changes in behaviour resulting from insurers anticipating the introduction of Solvency II.

After controlling for macroeconomic effects, for firms' characteristics and for the possible impact of the introduction of IFRS, the ECB analysis suggests that insurers are anticipating the introduction of Solvency II. In particular, despite the strong performance of the European stock and real estate markets, anticipation of the introduction of a new risk-based capital regime has led to portfolio reallocations that have tended to reduce market risk in EU insurers' balance sheets (i.e. increase of the share of fixed-income investments at the expense of equity). The overall results of the ECB analysis are the same whether you look at EU25, EU15 or EU12 level. The ECB also performed analysis at country level.

6.2. Monitoring and evaluation planning

It is currently expected that the Solvency II Framework Directive along with its implementing measures will enter into force around 2012. CEIOPS will be asked to develop a set of core indicators, in order to help monitor whether the new regime is meeting its objectives. Finally, the Commission will ask CEIOPS to submit an annual progress report summarising how implementation of the new regime measures up to these indicators and whether any further action is required.

Ex-post evaluation of the FSAP and of all new legislative measures is a top priority for the Commission. By 2009, the Commission will endeavour to have completed a full economic and legal assessment of all FSAP measures. A study will be launched in the course of 2007-2008. Evaluations of the key measures are planned around 4 years after the implementation deadline of each measure. If – over time – careful assessment and analysis reveal that specific legal texts have not worked, they will be modified or repealed in the framework of the legislative procedure. With regard to Solvency II, assuming it enters into force around 2012, then in-line with other key FSAP measures, it would seem appropriate to schedule an evaluation sometime around 2016 in order to assess the overall effect of the proposal including its economic and social impact**.**

7. OVERVIEW OF ANALYTICAL WORK CONDUCTED

In order to analyse and compare the main policy options, a number of stakeholders and interested parties were asked to look at specific issues relating to the impact of Solvency II and report back to the Commission on their findings – See Annexes C.1-12. A brief summary of each report is provided below along with its main conclusions.

7.1. KPMG Report (Annex C.1a-b)

The *KPMG report* analysed the main risks facing insurers as well as the techniques used by insurers to measure and manage those risks. In addition, it looked at the various regulatory approaches used in the determination of technical provisions, the methods used to value assets and the regulatory tools designed to take account of or reduce investment risk. The study also looked at the treatment of reinsurance and other risk mitigation techniques, the impact of future accounting changes, Basel II and the pros and cons of applying a three pillar structure to insurance regulation. The study finishes with a comparative analysis of international solvency margin methodologies.

The report concludes that there is a need to reform the current EU regime in favour of an approach which produces greater consistency in measurement, takes account of all significant risks, and does not impose an overly prudent capital requirement on insurers. In addition, it recommends that the Basel II three pillar structure should be adopted for the new solvency regime and highlights the importance of ensuring consistent implementation. However, the report also notes that the solvency regime will need to be sufficiently flexible to recognise the considerable heterogeneity in the European insurance industry.

7.2. Sharma Report (Annex C.2)

The *Sharma Report* analysed the risks that European insurers face and tried to identify those risks that have led to actual solvency problems. It also looked at how effective the current EU regime was at detecting solvency problems in advance as well as the effectiveness of a variety

of supervisory tools designed to detect and prevent problems. The analysis was based on a survey of actual failures and near misses between 1996 and 2001, a questionnaire looking at the diagnostic and preventative tools used by supervisors and 21 detailed case studies.

The report observes that the main causes for insurance failures were clustered around the broad themes of management quality and inappropriate risk decisions, rather than inadequate capitalisation per se. Not only should the new regime be based on more risk-sensitive capital requirements, but there should also be a greater focus on risk management.

7.3. PFS Report (Annex C.3)

CEIOPS undertook a Preparatory Field Study in spring 2005, in advance of *QIS1*. The *PFS* focused on life assurance infrastructure issues. It was a first attempt to collect information regarding the valuation of assets and liabilities on a market consistent basis. The *PFS* also collected information regarding the sensitivity of these valuations to a number of market shocks and changes in actuarial assumptions. In total, 84 insurers participated in the *PFS* from 20 Member States.

Through the *PFS* useful information was gathered and helpful feedback was received that helped facilitate *QIS1* and *QIS2*. In particular it showed the importance of providing adequate common guidance in order to make it easier for insurers to participate as well as to improve the reliability and comparability of results.

7.4. QIS1 Report (Annex C.4)

CEIOPS conducted *QIS1* during the autumn and winter of 2005. *QIS1* covered life assurers, non-life insurers and pure reinsurers. *QIS1* focussed on the valuation of technical provisions. *QIS1* tested the level of prudence in the current technical provisions, benchmarking them against pre-defined confidence levels using various assumptions. Insurers were required to calculate both a best estimate and a risk margin when performing the calculations. *QIS1* also gathered qualitative information regarding the practicality of the calculations. In total, 312 insurers participated in *QIS1* from 19 Member States.

The general conclusions of QIS1 were that the value of technical provisions calculated following the approach of a best estimate plus a risk margin tends to be lower than technical provisions calculated using current methods, and that for most insurers and classes of business the risk margins tended to be small compared to the best estimate. *QIS1* also revealed widely differing methods regarding the calculation of future bonuses by life assurers, in part because of differing national regulations.

7.5. QIS2 Report (Annex C.5)

CEIOPS conducted *QIS2* during the spring and summer of 2006. *QIS2* covered life assurers, non-life insurers and pure reinsurers. *QIS2* tested a number of options regarding the calculation of the *SCR* and the *MCR* and further tested the calculation of technical provisions.

The main focus was the design of the *SCR* standard formula. Both qualitative and quantitative information was gathered regarding the suitability of the different approaches tested for each risk module of the SCR. Although *QIS2* was not a calibration exercise, it provided a first indication about the possible quantitative impact of the new regime and in particular the amount of capital that might be needed under Solvency II. In total, 514 insurers participated in *QIS2* from 23 Member States.

In QIS2, insurers' technical provisions generally showed a decrease compared to the current situation, whilst capital requirements and available capital increased. In some countries the interplay between the MCR and SCR proved problematic. Useful feedback was received with regard to the calculation of technical provisions. Feedback was also received regarding the design of the SCR and the MCR, particularly with respect to underwriting risk. Technical provisions remain the main challenge for most insurers. Lessons learned for QIS3 include ensuring that a clear rationale is provided for the methodologies used, that detailed technical guidance needs to be provided, and that simplifications and approximations need to be developed, especially for the benefit of small insurers.

7.6. DG ECFIN Report (Annex C.6)

The *DG ECFIN report* analyses the potential macro-economic impacts of Solvency II. The analysis is of a qualitative rather than quantitative nature. The report highlights the crucial social and economic role played by insurance. It describes the likely impact of Solvency II on insurers' balance-sheets, day-to-day management and business strategies as well as the various transmission channels between the insurance sector and the rest of the economy. This information is used to qualitatively assess the macro-economic implications of Solvency II.

The report indicates several positive economic and financial outcomes. First, it should improve the availability of insurance products, by offering policyholders with a wider range of better priced contracts. However, the potential effect of this change on consumption would be marginal as insurance has a relatively low share in the budget of both the households and the corporate sector. In addition, the impact on insurance availability is not clear-cut, because of a potential decrease in cross-subsidisation. Second, it should contribute to the deepening of the EU corporate bonds market (increasing access to external financing), because of an increase in the demand for long-term fixed income assets from the insurance sector. Third, it may lead to a decrease in the cost of capital for insurers because of increased resilience of the sector, improved transparency and better access to risk mitigation tools. A less favourable effect could be reallocation of risk amongst economic agents, including possible transfer of investment risk back to policyholders. Overall, the report concludes that the net macro-economic impact is likely to be very limited (neutral or slightly positive).

7.7. ECB Report (Annex C.7)

The *ECB Report* analyses the potential impact of Solvency II on financial stability. The report describes how changes in the insurance industry, *via* its role as a major financial intermediary and as an important counterparty for the banking sector, could impact financial stability. It analyses the financial stability implications of the impact of Solvency II on the insurance industry (e.g. in improving the financial standing of insurers and reinsurers) and on financial markets (e.g. changes in the investment policy of insurers). The report also looks at the potential indirect impact of Solvency II on the banking sector (e.g. increased competition, lower cost-of-capital).

One of the key questions regarding the impact of Solvency II on financial stability relates to the anticipation by insurers of the new regime. If insurers anticipate the introduction of Solvency II, then it is much more likely that there will be a smooth transition from the old regime to the new one, limiting the risk of disruption and instability.

In order to assess the extent to which insurers have already adapted their investment strategy in anticipation of Solvency II, the *ECB Report* includes an econometric study on a sample of

2,212 insurers located in 24 Member States based on data covering the period 1995 – 2005. The results show that insurers are anticipating the introduction of Solvency II and consequently it is unlikely that the introduction of Solvency II will provoke financial disruption. The report concludes that the new regime will significantly improve financial stability in the medium to long run.

7.8. Industry Reports (Annexes C.8a-e)

7.8.1. CEA – AISAM - ACME report on insurance products and markets

The CEA, AISAM and ACME, looked at the impact of the introduction of Solvency II on insurance products and markets. In order to perform this analysis CEA, AISAM and ACME conducted a survey, to which over 400 insurers, large and small from 24 Member States, responded. The questionnaire looked at the introduction of a new economic risk based solvency regime on product design and pricing, investment strategy, reinsurance markets and raising capital as well as the state of preparedness of the industry.

The main findings of the report are that the objectives of Solvency II will only be met if an economic risk based approach is adopted and that although the industry recognises that efforts will be required to implement Solvency II, only 3% of respondents to the questionnaire felt that they would not be able to implement Solvency II on time. The report also indicates that the introduction of Solvency II will make it easier to raise capital and that it will encourage product innovation. In addition, the report suggests that the introduction of Solvency II will have little impact on insurers' investment strategies, although in some markets there was some concern expressed regarding the capital charges applied to investment in shares. The report also considered what the consequences of not following an economic risk based approach would be and highlighted a number of areas, where *QIS2* was not following an economic approach.

7.8.2. CEA – AISAM - ACME report on administrative costs

The CEA, in conjunction with AISAM and ACME, also looked at the *administrative costs* associated with the introduction of Solvency II. Both a top-down and a bottom-up approach were used to assess the net change in administrative costs arising from the introduction of Solvency II. The results of the bottom-up analysis were used to verify the top-down calculation.

The top-down calculation was based on publicly available data related to the costs involved in completing *QIS2*, results from the CEA impact assessment survey, costs associated with the introduction of new solvency regimes in the UK and Switzerland, as well as the costs associated with the introduction of Basel II. The bottom-up analysis was based on responses received from 90 insurers to a survey asking them to estimate what the administrative cost of moving from the current EU regime to Solvency II would be.

The assessment of administrative costs provides a range for both initial implementation costs and on-going net administrative costs. Initial implementation costs are estimated to be between €2 and €3billion and annual net on-going costs to be between €300 and €500million. These estimates are based on the assumption that Solvency II will follow an economic risk based approach. If Solvency II does not follow such an approach, then the analysis suggests that the administrative costs could be more than double the stated amount.

7.8.3. CEA Topography of the EU25 insurance market

In addition to the work on insurance products and markets and administrative costs, the CEA has produced a *Topography of the EU insurance market*. The topography includes some general analysis of the European market, based on historical data collected between 1994 and 2005, as well as information on each Member State. Separate data is provided for life and non-life operations. The topography includes information regarding total premium income, total investments, market concentration, the level of insurance penetration, premium per capita and the number of companies.

7.8.4. CEA – Groupe Consultatif Glossary

The CEA in collaboration with the Groupe Consultatif have also produced a *Glossary* for Solvency II. The glossary provides a common set of terminology for a selected number of terms. It aims to be an objective reference document, not a document presenting the particular views of CEA and the Groupe Consultatif.

7.8.5. CEA – Impact on insurers of the lack of harmonisation in Solvency I

The CEA approached a small number of pan-European groups in order to obtain: examples highlighting the extent of the supervisory reporting differences in different Member States; an understanding of the intangible costs associated with the very low level of harmonisation in the current Solvency I regime, i.e. the "opportunity costs" associated with sub-optimal strategies and structures; as well as the likely effect on supervisory reporting costs under Solvency I and II of a lack of harmonisation.
The main concerns raised were in the areas of corporate structure, management focus, cross border competition, product design and investment strategy, where lack of harmonisation was felt to give rise to real and significant opportunity costs.

7.9. FIN-USE Report (Annex C.9)

The *FIN-USE Report* provides an opinion on Solvency II from a consumer perspective. The opinion provides answers to a number of questions, developed by the Insurance and Pensions Unit of DG MARKT in consultation with FIN-USE, regarding the potential impact of Solvency II on end-users. The topics covered in the report include policyholder expectations from prudential regulation, cross-subsidisation between different classes of policyholders, transfer of risk from insurers to households and disclosure requirements including disclosure of contractual information.

The report welcomes the project and emphasises the importance of a modern and robust regime to protect policyholder interests. FIN-USE also reiterates its call for action at EU level with respect to insurance guarantee schemes, and calls for a major work-programme to bring about improvements in the provision of pre-contractual information provided to policyholders. Finally, FIN-USE calls for greater cross-sectoral consistency, particularly with regard to the regulation of 'with profits' and unit linked products.

7.10. CEIOPS Report (Annex C.10)

The *CEIOPS Report* analyses the expected impact of Solvency II on European insurance supervisors. In order to perform this assessment, CEIOPS carried out a survey in 2006, to which 26 supervisory authorities out of 30 answered. Both large and small authorities took part in the survey and 24 Member States were represented in the sample. The questionnaire

looked at the general state of preparedness of supervisors, the expected changes in day-to-day supervision, and the impact on human resources (i.e. recruitment and training).

The CEIOPS report summarises the results from this survey and concludes on the possible costs and benefits of Solvency II for insurance supervisors. Solvency II will establish a modern forward-looking regulatory framework, making insurance supervision more effective and efficient; CEIOPS expects these long term benefits to largely outweigh the one-off costs for insurance supervisors.

7.11. Commission questionnaire (Annex C.11a-b)

A Public Hearing was organised in Brussels on 21 June 2006 to gather stakeholders' views on the Solvency II project. A short questionnaire was devised by the Insurance and Pensions Unit to accompany the Public Hearing to which all participants were invited to respond. This questionnaire was also published on "Your Voice in Europe" in order to enable all stakeholders to provide their views.

The questionnaire asked respondents whether they believed that Solvency II would meet its objectives, what they believed were the key benefits of Solvency II and what their main concerns were regarding the project. In total, 147 responses were received, 70 of which came from the industry, 19 from public authorities, 26 from consultants or financial analysts, 17 from individuals, 1 from a rating agency plus 14 others.

The vast majority of respondents believed that Solvency II will enhance policyholder protection, increase harmonization and result in a better allocation of capital resources as well as improve risk management. The main concern of respondents was increased costs for small insurers.

7.12. Company interviews (Annex C.12)

The Insurance and Pensions Unit of DG MARKT directly collected views of a small sample of insurers operating in Europe. In order to identify a suitable sample, members of EIOPC were asked to provide names for a small number of insurers operating in their Member State who would be willing to participate and whose views it would be useful to canvass. In total, 58 insurers were sent a questionnaire in October 2006. Replies were received from 38 insurers located in 19 Member States. To supplement these written contributions, face-to-face interviews were organised with 17 of the respondents.

The topics covered in the questionnaire included the expected costs and benefits of the introduction of Solvency II, and the state of preparedness regarding risk management, internal models and public disclosure requirements. The questionnaire also asked a number of questions regarding the organisation of the QIS exercises. Participants in the survey and interviews were very supportive of the overall Solvency II approach.

Generally it is expected that Solvency II will create a true level-playing field, as well as provide real opportunities to improve day-to-day management and innovate. SMEs emphasised the need for a proportionate treatment, whereas large players insisted on the recognition of diversification effects in the group context. However, all participants considered that adopting an economic risk based regime was the best answer to their concerns. Despite significant one-off costs, most interviewees said they were confident they

would be able to take on and manage the challenges posed by the introduction of a modern solvency regime.

8. CHANGES MADE IN RESPONSE TO THE IMPACT ASSESSMENT BOARD OPINION

The Impact Assessment Board made four recommendations in its Opinion on the Solvency II Impact Assessment Report.

First, that the analysis of the impacts on Policyholders should be expanded. In response to this recommendation, Section 4 of the report has been updated with more detail being provided on the impact of the options considered, particularly with respect to policyholders.

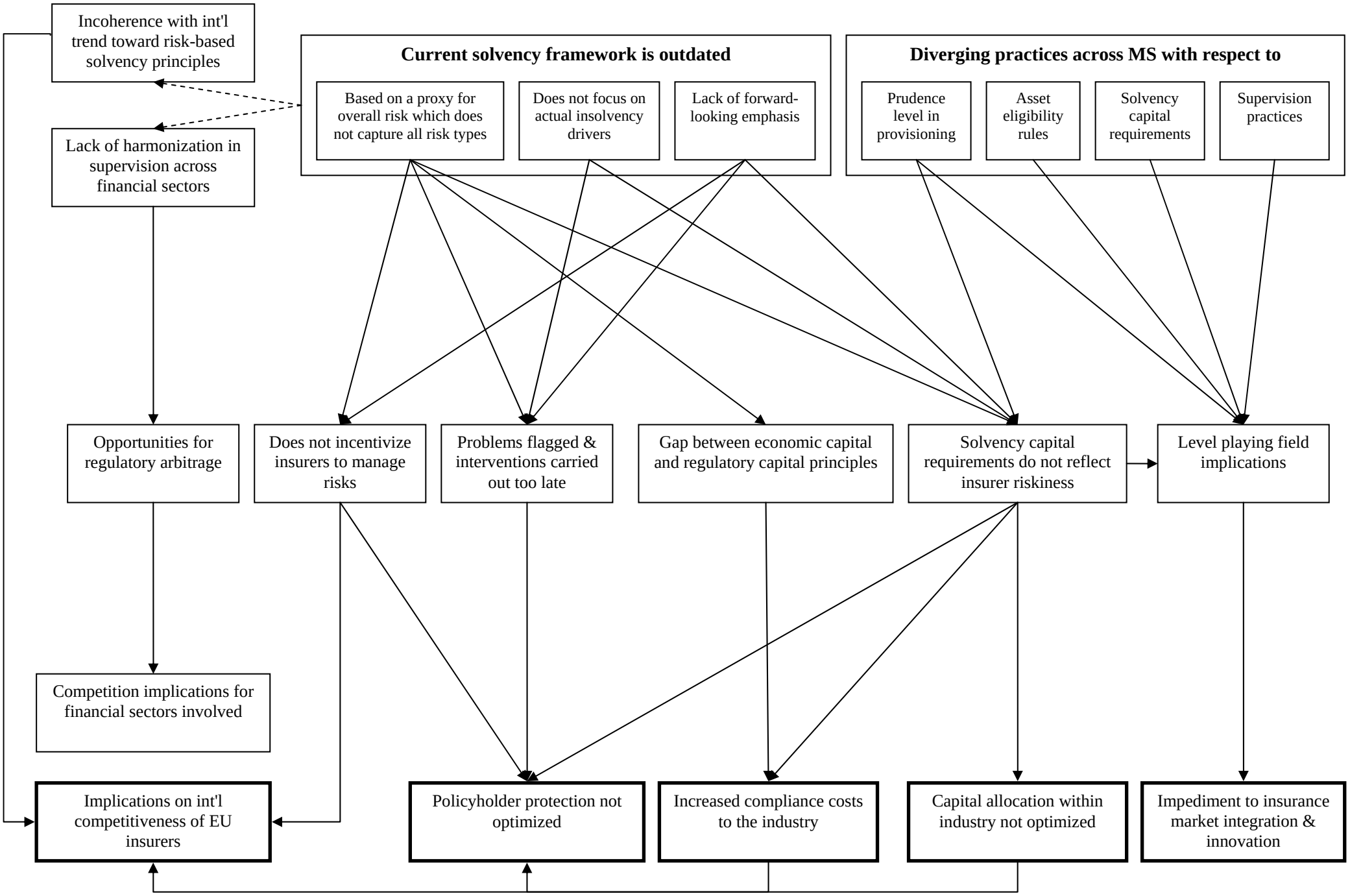
Second, that the IA report should more clearly compare costs and benefits. In response, a new section has been added on administrative costs, including discussion of the benefits that will offset those costs, and a new annex has been introduced presenting an estimate of the administrative costs based on data collected as part of QIS2 in a format similar to that required for the EU Standard Cost Model. In addition, Section 5.5 on the dangers of not following an economic risk-based approach has been expanded to explain why costs would increase significantly in this case.

Third, that the IA report should explain more clearly links between the problem definition and objectives, and the balance between the various objectives should be better explained. In response the introduction to Section 3 has been expanded to include a discussion of the links between the main objectives of Solvency II. In addition, Section 2 has also been expanded to include analysis of the cost of insurance failure on policyholders and to give an example of the work conducted by KPMG comparing the differences in rules applied by Member States today. Finally, a new industry report has been included in the Annexes (See *Industry Reports* - Annex C.8e) looking at the impact of different rules under the current regime for insurance groups.

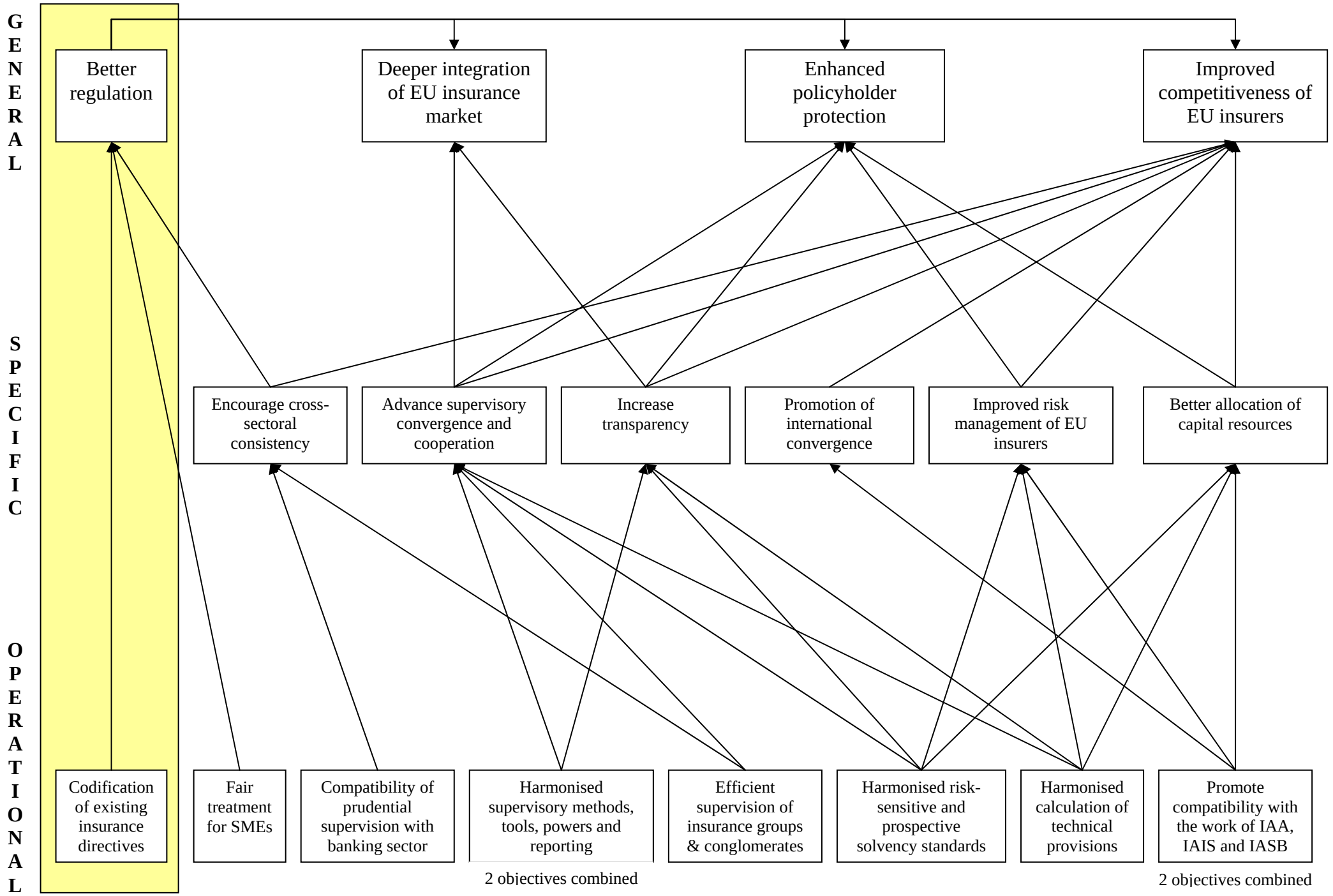
Fourth, that the IA report should expand on the role of equities under the current and future regimes and the relevance of anticipation by the market should be discussed. In response, two boxes have been included. The first is in Section 5 and discusses Solvency II and equity investment. The second is in Section 6 and describes the analysis performed by the ECB looking at the extent to which insurers are already making changes in anticipation of Solvency II.

In addition, to the changes listed above a box has been added looking at the Social Impact of Solvency II in Section 5. Finally, in response to the IA Board's request with respect to the inclusion of a Glossary to help readers, a Solvency II glossary, produced by the CEA and the Groupe Consultatif, has been included as another annex (See *Industry Reports* - Annex C.8d).

ANNEX A.1 - SOLVENCY II PROBLEM TREE



ANNEX A.2 - SOLVENCY II OBJECTIVES



ANNEX A.3

THE LAMFALUSSY PROCESS[40]

OR THE USE OF COMITOLOGY IN FINANCIAL SERVICES LEGISLATION

The Lamfalussy process has been designed:

- to facilitate the adoption of better designed legislation in the field of financial services;
- to enable the legal framework to keep pace with market developments through the optimum use of comitology (subject to scrutiny by regulatory committees and the Parliament);
- to encourage convergence of supervisory practices; and
- to ensure coherent implementation of legislation across Member States.

The Lamfalussy process has four essential, complementary "levels":

Level 1: After a full and transparent consultation process the Commission adopts a proposal containing the key framework principles – or the essential political choices. Following an agreement on the principles and the scope and definition of the subsequent implementing measures by the Parliament and the Council, implementing measures focussing on the technical details necessary to operationalise the new framework can be developed at Level 2.

Level 2: The Commission will propose draft implementing measures. If necessary, the Commission can request technical advice from the 'Level 3' committee[41] to assist the Commission in its task and to inform the technical content of the implementing measure. The Level 3 committee prepares this advice in consultation with market participants, end-users and consumers, and submits it to the Commission. Before the Commission can adopt the measure(s), it needs to refer them both to the 'Level 2' comitology committee[42] and the European Parliament for scrutiny. If there are no objections, the Commission adopts the implementing measures (either Directives or Regulations)[43].

Level 3: The focus is on achieving coherent implementation and convergence of supervisory practices. This can be done through e.g. the elaboration of guidelines and common standards, or organising peer reviews. Additionally, the Level 3

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[40] Lamfalussy, A. (Chairman) (2001), Final Report of the Committee of Wise Men on the regulation of European Securities Markets, Report by the Conference of Insurance Supervisory Authorities of the Member States of the European Union.

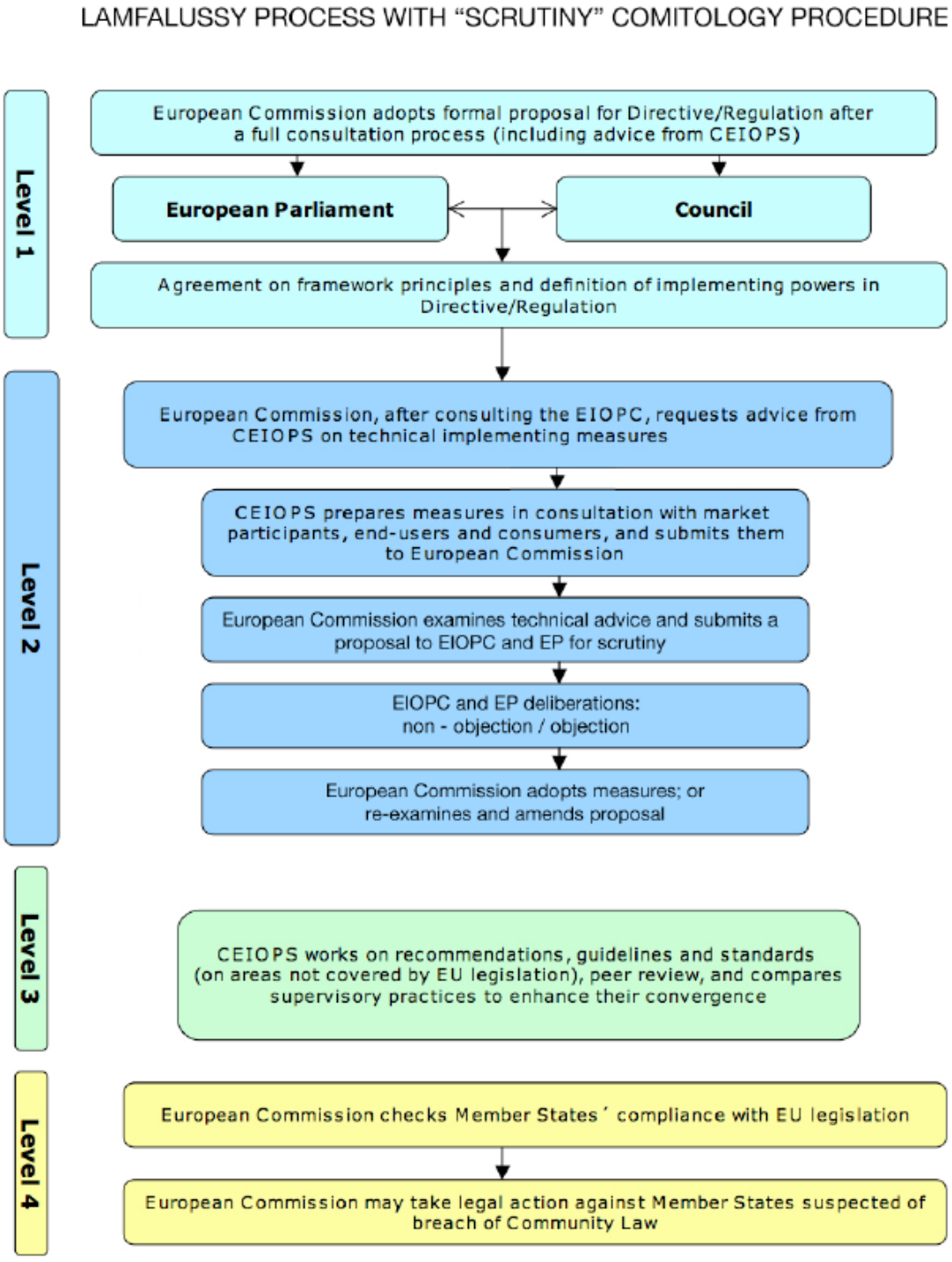
[41] The level 3 committee for insurance is CEIOPS (Committee of European Insurance and Occupational Pensions Supervisors).

[42] The Level 2 committee for insurance is EIOPC (European Insurance and Occupational Pensions Committee) with representation from mainly the Ministries of Finance, or regulators, responsible for insurance. EIOPC was previously called "Insurance Committee", but the name was changed following the establishment of a new financial services committee structure in March 2005.

[43] For detailed procedure, please see 2006/512/EC: Council Decision of 17 July 2006 amending decision 1999/468/EC laying down the procedures for the exercise of implementing powers conferred on the Commission.

committee should also work on establishing the necessary structures for effective supervisory cooperation.

Level 4: Commission will actively enforce implementation of Community law.



ANNEX A.4

SOLVENCY II OUTLINE

Background information: insurers' simplified balance-sheet

When they write an insurance contract, insurers first receive a premium from the policyholder; in return, insurers commit to meet a certain insurance obligation (e.g. compensate for a loss, or pay a lump sum) if a number of determined adverse events occur (e.g. death, storm, or fire) over the lifetime of the contract.

In the meantime, insurers invest the premium, for instance by buying financial assets (e.g. bonds or equity), so as to receive financial returns in the future. Asset management is an important part of insurers' business and **investments** make up the bulk of the asset side of insurers' balance-sheet.

Insurers also need to estimate their insurance obligations *vis-à-vis* policyholders, as the final economic value of their commitment is unknown until it is settled: indeed, the occurrence, the time and often the amount of the compensation is uncertain. **Technical provisions** are the funds that insurers "reserve" to be in a position to settle their contractual obligations and correspond to the estimation of these insurance commitments. They appear as a debt towards policyholders on the liability side of insurers' balance-sheet.

The excess of assets over liabilities corresponds to insurers' **capital**, i.e. their economic wealth.

ASSETS	LIABILITIES
	Capital = assets – liabilities
Investments (e.g. equity, bonds, etc.)	Technical provisions (insurance obligations towards policyholders and beneficiaries)

In theory, if technical provisions are properly valued and if the value of investments does not fall, then an insurer holding enough assets to cover its technical provisions will be able to meet his obligations in the future. However, it is extremely difficult to estimate future insurance commitments – due to their random nature – and the value of investments changes over time. Therefore, for prudential purposes, insurers are usually required to hold a "buffer" of capital above technical provisions to ensure that they will be able to absorb unexpected changes in the value of their assets and liabilities and thus still meet their obligations to policyholders.

Outline of the Solvency II framework

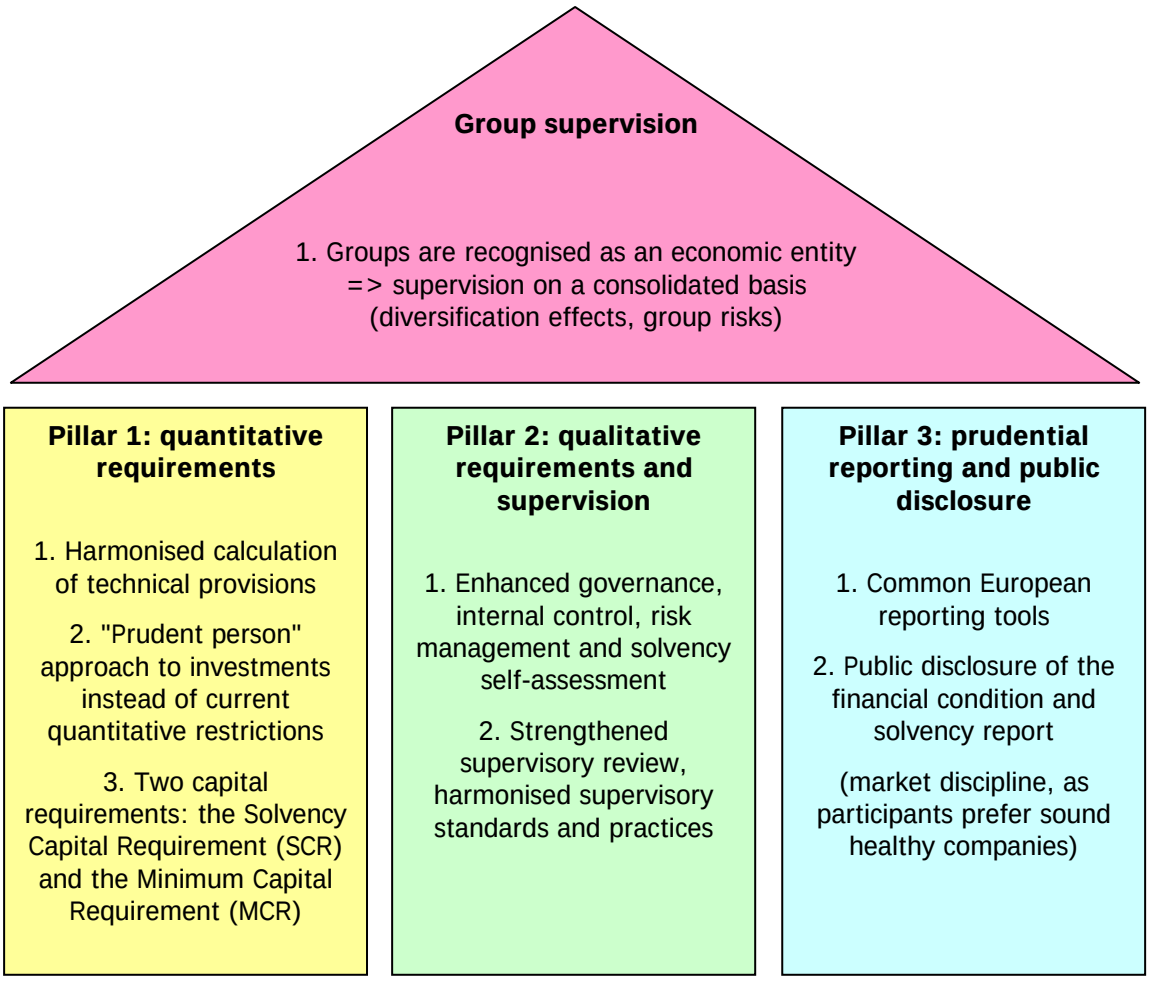
General philosophy

The general philosophy of Solvency II is to promote an **economic**, **risk-based** and **comprehensive** approach to insurance supervision. The supervisory framework should be based on a realistic view (i.e. valuation of assets and liabilities should be consistent with

information provided by financial markets and generally available data on insurance and reinsurance technical risks) of the overall financial position of insurers (i.e. all aspects of the business should be covered). It should foster good risk and capital management by insurers themselves, as good internal management reduces the likelihood that insurers will get in to difficulties, thus limiting the risk of insolvency and the need for measures to be taken by supervisors. It should provide incentives for insurers to improve their day-to-day management, through the **introduction of risk-based capital requirements** that take account of the specific risk profile of each insurer, **strengthened supervisory review**, and **increased transparency and disclosure**. Solvency II should also enhance **supervisory cooperation and convergence** in order to deepen integration of the EU insurance market and to improve the efficiency and effectiveness of the supervision of pan-European groups.

Three pillars and a roof

The Solvency II framework relies on three Pillars regarding the supervision of "solo" legal entities, which are then supplemented by provisions on group supervision:



Regarding technical provisions, they are calculated using a "**best estimate + risk margin**" approach. The best estimate is the present expected value of future cash-flows related to insurance liabilities, whereas the risk margin enables potential transfer of the insurance portfolio to a willing knowledgeable third party.

The **SCR** corresponds to a level of capital that enables the insurer to absorb unexpected losses over a one-year time horizon with a 99.5% confidence level (Value at Risk 99.5% 1 year). The SCR captures all quantifiable risks that may affect the value of all assets and liabilities over the one-year time horizon (e.g. underwriting risk, market risk, operational risk, etc.).

To cover the SCR, available capital (or "own funds") is defined as the excess of assets over liabilities (to the extent the latter do not behave as capital – e.g. deeply subordinated debt).

When the **MCR** is breached ultimate supervisory action is triggered. When the eligible amount of capital of the insurer is between the SCR and the MCR, supervisors take appropriate actions to help the insurer to restore its financial standing. This **supervisory ladder of intervention** is designed to ensure that supervisory actions are both timely and proportionate.

ANNEX A.5

ADMINISTRATIVE COSTS

SOLVENCY II ADMINISTRATIVE COSTS ON INSURANCE INDUSTRY (BASED ON QIS 2 RESULTS)

Solvency II						Tariff (€ per hour)		Time (hour)		Price (per action or equip)	Freq (per year)	Nbr of entities	Total nbr of actions	Total cost	Regulatory origin (%)				Comments & Assumptions
No.	Ass. Art.	Orig. Art.	Type of obligation	Description of required action(s)	Target group	i	e	i	e						Int	EU	Nat	Reg	
1	N/A		Non-labelling information for third parties	Other	Large Insurers					2.880.000	*1*	125	125	360.000.000		100%			**Initial investment** . Estimates include capital investment that has been already made or planned for (i.e., would have occurred even in the absence of proposal).
2	N/A		Non-labelling information for third parties	Other	Mid Size Insurers					1.440.000	*1*	500	500	720.000.000		100%			
3	N/A		Non-labelling information for third parties	Other	Small Insurers					360.000	*1*	4.375	4.375	1.575.000.000		100%			
4	N/A		Non-labelling information for third parties	Other	Large Insurers	80	240	867	70	86.250	1	125	125	10.781.250		100%			**Ongoing costs** . Estimates include ongoing costs that have been already planned for (i.e., would have occurred even in the absence of proposal). External tariff assumed to be 3 times higher than internal tariff. Internal tariff based on compensation of €75K per year + 100% overhead. Approx. 6 man months of time that is split between internal (92,5%) and external (7,5%).
5	N/A		Non-labelling information for third parties	Other	Mid Size Insurers	80	240	867	70	86.250	1	500	500	43.125.000		100%			
6	N/A		Non-labelling information for third parties	Other	Small Insurers	80	240	867	70	86.250	1	4.375	4.375	377.343.750		100%			

Total administrative costs (€) **3.086.250.000**

Administrative costs by origin (€) 0 3.086.250.000 0

Source:

CEA assessment of Solvency II administrative costs for insurers. Approach based on QIS2 results and CEA costing assumptions.

SOLVENCY II - IMPACT ASSESSMENT REPORT
POLICY OPTION ANNEXES

The Solvency II project has considered, analysed and compared a number of policy options. The policy options have been split into "high level" and "low level" policy options. The high level options were compared and analysed during Phase I. Analysis and comparison of the low level options and further detailed analysis of the impact of the direction chosen at the end of Phase I was conducted during Phase II.

ANNEXES B.1 – B.7 HIGH LEVEL POLICY OPTIONS

A number of high level options have been analysed and compared, including whether a change is needed, and if so, what legislative procedure should be followed. In addition, a number of key questions regarding the overall design were analysed. These included the extent to which lessons could be learned from Basel II and the Capital Requirements Directive; how insurance groups should be supervised; how small and medium sized insurers should be treated; whether the calculation of technical provisions should be harmonised; and what approach should be taken with respect to the calculation of capital requirements. Detailed analysis and comparison of each high level policy option is presented in the following Annexes:

- B1: Status quo versus change?
- B2: What legislative approach should be taken?
- B3: Consistency of prudential supervision of the insurance and banking sector
- B4: Group supervision
- B5: Small and medium sized undertakings
- B6: Calculation of technical provisions for prudential and accounting purposes
- B7: Calculation of capital requirements

ANNEXES B.8 – B.13 LOW LEVEL POLICY OPTIONS

Following considerations on the overall direction of the new regime (high level policy options), a number of subsequent lower level policy options were analysed and compared. These options included methods for the calculation of technical provisions; the level of calibration of the capital requirements; and how the capital requirements should be designed. In addition, various options regarding the treatment of investments were considered. Detailed analysis of each low level option is presented in the following Annexes:

- B8: Methods for the calculation of technical provisions
- B9: Calibration of the Solvency Capital Requirement (SCR)
- B10: Choice of a risk measure for solvency purposes (Var vs. TailVar)
- B11: Design of the SCR standard formula
- B12: Calculation of the Minimum Capital Requirement (MCR)
- B13: Investment rules

ANNEXES B - ANALYSIS OF POLICY OPTIONS

ANNEX B1 - POLICY ISSUE 1:

STATUS QUO VERSUS CHANGE?

Background information: current EU legislation

The third generation, life and non-life Insurance Directives adopted in 1992 completed the Community legislative framework necessary for the establishment of the single licence for EU insurance undertakings, the so-called "European Passport". The rules underpinning the single licence regime seek to ensure adequate policyholder protection and the stability of financial markets.

During the Council discussions on the third Directives, it was agreed that the regime needed to be reviewed further, but in order not to delay completion of the insurance single market, the review should only take place after the Directives came into force. Consequently, the third generation Directives included articles obliging the Commission to produce a report examining the need for further harmonisation of the solvency margin.

At the meeting of the Insurance Committee in April 1994, the Commission discussed the review with Member States and it was agreed that CEIOPS predecessor, the Conference of Insurance Supervisory Authorities of Member States of the European Union should examine the need for further reform of the solvency rules and report back to the Commission by the end of 1996. The result was the Müller Report[44] which highlighted several potential shortcomings of the regime in place at the time. The report was submitted to the Commission in April 1997, making several recommendations for change.

The Commission's Report[45] to the Insurance Committee later in 1997 also concluded that adjustments and improvements should be made to remedy the many identified weaknesses. Subsequent detailed analysis concluded that a more fundamental review was necessary, but that in order to improve policyholder protection, before embarking on this wide-ranging review, limited remedial action needed to be taken immediately. As a result, the Commission decided to press ahead with a limited, but expedited reform in the shape of the "Solvency I" Directives in 2000[46].

At the start of this wider-ranging review, which has become known as Solvency II, four possible courses of action were considered: stick with the Solvency I amendments; make specific targeted modifications to the Solvency I regime addressing only major deficiencies identified as part of the analysis; wait for developments of an international solvency solution by the IAIS before embarking on reform of the EU insurance acquis; or build a new EU solvency system from scratch, rather than using Solvency I as a base or waiting for an international solvency solution to be developed.

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[44] Müller, H. (Chairman) (1997), *Solvency of Insurance Undertakings*, Report by the Conference of Insurance Supervisory Authorities of the Member States of the European Union.

[45] COM(97) 398 final

[46] COM(2000) 634 final/2 and COM(2000) 617 final

Policy options discussion

These options can be summarised as and will be referred to in the rest of this annex as follows:

- **Option 1.1**: No change;
- **Option 1.2**: Update the existing directives;
- **Option 1.3**: Wait for international solvency solution;
- **Option 1.4**: Develop new EU solvency system.

Two tables are presented at the end of this annex, summarising the detailed analysis of these four options:

- Table "Policy issue 1" setting out the impacts of each policy option;

- Table "Policy options comparison – issue 1" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 1.1: ***No change***

Although, Solvency I updated the EU regime in 2002, a number of significant structural weaknesses remain. The current regime is not risk sensitive; it has not ensured the removal of all restrictions preventing the proper functioning of the single market; it does not properly deal with the supervision of groups; and it has been superseded by industry, international and cross-sectoral developments (See Solvency II - Impact Assessment Report, Section 2 Problem Definition).

In order to address the weaknesses of the current regime, Member States have introduced additional rules that have resulted in widely diverging regulatory requirements and supervisory practices throughout the EU. The resulting lack of harmonisation undermines the proper functioning of the Single Market and imposes significant costs on insurance groups operating in more than one Member State.

Although in theory it is possible that Member States could introduce similar regulatory regimes to rectify problems in the current system, and that supervisory authorities could better co-ordinate their supervisory activities, thus removing the obstacles to the proper functioning of the Single Market, there is little evidence of this occurring in practice.

Indeed, current experience would suggest that the opposite is the case. Action is necessary to bring about change, and this action needs to be taken at EU level in order to ensure that a more harmonised framework is put in place that will deepen the integration of the EU insurance market, enhance policyholder protection and improve the international competitiveness of EU insurers and reinsurers.

Policy Option 1.2: ***Update the existing directives***

The underlying structural problems of the current regime are such that a limited update of the existing directives would not be able to tackle them. As noted in the *KPMG report*, "the scope of risks taken into account by the EU fixed ratio approach is narrow and the approach is not sensitive to the capital requirements with respect to company-specific profiles. The structural weaknesses in the approach mean that it cannot be developed to incorporate all the risks facing an insurer" (See Annex C.1a – page 241).

The *Sharma Report* also highlighted a number of major issues that any reform would have to address, such as the need for a second, earlier supervisory intervention point; that this early intervention point should be better aligned with the actual risk-profile of the insurer; and that any

reform should offer on improving risk-management and allow internal models to be used. The report also noted the need to reform supervisors' tools and powers to better suit the challenges they face today.

In addition, significant developments in the banking sector mean that maintaining cross-sectoral consistency would not be possible if only minor amendments were made (See Annex B.3).

Policy Option 1.3: ***Wait for international solvency solution***

The IAIS was established in 1994. Since then, gradual progress has been made in the development of global standards with respect to the prudential regulation of insurance[47]. Most recently, in 2006, a *Roadmap for a Common Structure and Common Standards for the Assessment of Insurer Solvency* was agreed, setting out the "path" for potential global common standards. As a first step, in February 2007 the IAIS approved a *Common Structure for the Assessment of Insurer Solvency*.

Throughout the Solvency II project, careful attention has been taken to ensure that the project remains in line with international developments. Whilst waiting for an international solution to be fully developed would reduce the risk of the new EU regime diverging from future global standards it would also mean that the already identified weaknesses of the current regime would remain unresolved in the medium to long term.

Policy Option 1.4: ***Develop new EU solvency system***

Consequently, it was decided to press ahead with the development of a new EU solvency system, whilst at the same time closely following international developments in order to ensure compatibility with any future global standards.

Significant weaknesses were already identified in 1997, and the limited reform in 2001 was only a stop-gap measure needed to improve policyholder protection whilst a more fundamental reform was undertaken. Studies have highlighted the many issues that need to be tackled by the new EU solvency regime and that they cannot be resolved by tinkering with the existing framework.

Whilst waiting for an international solution would reduce the risk of the new EU regime diverging from future global standards, it would also mean that weaknesses in the current EU regime would remain unresolved in the medium to long term.

Conclusion

Option 1.1 (no change) and Option 1.2 (update the existing Directives) were discarded as they do not meet objective 3.1.1 (Deepen integration of EU insurance market), objective 3.1.2. (Enhance policyholder protection) and objective 3.1.3 (Improve international competitiveness of EU insurers and reinsurers).

Option 1.4 (Develop new EU solvency system) has been retained as the best option since it more effectively and sustainably meets objective 3.1.1 (Deepen integration of the EU insurance market), 3.1.2 (Enhance policyholder protection) and 3.1.3 (Improve international competitiveness of EU insurers and reinsurers) than Option 1.3.

[47] IAIS (2002), *Principles on capital adequacy and solvency*; IAIS (2005), *A new framework for insurance supervision: Towards a common structure and common standards for the assessment of insurer solvency* ; IAIS (2005), *Towards a common structure and common standards for the assessment of insurer solvency: Cornerstones for the formulation of regulatory financial requirements* .

Policy Issue n° 1: status quo vs. change

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
1.1 No change - Solvency I to continue as it is.	Policyholders	The lack of risk sensitivity of the required solvency margin means that it does not provide incentives for EU insurers to improve their risk management	Indirect	-	High	Permanent
		Uneven level of policyholder protection, arising from a lack of risk sensitivity of the required solvency margin	Indirect	-	High	Permanent
	Industry	Additional costs arising from inefficient allocation of capital for insurance undertakings and lack of alignment of regulatory and industry practice	Direct	-	High	Permanent
		Increased administrative burden for insurance undertakings operating on a cross-border basis arising from lack of harmonisation because many Member States impose additional solvency requirements	Direct	-	High	Permanent
	Supervisors	Less effective and efficient supervision because current solvency required margin is not sufficiently risk sensitive and therefore does not facilitate accurate and timely interventions by supervisors	Indirect	-	High	Permanent
		Simple and objective calculation makes verification of regulatory requirements straight-forward and would not require the recruitment of new supervisory resources	Direct	+	High	Permanent
1.2 Minimum update of existing directives	Policyholders	Marginal improvement in risk sensitivity of the required solvency margin	Indirect	-	Medium	Permanent
		Continued uneven level of policyholder protection, arising from a lack of risk sensitivity of the required solvency margin	Indirect	-	Medium	Permanent
	Industry	Continued additional costs arising from inefficient allocation of capital for insurance undertakings and lack of alignment of regulatory and industry practice	Direct	-	High	Permanent
		Continued increased administrative burden for insurance undertakings operating on a cross-border basis arising from lack of harmonisation because many Member States impose additional solvency requirements	Direct	-	High	Permanent
	Supervisors	Less effective and efficient supervision because current solvency required margin is not sufficiently risk sensitive and therefore does not facilitate accurate and timely interventions by supervisors	Indirect	-	High	Permanent
		Simple and objective calculation makes verification of regulatory requirements straight-forward and would not require the recruitment of new supervisory resources	Direct	+	High	Permanent

Policy Issue n° 1: status quo vs. change

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
1.3 Wait for international solvency solution	All	In the medium to long-term, problems identified with current regime will remain (See no change above) giving rise to opportunity costs	Direct	-	High	Long-term
		In the long term, benefits identified with introduction of the development of new EU regime (See Develop new EU solvency regime below)	Indirect	+	Medium	Permanent
		Waiting for international solution would ensure that EU regime is in line with international developments	Direct	+	High	Permanent
1.4 Develop new EU solvency system	Policyholders	Enhanced policyholder protection arising from introduction of system that provides incentives for EU insurers to improve their risk management	Indirect	+	High	Permanent
		Even level of policyholder protection arising from risk sensitive harmonised solvency standards	Indirect	+	High	Permanent
	Industry	Better allocation of capital for insurers and alignment of regulatory requirements with industry practice	Direct	+	High	Permanent
		Investment needed to implement new solvency system	Direct	-	Medium	Permanent
	Supervisors	Introduction of risk sensitive solvency standards will facilitate more accurate and timely interventions by supervisors	Direct	+	High	Permanent
		Need to change supervisory practices; make investments in new systems, training and staff	Direct	-	Medium	Short-Term

Policy Option Comparison - Policy Issue n° 1: Status quo vs. Change

Policy Option	Relevant Objectives					
	3.1.1 Deepen integration of the EU insurance market		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers	
	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
1.1 No change	0	0	0	0	0	0
1.2 Update existing directives	0	0	+	0	0	0
1.3 Wait for int'l solution	+	++	+	++	++	++
1.4 Develop new solvency system	++	++	++	++	+	++

ANNEX B2 - POLICY ISSUE 2:

What legislative approach should be taken?

Background information: Better Regulation

The regulatory framework in which businesses operate is a key factor in their competitiveness, growth and employment performance. A key objective of the EU's enterprise policy is to ensure that the regulatory environment is simple and of high quality. This is why Better Regulation is a centrepiece of the Commission's "Partnership for Growth and Jobs" – the renewed Lisbon Strategy launched in spring 2005.

In the general context of Better Regulation, the Commission is committed to contributing to the common goal shared with European institutions and Member States of simplifying the regulatory environment for European businesses and citizens. The objective is to ensure that Community legislation is clear, understandable, up-to-date and user-friendly. To that end, the Commission launched in October 2005 a new simplification strategy which builds upon previous work in this domain.

The "Lamfalussy" process (See Lamfalussy Process - Annex A.3) is a new dynamic approach to the development of financial services regulation and supervision, designed to deliver more integrated and efficient regulatory and supervisory structures that fit in well with the general Better Regulation agenda. The extent to which to utilise this approach in Solvency II, and in particular, the extent to which Solvency II should make use of implementing measures as the legislative tool to introduce the technical details of the new solvency system, is a question of key importance when deciding the legislative approach[48].

The extent to which a particular legislative project can be used to simplify and make EU legislation more accessible should also be considered. For Solvency II, the issue was whether or not to consolidate the existing Insurance *acquis* which is spread across 13 Directives. In particular, the treatment of life and non-life insurance undertakings is dealt with in different Directives, as is the treatment of insurance groups and reinsurers.

Policy options discussion

The options regarding the legislative approach to be taken for Solvency II can therefore be summarised and will be referred to in the rest of this annex as follows:

- **Option 2.1**: Update the existing directives with only level 1 legislation;
- **Option 2.2**: Update the existing directives with level 1 legislation and level 2 implementing measures;
- **Option 2.3**: Codify the existing direct insurance, reinsurance and groups directives and update with only level 1 legislation;
- **Option 2.4**: Codify the existing direct insurance, reinsurance and groups directives and update with level 1 legislation and level 2 implementing measures.

Two tables summarise the detailed analysis of these four options:

[48] A new Inter-institutional Agreement (See Decision of the European Council, 1999/468/EC and 2006/512/EC) between the legislative partners was agreed in 2006, introducing a new "scrutiny" procedure, giving the Parliament a greater possibility to control the delegation of powers to the Commission.

- Table "Policy issue 2" sets out the impacts of each policy option;

- Table "Policy options comparison – issue 2" sets out the extent to which each option meets the objectives of the Solvency II project.

<u>Policy Option 2.1</u>: ***Update the existing directives with only level 1 legislation***[49]

Updating the existing Directives with only Level 1 legislation would have a number of significant drawbacks. First, both the industry and supervisors would be faced with a list of amendments referencing numerous other Directives, making it difficult to access, transpose and implement the legislation at national level. This would increase the risk that the new regime is not implemented consistently across the Community and undermine efforts to advance supervisory convergence and cooperation.

Second, it would make it more difficult to take account of future international regulatory developments. For example, it would be more difficult to update legislation following the adoption of new accounting standards by the IASB, once phase II of its insurance contracts project is completed. In addition, it would also be more difficult to update legislation to take account of the publication of new prudential standards currently being developed by the IAIS, as well as to make any necessary changes in order to ensure cross-sectoral consistency is maintained with banking, in the event that the banking sector decides to update its rules in certain areas – e.g. on own funds.

It would also make it more difficult to ensure that regulatory requirements remain aligned to industry best practice going forward and that a proportionate, but risk sensitive regime, is applied to small insurers.

<u>Policy Option 2.2</u>: ***Update the existing directives with level 1 legislation and level 2 implementing measures***

Updating the existing Directives with level 1 legislation and level 2 implementing measures would solve the problems related to ensuring that legislation keeps pace with international regulatory and industry developments, as well as helping to ensure that a proportionate treatment is applied to small insurers. However, it would not solve problems related to the accessibility of the legislation, and consequently would fail to ensure consistent implementation of the new regime across the Community and undermine efforts to advance supervisory convergence and cooperation.

<u>Policy Option 2.3</u>: ***Codify the existing direct insurance, reinsurance and groups directives and update with only level 1 legislation***

Codifying the existing Directives and updating with only level 1 legislation would make it easier for the industry to access the legislation, which in turn would increase legal certainty, reduce the risk of compliance failures and increase insurers' confidence when making use of their Single Market freedoms. Codification would also make it easier for supervisors to access the legislation thus facilitating harmonised implementation and laying the foundations for increased supervisory convergence and cooperation. However it would be more difficult to update the legislation in the light of international regulatory or industry developments and to ensure a proportionate, but risk sensitive, treatment for SMEs.

[49] For an explanation of the legislative "levels", see Lamfalussy Process - Annex A.3.

<u>Policy Option 2.4</u>: ***Codify the existing direct insurance, reinsurance and groups directives and update with level 1 legislation and level 2 implementing measures***

Codifying the existing Directives and updating with level 1 and level 2 implementing measures would both make it easier to access the legislation and make it easier to update legislation in the light of international regulatory and industry developments. Consequently, Option 2.4 enjoys all the benefits set out for both Option 2.2 and Option 2.3, without the drawbacks associated with either of these options.

<u>Conclusion</u>

Option 2.1 (update the existing directives with only level 1 legislation) was discarded as it does not meet objective 3.1.4 (Promote better regulation), 3.2.3 & 3.2.5 (Encourage cross-sectoral consistency and promote international convergence), nor 3.2.2 (Advance supervisory convergence and co-operation). Option 2.3 (Codify the existing directives & update with only level 1 legislation) was also discarded, because although it would contribute to meeting objective 3.1.4 (Promote better regulation) and objective 3.2.2. (Advance supervisory convergence), it is not a sustainable solution.

Option 2.4 (codify the existing directives & update with level 1 legislation and level 2 implementing measures) has been retained as the best option since it more effectively and sustainably meets objective 3.1.4 (Promote better regulation), 3.2.3 & 3.2.5 (Encourage cross-sectoral consistency and promote international convergence) and objective 3.2.2 (Advance supervisory convergence and co-operation), than Option 2.2.

Policy Issue n° 2: what legislative approach should be taken?

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
2.1 Update the existing directives with only Level 1 legislation	Policyholders	Sub-optimal protection of policyholders as less ability to update legislation to take account of latest international regulatory and industry developments	Indirect	-	Medium	Permanent
	Industry	Continued difficulties in accessing and understanding EU legislation	Direct	-	High	Permanent
		Lack of alignment of regulatory regime with industry best practice as less ability to update legislation to take account of latest international regulatory and industry developments	Indirect	-	Medium	Permanent
		Delivering proportionate and harmonised treatment for small insurers will be more difficult	Indirect	-	Medium	Permanent
	Supervisors	Less accessible EU legislation and difficulties in transposing legislation will undermine supervisory convergence and cooperation	Direct	-	Medium	Permanent
2.2 Update the existing directives with Level 1 legislation and level 2 implementing measures	Policyholders	Enhanced protection of policyholders as greater ability to update legislation to take account of latest international regulatory and industry developments	Indirect	+	Medium	Permanent
	Industry	Continued difficulties in accessing and understanding EU legislation	Indirect	-	High	Permanent
		Better alignment of regulatory regime with industry best practice as greater ability to update legislation to take account of latest international regulatory and industry developments	Indirect	+	Medium	Permanent
		Delivering proportionate and harmonised treatment for small insurers will be easier	Indirect	+	Medium	Permanent
	Supervisors	Less accessible EU legislation and difficulties in transposing legislation will undermine supervisory convergence and cooperation	Direct	-	Medium	Permanent
2.3 Codify the existing direct insurance, reinsurance and groups directives and update with only level 1 legislation	Policyholders	Sub-optimal protection of policyholders as less ability to update legislation to take account of latest international regulatory and industry developments	Indirect	-	Medium	Permanent
	Industry	Improved accessibility of EU legislation and better understanding of requirements will increase legal certainty, reduce the risk of compliance failures and improve confidence to take advantage of single market freedoms	Direct	+	High	Permanent
		Lack of alignment of regulatory regime with industry best practice as less ability to update legislation to take account of latest international regulatory and industry developments	Indirect	-	Medium	Permanent
		Delivering proportionate and harmonised treatment for small insurers will be more difficult	Indirect	-	Medium	Permanent
	Supervisors	More accessible legislation will encourage harmonised implementation, which in turn will advance supervsiory convergence and cooperation	Direct	+	Medium	Permanent

Policy Issue n° 2: what legislative approach should be taken?

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
2.4 Codify the existing direct insurance, reinsurance and groups directives and update with level 1 legislation and level 2 implementing measures	Policyholders	Enhanced protection of policyholders as greater ability to update legislation to take account of latest international regulatory and industry developments	Indirect	+	Medium	Permanent
	Industry	Improved accessibility of EU legislation and better understanding of requirements will increase legal certainty, reduce the risk of compliance failures and improve confidence to take advantage of single market freedoms	Direct	+	High	Permanent
		Better alignment of regulatory regime with industry best practice as greater ability to update legislation to take account of latest international regulatory and industry developments	Indirect	+	Medium	Permanent
		Delivering proportionate and harmonised treatment for small insurers will be easier	Indirect	+	Medium	Permanent
	Supervisors	More accessible legislation will encourage harmonised implementation, which in turn will advance supervsiory convergence and cooperation	Direct	+	Medium	Permanent

Policy Option Comparison - Policy Issue n° 2: what legislative approach should be taken?

Policy Option	Relevant Objectives					
	3.1.4 Promote Better Regulation		3.2.3 & 3.2.5 Encourage cross-sectoral consistency and promote international convergence		3.2.2 Advance supervisory convergence and co-operation	
	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
2.1 Update existing directives with only level 1 legislation	0	0	0	0	0	0
2.2 Update existing directives with levels 1 & 2	+	+	++	+	+	+
2.3 Codify existing directives & update with only level 1 legislation	+	0	0	0	+	0
2.4 Codify existing directives and update with level 1 legislation and level 2 implementing measures	++	++	++	++	++	++

ANNEX B3 - POLICY ISSUE 3:

CONSISTENCY OF PRUDENTIAL SUPERVISION OF THE INSURANCE AND BANKING SECTOR

The Capital Requirements Directive (CRD) for credit institutions and investment firms was adopted by the Council and the European Parliament in June 2006[50]. The Directive introduced an updated supervisory framework in the EU, reflecting new rules on capital standards for internationally active banks agreed at G-10 level by the Basel Committee on Banking Supervision. The Directive came into force on 1 January 2007.

Given that insurers and banks now compete in many markets offering similar products and that there are now a large number of Bancassurance groups operating in Europe, one of the key policy issues regarding the new solvency regime is the extent to which new capital rules for insurers should be aligned with that of other financial sectors, including banking.

The question of alignment of insurance and banking capital rules is also important because as a result of the growing linkages between the insurance and banking sectors (See *ECB Report*), the insurance industry is increasingly being viewed as a potential source of vulnerability for financial stability.

A key feature of the new banking rules often referred to as Basel II, is the introduction of a three pillar structure. The first pillar relates to minimum capital requirements; the second pillar to supervisory review processes; and the third pillar to measures designed to foster market discipline (i.e. disclosure requirements)[51].

Policy options discussion

The options regarding the extent to which Solvency II should follow the same approach as the Basel Committee can be summarised and will be referred to in the rest of this annex as follows:

- **Option 3.1**: Retain current quantitative supervisory approach;
- **Option 3.2**: Adopt first and second Basel Pillars (quantitative and qualitative);
- **Option 3.3**: Adopt all three Basel Pillars including market discipline;
- **Option 3.4**: Adopt adjusted more harmonised Basel three pillar approach

Two tables are presented at the end of this annex, summarising the detailed analysis of these four options:

- Table "Policy issue 3" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 3" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 3.1: Retain current quantitative supervisory approach

The current insurance solvency regime is based on three different sets of quantitative rules. First, rules regarding the calculation of technical provisions. Second, rules regarding the types of assets that can be used to cover technical provisions. Third, rules regarding minimum capital requirements (often referred to as the required solvency margin). The lack of a harmonised approach to the

[50] Directives 2006/48/EC and 2006/49/EC

[51] http://www.bis.org/publ/bcbsca.htm

assessment of an insurance undertaking's risk management by supervisors as required under Pillar 2 of Basel II as well as the lack of common supervisory reporting, and disclosure requirements have a number of negative consequences for policyholders, insurers and supervisors.

First, and most importantly, the lack of a harmonised approach to the assessment of insurers' risk management systems results in an uneven level of policyholder protection across the EU. The *Sharma Report* indicated, the failure of many insurance undertakings can ultimately be traced back to poor management decisions and that the current quantitative rules are not a useful early warning indicator in this regard.

Second, the lack of harmonised supervisory reporting and disclosure requirements across the EU makes it difficult for the financial position of EU insurers to be compared, leading to increased administrative burden for insurance groups and financial conglomerates and a higher cost-of-capital for the insurance sector.

Policy Option 3.2: ***Adopt first and second Basel Pillars (quantitative and qualitative)***

The introduction of Pillar 2 requirements, similar to those under Basel II, in the new solvency regime would enhance policyholder protection through the introduction of qualitative risk management standards for insurers. This would also ensure more effective and efficient supervision resulting from a better understanding by supervisors of the risks run by insurers. In particular, the introduction of Pillar II requirements in the new solvency regime would enhance policyholder protection by ensuring more accurate and timely interventions by supervisors. Furthermore, the requirement for insurers to perform an internal risk and capital assessment would improve risk and capital management and help align regulatory and industry practice[52].

The introduction of Pillar II requirements in the new solvency regime would, however, require increased supervisory resources (See *CEIOPS Report*), especially if internal models are allowed to be used in the calculation of capital requirements and to perform the internal risk and capital assessment, as is the case in Basel II. In particular, new specialist staff will need to be recruited and existing staff will need to be re-trained.

Policy Option 3.3: ***Adopt all three Basel Pillars including market discipline***

The introduction of Pillar 3 requirements, similar to those under Basel II, in the new solvency regime would enhance policyholder protection by providing incentives for listed insurers to maintain adequate financial resources. In addition, the introduction of harmonised disclosure requirements will increase transparency and therefore confidence in the insurance sector, which should result in a reduction in the cost-of-capital (See *Industry Reports* - Annex C.8c). In the case of non-listed companies, the impact of the introduction of disclosure requirements is likely to be less pronounced, but reinsurance markets will provide a mechanism for bringing market discipline to bear.

However, in the short-term, there is a risk that increased transparency could have some negative impacts. For example, some undisclosed information available to insurance undertakings (risk management, customer information, etc) may provide them with a competitive advantage. Hence requirements to disclose this information could in some circumstances have a negative short-term impact on profitability. Another potential short-term negative impact following the introduction of new disclosure requirements relates to publication of breaches of capital requirements, which could aggravate the situation of insurance undertakings in financial difficulties. New disclosure requirements will also increase the administrative burden on insurance undertakings (See *Industry Reports* - Annex C.8c).

[52] Financial Services Authority (2006), *Insurance Sector Briefing: Risk Management in Insurers*

<u>Policy Option 3.4</u>: Adopt adjusted more harmonised Basel three Pillar approach

As Basel II was agreed internationally, it only sets out minimum standards to be applied by supervisors. It does not try to fully harmonise supervisory powers, methods, tools and practices in order to ensure that all international banks are supervised in the same way and thus reduce the regulatory burden on internationally active banks.

The CRD goes further in this respect and the Committee of European Banking Supervisors (CEBS) has initiated work to develop common reporting requirements for European banks, to foster convergence of supervisory practices and improve supervisory cooperation in Europe.

Given that current supervisory practices and traditions vary widely across the EU with respect to insurance supervision, the introduction of similar requirements in the insurance sector would deepen the integration of the EU insurance market and reduce the administrative burden on insurance undertakings.

Rules requiring supervisors to disclose their general approach to supervision and information regarding the actions taken by supervisors can also help in this respect. For example, requiring supervisors to disclose whenever they require an insurance undertaking to hold more capital than strictly required, will help ensure a level playing field and require supervisors to provide proper justification for any actions taken.

In addition to seeking more supervisory convergence with respect to the new solvency regime, it is also reasonable to ask whether the disclosures required under Basel II need to be adapted when applied to insurance. In the insurance sector, premiums paid by policyholders constitute the main source of financing for many direct insurers.

Given the complexity of the operations of insurers, the volume of data and the difficulty of boiling down the information available to some valid but easily understood indicators, it is far from clear that the average retail policyholder will be able to make informed choices based on comparative information regarding the financial strength of insurers. From the perspective of policyholders, it is more important that they receive clear, concise, comparable and timely information regarding the terms and conditions of insurance contracts as well as any commissions or fees paid to intermediaries (See *FIN-USE Report*).

<u>Conclusions:</u>

Option 3.1 (Retain current quantitative supervisory approach) was discarded as it does not meet objectives 3.2.2 (Advance supervisory convergence and co-operation), 3.1.2 (Enhance protection of policyholders and beneficiaries), 3.2.6 (Increase transparency) nor 3.3.7 (Promote compatibility of prudential supervision of insurance and banking).

Option 3.2 (Adopt first and second Basel Pillars) meets these objectives, but not as effectively as Option 3.3 (Adopt all three Basel Pillars including market discipline) or Option 3.4 (Adopt adjusted more harmonised Basel three Pillar approach).

Option 3.4 was retained, in line with the conclusions of the *KPMG Report*, as it more effectively meets the objectives of advancing supervisory convergence and cooperation and increasing transparency than option 3.3. Even though, as it goes further with respect to harmonisation than the CRD, Option 3.4 contributes less effectively than Option 3.3 to the objective of promoting compatibility of prudential supervision of insurance and banking.

Policy Issue n° 3: Consistency of prudential supervision of insurance and banking

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
3.1 Retain current quantitative supervisory approach	Policyholders	Uneven level of policyholder protection, arising from a lack of harmonisation of the extent to which qualitative risks are assessed as part of the supervisory review process	Indirect	-	High	Permanent
	Industry	Increased administrative burden for financial conglomerates arising from a lack of cross-sectoral consistency	Direct	-	High	Permanent
		Increased administrative burden for insurance undertakings operating on a cross-border basis arising from lack of harmonisation of supervisory tools, methods and reporting requirements	Indirect	-	High	Permanent
		Higher refinancing costs for the insurance sector, because the financial position of insurers is difficult to compare given lack of harmonised disclosure requirements	Indirect	-	High	Permanent
	Supervisors	Uneven level of policyholder protection arising from a lack of a common set of early warning indicators to ensure timely intervention by supervisors	Indirect	-	High	Permanent
3.2 Adopt first and second Basel Pillars (quantitative and qualitative)	Policyholders	Enhanced policyholder protection via the introduction of qualitative risk management standards	Indirect	+	Medium	Permanent
		Enhanced policyholder protection resulting from more accurate and timely interventions by supervisors	Indirect	+	Medium	Permanent
	Industry	Improved risk and capital management and alignment of regulatory and industry practice, through requirement to perform an internal capital assessment	Direct	+	High	Permanent
	Supervisors	More effective and efficient supervision resulting from better understanding of the risks born by insurance undertakings and the risk management of insurance undertakings	Indirect	+	High	Permanent
		Increased supervisory resources, including recruitment of specialised staff, will be required to run the new supervisory regime and existing staff will need to receive training	Direct	-	High	Permanent
3.3 Adopt all three Basel Pillars including market discipline (incremental impacts on top of those outlined for option 3.2)	Policyholders	Enhanced policyholder protection as increased disclosure will incentivise listed insurers to maintain adequate financial resources	Indirect	+	High	Permanent
		Disclosure requirements may aggravate the situation of insurance undertakings in financial diificulties	Indirect	-	Medium	Short-term
	Industry	Disclosure requirements will increase transparency and therefore confidence in the insurance sector which should result in a reduction in the cost-of-capital	Indirect	+	Medium	Permanent
		Some undisclosed information available to institutions (risk management, customer characteristics, etc) may provide insurance undertakings with a competitive advantage. The requirement to disclose this information could therefore in some circumstances weaken profitability	Indirect	-	Low	Short-term
		New disclosure requirements will increase administrative burden on insurance undertakings	Direct	-	High	Permanent

Policy Issue n° 3: Consistency of prudential supervision of insurance and banking

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
3.4 Adopt adjusted more harmonised three Basel Pillar approach (incremental impacts on top of those outlined for option 3.2 and 3.3)	Policyholders	Enhanced policyholder protection through increased ease of comparability of information disclosed, although retail policyholders may still find this information difficult to digest	Direct	≈	Low	Permanent
	Industry	Convergenece of supervisory tools, methods and practices will ensure level playing field across Europe	Indirect	+	Medium	Permanent
		Initial one-off costs related to changes in supervisory reporting requirements	Direct	-	High	Short-term
		Reduced on-going costs for insurance undertakings operating on a cost border basis from the introduction of common European reporting framework	Direct	+	High	Permanent
		Increased transparency of supervisory actions, such as the imposition of capital add-ons, will ensure a level playing field and require supervisors to provide proper justification for any actions taken	Indirect	+	Medium	Permanent
	Supervisors	New risk reporting framework will better enable supervisors to monitor insurance undertakings	Indirect	+	Medium	Permanent
		Initial one-off costs arising from introduction of new reporting systems	Direct	-	High	Short-term

Policy Option Comparison - Policy Issue n° 3: Consistency of prudential supervision of insurance and banking

Policy Option	Relevant Objectives							
	3.2.2 Advance supervisory convergence and co-operation		3.1.2 Enhance the protection of policyholders and beneficiaries		3.2.6 Increase transparency		3.3.7 Promote compatibility of prudential supervision of insurance and banking	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
3.1 Retain current quantitative supervisory approach	0	0	0	0	0	0	0	0
3.2 Adopt first and second Basel Pillars (quantitative and qualitative)	+	++	+	++	0	0	+	++
3.3 Adopt all three Basel Pillars including market discipline	+	+	++	+	+	+	++	+
3.4 Adopt adjusted more harmonised Basel three Pillar approach	++	+	++	+	++	+	+	+

ANNEX B4 - POLICY ISSUE 4:

GROUP SUPERVISION

Under Solvency I the focus of supervision is on legal entities, although supplementary provisions are applied to solo entities forming part of an insurance group (the so-called "solo plus" approach).

There are a large number of insurance groups operating within the EU on a cross-border basis. The internal control and risk management systems of many of these groups are managed centrally and do not necessarily correspond to the legal structure of the group.

Consequently, under the current prudential regime the supervision of groups operating on a cross-border basis is rarely aligned to the way in which the group organises and manages itself. This is particularly true when it comes to capital management and the use of internal models, which are often designed and implemented centrally and take account of diversification effects across entities (See *KPMG Report* – Annex C.1a Section 3).

This raises the question of what role solo and group supervisors should play in the supervision of legal entities within a group, particularly if internal models are allowed to be used under Solvency II (See Annex B7 - Policy Option 4).

The supervisory models discussed included: 1) retaining a "solo plus" approach to supervision, but with increased cooperation and coordination between European supervisory authorities; 2) entrusting all the tasks involved in the prudential supervision of the different entities within a group to the group supervisor; or 3) reallocating responsibilities between solo and group supervisors, such that for example the solo supervisor is responsible for monitoring core aspects, whilst the group supervisor is responsible for monitoring capital allocation within the group.

Policy options discussion

The options regarding the supervisory arrangements of insurance groups can thus be summarised and will be referred to in the rest of this annex as follows:

- **Policy Option 4.1**: Retain current solo plus approach;
- **Policy Option 4.2**: Assign responsibility for prudential supervision of a group to a single lead supervisor;
- **Policy Option 4.3**: Re-allocate responsibilities of solo and group supervisors.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 4" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 4" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 4.1: ***Retain current solo plus approach***

Option 4.1, which corresponds to the current "solo plus" approach, is criticised by the European insurance industry, because it bears the brunt of the opportunity and administrative costs arising from this supervisory approach (See Industry Reports – Annex C.8e). As there is no real group supervisor under Option 4.1, insurance groups do not have any clear contact point with whom to discuss their general strategy, they need to send the same information to several supervisors - in different reporting formats - and receive contradictory messages from solo supervisors (e.g.

regarding the approval of the risk and capital management policies or internal models). The insurance and reinsurance industry estimates that these deficiencies cause significant administrative costs[53].

Moreover, lack of coordination can be especially damaging with respect to the recognition of diversification effects across entities forming part of a group[54]. Recognising diversification effects at the group level implies that the group can hold less capital than the sum of the solo requirements. In practice, it means that these effects need to be "down-streamed" at solo level (since the group holds less capital than the sum of solo requirements) and that solo capital requirements are partially relaxed, in practice. Only a group supervisor can monitor such diversification effects and ascertain that, even though solo requirements are relaxed, the group effectively meets the same level of prudence. In the absence of any coordination arrangements and guarantees, no local supervisor would take the responsibility to (partially) relax the solo capital requirement, since this could potentially endanger policyholder protection. Even though increased cooperation and coordination between supervisory authorities would improve the current system, the recognition of diversification effects would probably still be hampered by conflicts of interests among solo supervisors (e.g. through the imposition of capital add-ons).

Therefore Option 4.1 seems likely to result in less recognition of these effects and consequently capital requirements under Solvency II would not really reflect the true risk profile of insurance groups. Insurance groups would be required to hold more own funds than necessary, which would hamper efficient capital allocation within the insurance sector and the EU economy as a whole, and would increase costs for insurers (i.e. cost of raising idle own funds).

It should be noted that Option 4.1 provides a lot of comfort to solo supervisors, who can monitor and enforce all requirements at the solo level and ensure strong policyholder protection. Conversely Option 4.1 is disadvantageous for "lead supervisors" as the latter will not have a global view of the group (e.g. no on-site inspection of subsidiaries, no common reporting format) and will not have any powers or mechanisms to enable them to coordinate the actions of the solo supervisors concerned, which raises important practical concerns.

Finally, as far as policyholders are concerned, Option 4.1 is likely to have mixed indirect effects: on the one hand, Option 4.1 is very conservative and therefore delivers prudent capital requirements, on the other hand, it increases costs for insurers and ultimately therefore puts upward pressure on insurance premiums (See *FIN-USE Report*).

Policy Option 4.2: ***Assign responsibility for prudential supervision of a group to a single lead supervisor***

By definition, Option 4.2 assigns full responsibility for the supervision of a group to a single lead supervisor and addresses most of the pitfalls identified with Option 4.1. In particular, the lead supervisor has a real global view of the group, which avoids duplication of tasks, misunderstandings and contradictions. It also allows for full recognition of diversification effects, which lowers the capital requirements for European insurance groups[55].

[53] Regarding the duplication of solo and group reporting requirements, see comments from the industry on CEIOPS Consultation Paper n° 15, on supervisory reporting and disclosure, section 5.6 and comments on CEIOPS' Draft Answers to the 'Third Wave' of Calls for Advice by CEA (2006), section on Call for Advice 21.

[54] See Comments on Consultation Paper n° 14, by CEA (2006), section "key messages".

[55] See Comments on CEIOPS Consultation Papers CP13 and CP14, by Groupe Consultatif - 2006.

As a consequence[56]:

- First, European insurers incur less costs, which would enable them to lower their premium rates and become more competitive.

- Second, capital is allocated in a more efficient way (i.e. where it is really needed to support risks); this would enhance financial stability and enable insurers to free idle capital, that would then feed into the real economy, potentially lowering the cost-of-capital in Europe and benefiting the whole economy.

On the other hand, even if it is fully justified from an economic perspective, the recognition of diversification effects implies that an insurer that is part of an insurance group will face lower capital requirements than a stand-alone insurer. It is therefore likely to increase competition for small and medium-sized companies (SMEs) operating on a solo basis and could encourage further consolidation within the insurance sector[57]. However, many SMEs are specialised insurers that carefully monitor and manage their risks, and benefit greatly from being close to their customers. Where this is the case, these natural competitive advantages will be fully recognised and will result in lower capital requirements for those companies (See Annex B7 - Policy Option 4).

Option 4.2 also raises a number of significant practical concerns, especially for cross-border insurance groups. Under Option 4.2, the lead supervisor is supposed to carry out, by himself, the supervision of all entities forming part of a group, regardless of the size of the group and of the Member States where these entities have their head office. First, this implies that the lead supervisor is able to hire enough staff, with the appropriate language and technical skills (e.g. knowledge of the local legal environment). Second, as the lead supervisor is not obliged to liaise and coordinate with other European supervisors, there is no incentive to develop a common European supervisory culture, which may seriously hamper harmonisation (e.g. different treatments regarding the approval of internal models). It is therefore probable that, at least in the medium term, lead supervisors would face major practical difficulties to carry out the supervision of entities in another Member State and it cannot be excluded that on-site visits would be less frequent and less efficient. If this were the case, then the timeliness of supervisory action and policyholder protection might well suffer[58].

Policy Option 4.3: ***Re-allocate responsibilities of solo and group supervisors.***

Option 4.3 aims at achieving an appropriate balance between Options 4.1 and 4.2. Indeed, by appointing a lead supervisor who coordinates supervisory actions, ensures information flows between all relevant supervisory authorities and serves as the main contact point for the insurance groups, Option 4.3 solves most of the problems raised by Option 4.1. It significantly diminishes duplication of tasks and administrative burden and enhances group supervision. It also allows for optimal capital allocation, since the approval of internal models will be coordinated throughout Europe.

Option 4.3 also dodges the practical problems raised by Option 4.2. Under Option 4.3, tasks are shared efficiently between:

[56] See *DG ECFIN Report* (Section 4.4), *ECB Report* (Section 3.1) and *Industry Reports* - Annex C.8a & c.

[57] See *FIN-USE Report*, *ECB Report* (Section 3.2), *DG ECFIN Report* (Section 3.4.1) and preliminary observations on CEIOPS Consultation Paper N°14 by AISAM – ACME (2006).

[58] See CEIOPS (2006), *Advice to the European Commission in the framework of the Solvency II project on sub-group supervision, diversification effects, cooperation with third countries and issues related to the MCR and SCR in a group context*, section "Subgroup supervision".

- solo supervisors, who are responsible for the supervision of most quantitative and qualitative aspects, since they have excellent knowledge of local entities; and
- the lead supervisor, who oversees SCR requirements and capital allocation within the group, with the help of solo supervisors, as he has a global view of its financial situation[59].

Solo supervision is carried out with the same care as in Option 4.1, but in a more organised and cooperative manner.

Sharing of tasks will also encourage communication and coordination between supervisors, fostering the development of a common European supervisory culture[60]. In order to facilitate this as part of Option 4.3 mediation and/or technical task-forces under the auspices of CEIOPS could also be set-up, in order to ensure smooth and effective harmonisation of supervisory practices at level 3.

Even though Option 4.3 provides for many benefits, it should be noted that it has some disadvantages for two groups of stakeholders:

- It restricts the powers of solo supervisors in some instances (e.g. approval of internal models and capital add-ons);
- As for Option 4.2, even though the same level of capital requirements is required at the group level, capital requirements are in practice relaxed at the solo level in order to give credit for the real diversification effects present at group level. This gives a competitive advantage to entities forming part of a group, as opposed to solo insurers.

Conclusion:

Option 4.1 (retain current solo plus supervision) was discarded as it does not meet objective 3.1.1 (Deepen integration of the EU insurance market), Objective 3.1.3 (Improve the international competitiveness of EU insurers and reinsurers) and Objective 3.3.10 (Ensure efficient supervision of insurance groups and financial conglomerates) . Option 4.2 (assign responsibility to a single lead supervisor) meets objectives 3.1.1 (Deepen integration of the EU insurance market), 3.3.10 (Ensure efficient supervision of insurance groups and financial conglomerates) and 3.1.3 (Improve international competitiveness of EU insurers and reinsurers), but does not satisfy objective 3.1.2 (Enhance protection of policyholders and beneficiaries)

Option 4.3 (re-allocate responsibility of solo and group supervisors) has been retained as the best option since it achieves a balance between the other two options. It most effectively and efficiently contributes to all four objectives 3.1.1 (Deepen integration of the EU insurance market), 3.1.2 (Enhance protection of policyholders and beneficiaries), 3.1.3 (Improve international competitiveness of EU insurers and reinsurers) and 3.3.10 (Ensure efficient supervision of insurance groups and financial conglomerates). In particular, the benefits from efficient and harmonised insurance supervision, reduced administrative costs, and optimal capital allocation, have been deemed to outweigh the potential disadvantages for some stand-alone insurers (i.e. increased competition).

[59] See *Sharma Report (*section 4.4.5); CEIOPS (2005), *Answers to the European Commission on the second wave of Calls for Advice in the framework of the Solvency II project*; and Call for Advice n° 18 on Group and cross-sectoral issues.

[60] See CEIOPS (2005), *Answers to the European Commission on the third wave of Calls for Advice in the framework of the Solvency II project*, Call for Advice n° 20 on Cooperation; and *CEIOPS Report* (Annex C.10 - § 22, 24, 25 and 56 to 62).

Policy Issue n ° 4: Group Supervision

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
4.1 Retain current "solo plus" approach	Industry: groups	Duplication of tasks (e.g. reporting) creates additional costs.	Direct	-	High	Permanent
		No clear contact point regarding group supervision, especially regarding risk and capital management (e.g. internal models), which can lead to contradictory actions being taken by different supervisory authorities	Direct	-	High	Permanent
		Groups are not recognised as one economic entity, which prevents diversification effects, as well as common management of resources (e.g. capital, cash), being recognised by supervisors.	Direct	-	High	Permanent
		Risk management and capital allocation are less efficient, which creates additional costs	Direct	-	Medium	Permanent
		Supervision is not aligned to the way insurance groups manage their business, which creates additional costs	Direct	-	Medium	Permanent
		Increased costs hamper the international competitiveness of EU insurers	Direct	-	Medium	Permanent
	Industry: single entities (e.g. SMEs)	Same treatment for single entities and entities forming part of a group: solo capital requirements are identical.	Direct	≈	Medium	Permanent
	Supervisors	Full knowledge of the financial position / operations of local entities	Direct	+	High	Permanent
		Full monitoring of solo requirements, all supervisory powers available	Direct	+	High	Permanent
		No global view of insurance groups for solo supervisors, no global supervisory powers for lead supervisors (e.g. on-site inspection)	Direct	≈	High	Permanent
		Coordination and cooperation issues, duplication of certain tasks	Direct	≈	High	Permanent
	Policyholders	Additional costs (see industry) cause insurance prices to be higher	Indirect	-	Medium	Permanent
		Even if group supervision is not fully efficient, solo supervision is carefully carried out and policyholders' protection is very strong	Indirect	+	Medium	Permanent
	EU economy	Inefficient risk and capital allocation, higher insurance premiums	Indirect	-	Medium	Permanent
4.2 Assign responsibility for prudential supervision of a group to a single lead supervisor	Industry: groups	One single contact point for the whole group: no duplication of tasks, no contradictory supervisory actions, one single reporting format.	Direct	+	High	Permanent
		Supervision is fully aligned to the way insurance groups manage their business, which reduces administrative burden	Direct	+	Medium	Permanent
		The lead supervisor has a global view of the group and can fully understand and recognise diversification effects and common methods and processes (e.g. risk and capital management, internal models)	Direct	+	High	Permanent
		Capital requirements at the group level are significantly diminished.	Direct	+	High	Permanent
		The international competitiveness of EU insurers is improved	Direct	+	Medium	Permanent
	Industry: single entities (e.g. SMEs)	Single entities need to meet all solo capital requirements, whereas entities forming part of a group can benefit from diversification effects across entities, so that their solo capital requirements are partially relaxed (e.g. contingent capital support). This raises competitiveness issues.	Direct	-	Medium	Permanent
	Supervisors	Global view of the group, full understanding of the way the group allocates and manages its risk and capital	Direct	+	High	Permanent
		Limited knowledge of the local environment of subsidiaries and pratical issues (e.g. language, staff)	Direct	-	High	Permanent
		Solo supervision of subsidiaries may be carried out with lower frequency and less detail, and supervisory action could be less timely.	Direct	-	Medium / High	Permanent
		No coordination needed with other European supervisors (practical aspects versus creation of common European culture and harmonisation)	Direct	≈	High	Permanent
	Policyholders	Administrative costs are reduced (see industry), eventually causing insurance prices to go down.	Indirect	+	Medium	Permanent
		Even if group supervision is fully efficient, solo supervision may be less carefully carried out and policyholder protection could be weakened	Indirect	-	Medium	Permanent
	EU economy	Efficient risk and capital allocation, lower insurance premiums	Indirect	+	Medium	Permanent

Policy Issue n ° 4: Group Supervision

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
4.3 Re-allocate responsibilities of solo and group supervision	Industry: groups	One contact point for the whole group: duplication of tasks is much reduced, supervisory actions are coordinated, one single reporting format.	Direct	+	High	Permanent
		Supervision is largely aligned to the way insurance groups manage their business (less administrative costs)	Direct	+	High	Permanent
		The lead supervisor has a global view of the group and can fully understand diversification effects and common tools and processes (e.g. risk and capital management, internal models); a large part of diversification effects are recognised, as well as intra-group capital allocation techniques.	Direct	+	High	Permanent
		Capital requirements at the group level are significantly diminished.	Direct	+	High	Permanent
		The international competitiveness of EU insurers is improved	Direct	+	Medium	Permanent
	Industry: single entities (e.g. SMEs)	Single entities need to meet all solo capital requirements, whereas entities forming part of a group can benefit from diversification effects across entities, so that their solo capital requirements are partially relaxed (e.g. contingent capital support). This raises competitiveness issues.	Direct	□	Medium	Permanent
	Supervisors	Solo supervisors have excellent knowledge of the financial position/operations of local entities (most practical issues, such as staff and language, are settled)	Direct	+	High	Permanent
		Solo supervisors monitor all solo requirements, and most of supervisory powers are available to the solo supervisors; nevertheless, local capital requirements are less constraining.	Direct	≈	High	Permanent
		The lead supervisor has a global view of the insurance group and has strengthened supervisory powers (better coordination and allocation of supervisory resources).	Direct	□	High	Permanent
		Coordination and cooperation are enhanced, creating a common European supervisory culture, ensuring better harmonisation of supervisory practices.	Direct	≈	High	Permanent
	Policyholders	Administrative costs are reduced (see industry), eventually causing insurance prices to go down.	Indirect	+	Medium	Permanent
		Both group supervision and solo supervision are carried out and policyholder protection is still strong.	Indirect	≈	Medium	Permanent
	EU economy	More efficient risk and capital allocation, lower insurance premiums.	Indirect	+	Medium	Permanent

Policy Options Comparison - Issue n° 4: group supervision

Policy Option	Relevant Objectives							
	3.1.1 Deepen integration of the EU insurance market		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers		3.3.10 Ensure efficient supervision of insurance groups and financial conglomerates	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
4.1 Retain current "solo plus" approach	0	0	++	+	0	0	0	0
4.2 Assign responsibility for prudential supervision of a group to a single lead supervisor	+	+	0	0	++	+	+	+
4.3 Re-allocate responsibilities of solo and group supervision	++	++	+	++	++	++	++	++

ANNEX B5 - POLICY ISSUE 5:

SMALL AND MEDIUM SIZED UNDERTAKINGS

The current insurance regime applies to the vast majority of insurance companies operating within the EU. The smallest insurers are exempted, but nevertheless there remain a very large number of small and medium sized companies and mutual associations that are covered, many of whom are operating in niche markets. The diversity of the EU insurance markets raises the question, whether a single one size fits all approach should be taken for Solvency II, or whether the regime should be tailored to take account of the specificities of small and medium sized enterprises (SMEs).

The specificities of small and medium sized enterprises could be taken into account in a number of different ways. One possibility would be to develop a separate regime for large and small companies. This could be achieved either by developing two new separate regimes, or by continuing to apply the current regime to smaller insurers, whilst introducing a new solvency system for larger insurers. Another possibility is to apply the same principles to large and small insurers alike, but allow for a range of methods to be used in order to meet those principles, tailored to the nature, size and complexity of the insurer.

Policy options discussion

The options regarding the treatment of small and medium sized undertakings can thus be summarised and will be referred to in the rest of this annex as follows:

- **Policy Option 5.1**: Same regime for all insurers, large and small alike;
- **Policy Option 5.2**: Separate regimes for large and small insurers;
- **Policy Option 5.3**: Same principles for all insurers, but range of methods available to meet those principles.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 5" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 5" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 5.1: Same regime for all insurers, large and small alike

Given the heterogeneity of the EU insurance market, applying the same regime to both large and small insurers is likely to result in the introduction of a system that would be too complex and costly for small and medium sized firms, on the one hand, whilst not providing sufficient incentives for larger insurers to improve their risk management on the other (See *KPMG Report*).

The adoption of a "one size fits all" approach would increase competitive pressures on smaller insurers, because when introducing new qualitative and quantitative requirements they would not be able to benefit from the economies of scale enjoyed by larger firms. Such competitive pressures could accelerate the already existing trend of consolidation in the EU insurance market, which in turn could reduce customer choice, and the diversity of suppliers in the market (See *FIN-USE Report*). In particular, there is a concern that policyholders insured by mutuals could be unnecessarily prejudiced by the impact of the introduction of a "one size fits all approach".

<u>Policy Option 5.2</u>: ***Separate regimes for large and small insurers***

The most direct way to take account of the specificities of smaller insurers would be to apply a separate regime to them**.** This approach would ensure that administrative costs were not unduly burdensome for smaller insurers and that a regulatory regime for large insurers could be introduced that was aligned to industry best practice.

However, it could only deliver harmonised risk sensitive solvency rules if the size of an insurer is a good proxy for complexity and risk. In many cases this assumption holds true, but not always. Indeed, smaller insurers are often particularly dependent on reinsurance and outsourcing, and therefore the use of size as a proxy for complexity and risk can be misleading.

Consequently, the introduction of a separate treatment of smaller insurers may not provide sufficient incentives for them to improve their risk management, where this would be appropriate. It also risks creating an un-level playing field, which in turn could result in a system where the level of protection afforded to policyholders would depend upon the size of the insurer from whom they had bought insurance.

<u>Policy Option 5.3</u>: ***Same principles for all insurers, but range of methods available to meet those principles***

Another way to take account of the specificities of smaller insurers is to apply the same principles to all insurers, whilst allowing for a range of methods to be used that take account of the nature, scale and complexity of their operations.

Such an approach would allow for simplified methodologies to be applied, regarding the calculation of quantitative requirements (e.g. technical provisions and capital requirements), where an insurers' operations were relatively straight-forward. Larger insurers or insurers with more complex risk profiles would be required to use more sophisticated methods. Similarly, qualitative requirements regarding governance, internal control and risk management would be applied in a proportionate manner.

More sophisticated methods could include the use of scenario type calculations rather than factor based calculations, the use of entity specific data or pooled data rather than standardised parameters, or the use of internal models to calculate capital requirements. With respect to qualitative requirements, the proportionality principle would allow a smaller insurer conducting simple operations to partly or completely outsource its risk management or the same person in charge of risk management, to carry out other tasks, in order that the insurer is not obliged to hire additional staff.

Such an approach would ensure that administrative costs are commensurate with the nature, scale and complexity of an insurer's operations, whilst at the same time providing appropriate incentives for all insurers to improve their risk management. The approach is similar to the one adopted in the banking sector. The approach helps create a level playing field, by ensuring that the regime is risk sensitive as well as proportionate, and that all policyholders are afforded the same level of protection.

In the short term, such an approach may increase competitive pressure on smaller and medium-sized insurance undertakings with complex risk profiles, as some of these are likely to be required to enhance their risk management processes and procedures (See *DG ECFIN Report* and *ECB Report*). In particular, these companies may find it difficult to compete with larger insurers benefiting from economies of scale when introducing the new regime. However, it should be noted that many smaller specialised insurers already carefully monitor and manage their risks, and benefit greatly from being close to their customers. Where this is the case, these smaller specialised

insurers will be able to use more sophisticated methods in order to ensure that these natural competitive advantages are fully recognised (See Annex B.7 - Policy Option 4).

Conclusion:

Option 5.1 (same regime for all insurers, large and small alike) was discarded, as it does not meet objective 3.3.4 (proportionate requirements for small undertakings), although it does meet objective 3.3.2 (harmonise the calculation of technical provisions) and partly meets objective 3.2.3 (introduce risk-sensitive harmonised solvency standards), albeit inefficiently. Option 5.2 (separate regimes for large and small insurers) was also rejected, because although it is the most efficient of the three options it only partly meets objectives 3.3.4 (proportionate requirements for small undertakings) and objective 3.3.3 (introduce risk-sensitive harmonised solvency standards) and does not meet objective 3.3.2 (harmonise calculation of technical provisions).

Option 5.3 (same principles for all insurers, but range of methods available to meet those principles) has been retained as the best option as it most effectively meets objective 3.3.4 (proportionate requirements for small undertakings) and objective 3.3.3 (introduce risk sensitive harmonised solvency standards). It is less effective than Option 5.1 (same regime for all insurers, large and small alike) with respect to meeting objective 3.3.2. (harmonise calculation of technical provisions), but meets this objective more efficiently.

Policy Issue n° 5: small and medium sized undertakings

Policy option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
5.1 Same regime for all insurers, large and small alike	small firms	Excessive complexity for small insurers in case a "one size fits all" solution is adopted (e.g.the new solvency requirements would be unduly complicated for small firms, in terms of methodologies used and data required)	Direct	-	High	Permanent
		Excessive administrative burden for small insurers because internal systems need to be adapted and maintained in order to achive compliance with qualitative requirements (e.g. regarding governance, internal control and risk management)	Direct	-	High	Permanent
		Increased competitive pressure resulting from the introduction of disproportionate requirements could force some small insurers to exit the market	Indirect	-	High	Short term
	large firms	Lack of proper incentives for large insurers to improve risk management, as a "one size fits all" solution would make it difficult to align regulatory requirements with industry best practice	Direct	-	High	Permanent
	industry	Accelerated consolidation, due to the fact that smaller insurers would find it difficult to compete with larger insurers benefiting from economies of scale when introducing the new solvency system	Indirect	?	High	Short-Medium Term
	policyholders	Reduced choice and diversity in the market as small firms are often mutuals providing products and services that are specific to national markets or affinity groups	Indirect	-	Medium	Permanent
5.2 Separate regimes for large and small insurers	small firms	Lack of proper incentives for small insurers to improve their risk management if they continued to be subject to Solvency I regime, or a new separate simplified regime	Direct	-	High	Permanent
		Size and complexity are not always synonymous (e.g. small insurers are often particularly dependent on reinsurance and outsourcing), consequently regime would not be risk sensitive	Direct	-	Medium	Permanent
		Creation of simpler separate regime for small insurers would ensure that administrative costs were not unduly burdensome	Direct	+	High	Permanent
	large firms	Creation of separate regime for small insurers would enable a regulatory regime for large insurers to be introduced that is aligned with industry best practice, which in turn would provide incentives for large insurers to improve risk management	Direct	+	High	Permanent
	industry	Introduction of separate regime for large and small insurers would result in the creation of an un-level playing field	Indirect	-	Medium	Permanent
	policyholders	The level of protection afforded to policyholders would vary depending on whether they purchased insurance from a large or small firm	Indirect	-	Medium	Permanent

Policy Issue n° 5: small and medium sized undertakings

Policy option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
5.3 Same principles for all insurers, but range of methods available to meet those principles	small firms	Incentives for smaller insurers to improve risk management, as the new principles would be proportionately applied to all insurers, taking account of the nature, scale and coplexity of the risk profile of the firm	Direct	+	High	Permanent
		Administrative burden would be commensurate with the nature, scale and complexity of insurers (e.g. simplifications can be used in the calculation of the solvency requirements and functions can be outsourced)	Direct	+	High	Permanent
		Small insurers with complex risk profiles may find it difficult to compete with larger insurers benefiting from economies of scale when introducing the new solvency system	Indirect	-	High	Short term
	large firms	Regime for large insurers can be aligned with industry best practice, which in turn will provide incentives for large insurers to improve risk management	Direct	+	High	Permanent
	industry	A principles based approach taking account of the nature scale and complexity of an insurers' operations, will help create a level playing field and in particular will ensure that the regime is risk sensitive as well as proportionate	Indirect	+	Medium	Permanent
	policyholders	Policyholders will be afforded the same level of protection whether they buy insurance from a large or small insurer	Indirect	+	Medium	Permanent

Policy Options Comparison - Issue n° 5: small and medium sized undertakings

Policy Option	Relevant Objectives					
	3.3.4 Proportionate requirements for small undertakings		3.3.3 Introduce risk sensitive harmonized solvency standards		3.3.2 Harmonize the calculation of technical provisions	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
5.1 Same regime for all insurers, large and small alike	0	0	+	0	++	0
5.2 Separate regimes for large and small insurers	+	++	+	++	0	++
5.3 Same principles for all insurers, but range of methods available to meet those principles	++	+	++	++	+	+

Exemption threshold under Solvency II: A separate important question regarding the treatment of SMEs relates to whether the smallest insurers should be exempted from the regime altogether. Some small insurers are exempted from the current regime. Although this question is not considered in the analysis above the table below provides some data regarding the impact of choosing different exemption thresholds and conditions under Solvency II.

Number of undertakings			
		legal form	
level of premium income	mutuals	non mutuals	mutuals and non mutuals
premiums <= 5 MEUR	674	964	1638
premiums <= 10 MEUR	759	1195	1954
total market	1301	3225	4526

The current exemption threshold is set at €5 million annual premium income, and it only applies to mutuals (~674 undertakings concerned out of a total of 1301 mutuals and 3225 non mutuals[61]). In the context of Solvency II, a couple of options for the exemption threshold have been considered: keep the current rule; or retain the current threshold of €5 million, but extend it to all legal forms of undertakings (~1638 undertakings concerned); increase the threshold to €10 million and enlarge it to all legal forms of undertakings (~1954 undertakings concerned).

[61] Based on a survey in which 22 Member States participated, see CEIOPS (2005), *Answers to the European Commission on third wave of Calls for Advice in the framework of the Solvency II project*, Call for Advice No. 23, Annex F

ANNEX B6 - POLICY ISSUE 6:

CALCULATION OF TECHNICAL PROVISIONS FOR PRUDENTIAL AND ACCOUNTING PURPOSES

Under the current regime, Member States generally require insurance and reinsurance companies to apply the same valuation standards for both accounting and supervisory reporting purposes, in particular with respect to the calculation of technical provisions. However, these valuation standards, including the methods applied to calculate technical provisions, vary widely from Member State to Member State.

Given the important role that the calculation of technical provisions plays in any solvency regime this raises the question whether the calculation of technical provisions should be harmonised for supervisory purposes under Solvency II, and if so whether this harmonised approach should be carried over to the accounting rules.

The question is linked to international developments and Phase II of the IASB's Insurance contracts project, particularly now that EU listed companies are required to present their consolidated accounts in conformity with IAS.

Policy options discussion

The options regarding the calculation of technical provisions for prudential and accounting purposes can thus be summarised and will be referred to in the rest of this annex as follows:

- **Policy Option 6.1**: Retain current rules regarding the calculation of technical provisions;
- **Policy Option 6.2**: Harmonise and align calculation of technical provisions for both accounting and prudential purposes;
- **Policy Option 6.3**: Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 6" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 6" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 6.1: Retain current rules regarding the calculation of technical provisions;

With the exception of up-front administrative costs (which would be zero, both for the industry and supervisors), the option of retaining the current rules regarding the calculation of technical provisions has a number of significant disadvantages, for the European insurance industry. The calculation of technical provisions is indeed tailored to the solo supervisor's needs and to the local legal environment.

The current lack of harmonisation prevents meaningful comparison of insurers' financial standing and creates unnecessary administrative costs for groups operating cross-border, since they need to comply with several reporting formats. The lack of comparability between insurance providers undermines competition and transparency (See *Industry Reports* – Annex C.8a – Section 5), and does not encourage the development and spread of best practice. In the extreme, the lack of spread of good practice can result in the systematic over or under-estimation of insurance liabilities. In the

former case, it increases costs for insurers and in the latter case it increases the risk that insurers will get into financial difficulties (See *KPMG Report* – Sections 3 & 4 and *Sharma Report*).

The current lack of comparability and transparency has a number of other consequences. Firstly, policyholders are subject to higher insurance premiums and increased uncertainty as to whether insurers will meet their obligations (See *DG ECFIN Report*, Section 4.4, and *FIN-USE Report*). Secondly, insurance supervisors dealing with cross-border groups have to manage various reporting standards (See *CEIOPS Report* – §24 and §62). Thirdly, investor confidence in the insurance sector is reduced and as a consequence insurers are subject to higher risk premiums (See *Industry Reports* – Section 8).

Policy Option 6.2: ***Harmonise and align calculation of technical provisions for both accounting and prudential purposes***

Harmonisation of the calculation of technical provisions for both accounting and prudential purposes would solve many of the problems of the current regime, although it would reduce the extent to which the calculation of technical provisions could be tailored to the solo supervisor's needs and to the local legal environment. In particular, it would make comparison of insurers more straight-forward, increase transparency and facilitate the development of common accounting and supervisory reporting tools. This in turn would increase competition and confidence in the insurance sector as well as reduce costs for insurance groups operating on a cross-border basis.

However, insurers would incur significant up-front costs introducing new rules. Indeed, both the industry and supervisors would need to invest substantially in order to update their reserving and reporting systems, train staff, and potentially even hire additional personnel, so as to comply with the new provisioning rules (See Industry Report - Annex C.8a – Section 4).

In addition, there is a timing issue related to the introduction of harmonised rules for accounting purposes. All EU listed companies are required to present their consolidated accounts in conformity with IAS and the IASB are in the process of developing a new standard on insurance contracts. EU listed insurers will be required to present accounts in line with this new standard, once it comes into force. Therefore, introducing new harmonised rules now for accounting purposes runs the risk of requiring listed insurers to update their accounting systems twice.

In order to avoid this risk, the alternative solution would be to delay Solvency II until the outcome of the IASB's work is known. Given that this project has been underway for many years and its date of completion is still unknown, this could potentially seriously delay the implementation of the whole Solvency II project as well as the realisation of the benefits the reform is expected to bring.

Policy Option 6.3: ***Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged***

Although, there are clear advantages in adopting the same harmonised rules for accounting and prudential purposes, it is not the case that accounting standards are going to be appropriate in all respects when it comes to supervisory reporting, as the two sets of rules have different objectives and addressees.

Harmonising the calculation of technical provisions now for prudential purposes, but not for accounting purposes, would deliver most of the advantages of Option 6.2, as it would harmonise reserving standards throughout Europe and increase transparency and confidence in the insurance sector. In addition, it would allow for early implementation of Solvency II thus reducing the opportunity costs associated with having to wait for the outcome of the IASB's deliberations.

Since forthcoming IFRS standards and Solvency II are broadly based on the same core principles, discrepancies between the two reporting systems should be limited. It is even likely that, once both

sets of valuation standards are finalised, it will be possible to pass from one to the other using appropriate "filters", so that only one IT master system is needed[62].

Conclusion:

Option 6.1 (retain current rules) was discarded as it does not contribute to any of the Solvency II objectives. On the other hand, Option 6.2 (harmonise and align the calculation of technical provisions for both accounting and prudential purposes) is in line with objectives 3.3.2 (harmonise calculation of technical provisions), 3.3.5 (harmonise supervisory methods, tools and powers), 3.3.6 (harmonize supervisory reporting) and 3.3.8 (promote compatibility with IFRS rules), but would result in considerable short-term opportunity costs, and was therefore discarded on efficiency grounds.

Option 6.3 (harmonise the calculation of technical provisions for prudential purposes, but not accounting purposes) was retained as the best option. It is the most effective and efficient option with respect to objectives 3.3.2 (harmonise calculation of technical provisions), 3.3.5 (harmonise supervisory methods, tools and powers), 3.3.6 (harmonize supervisory reporting) and substantially meets objective 3.3.8 (promote compatibility with IFRS rules).

[62] See CEIOPS (2005), *Recommendations regarding the Implications of the IAS/IFRS Introduction for the Prudential Supervision of Insurance Undertakings*, "conclusions" section.

Policy Issue n ° 6: Calculation of technical provisions for prudential and accounting purposes

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
6.1 Retain current rules regarding the calculation of technical provisions	Industry	No need to change reserving policies, procedures and IT systems, no need to train staff or to hire new staff (no administrative costs)	Direct	+	High	Short term
		Technical provisions are not calculated in a harmonised way and it is difficult to compare insurers' financial standing	Direct	-	High	Permanent
		Absence of common supervisory reporting tools across Europe creates additional administrative costs for cross-border groups / activities.	Direct	-	High	Permanent
		Lack of technical guidance regarding the valuation of technical liabilities increases the possibility that insurers may systematically under or over-estimate their insurance liabilities, increasing the liklihood that they will get into financial difficulties	Direct	-	High	Permanent
		Pricing of insurance products, based on claims experience (including technical provisions) and forecasts, is not transparent, which hampers comparison across insurers (competition issue).	Indirect	-	High	Permanent
		Insurers' financial position is difficult to analyse: financial investors do not feel comfortable with current rules and as a result require a higher risk-premium from insurers	Indirect	-	High	Permanent
	Supervisors	No need to change reserving methods, tools and IT systems, no need to train staff or to hire new staff (no administrative costs)	Direct	+	High	Short term
		Reporting requirements on technical provisions are tailored to the solo supervisor's needs, as well as to the local legal environment of the companies.	Direct	+	High	Permanent
		Technical provisions are not calculated in a harmonised way and it is difficult to compare insurers with one another, especially cross-border.	Direct	-	High	Permanent
		Lack of technical guidance regarding the valuation of technical liabilities increases the possibility that insurers may systematically under or over-estimate their insurance liabilities, increasing the liklihood that they will get into financial difficulties	Indirect	-	High	Permanent
		Absence of common supervisory reporting tools across Europe, which hampers group supervision and European cooperation.	Direct	-	High	Permanent
	Policyholders	Lack of comparability hampers the integration of the Single Market and competition (higher insurance premiums)	Indirect	-	Medium	Permanent
	Investors / financial markets	Lack of comparability and transparency discourages investors to invest in the insurance sector	Direct	≈	High	Permanent
	EU economy	Cost of capital (risk premium) for the insurance sector does not correspond to its economic features, which makes the economy as a whole less efficient	Indirect	-	Medium	Permanent
6.2 Harmonise and align calculation of technical provisions for both accounting and prudential purposes	Industry	Need to change reserving policies, procedures and IT systems, need to train staff or to hire new staff (administrative costs)	Direct	-	High	Short-term
		Technical provisions are calculated in a harmonised way and it is easy to compare insurers	Direct	+	High	Permanent
		Possibility to design common supervisory and accounting reporting tools across Europe, which reduces administrative costs for all insurers	Direct	+	High	Permanent
		Technical guidance regarding the valuation of technical liabilities facilitates use of sound actuarial and accounting techniques by insurers to value their insurance liabilities	Direct	+	High	Permanent
		Pricing of insurance products, which is based on claims experience (including technical provisions) and forecasts, is more transparent, facilitating comparison across insurers and ensuring a level playing field	Indirect	+	High	Permanent
		Insurers' financial position is easier to analyse: financial investors feel more comfortable with accounting rules and require a lower risk-premium from insurers	Indirect	+	High	Permanent

Policy Issue n ° 6: Calculation of technical provisions for prudential and accounting purposes

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
6.2 Harmonise and align calculation of technical provisions for both accounting and prudential purposes (continued)	Supervisors	Need to change reserving methods, tools and IT systems, need to train staff or to hire new staff (administrative costs)	Direct	-	High	Short-term
		Reporting requirements on technical provisions are not tailored to the solo supervisor's needs and local legal environment anymore.	Direct	-	High	Permanent
		Technical provisions are calculated in a harmonised way and it is easy to compare all insurance companies.	Direct	+	High	Permanent
		Sound technical guidance regarding the valuation of technical liabilities improves the overall financial stability of the insurance sector.	Indirect	+	High	Permanent
		Possibility to design common supervisory reporting tools across Europe, which facilitates group supervision and European cooperation.	Direct	+	High	Permanent
	Policyholders	Comparability strengthens the integration of the Single Market and competition (lower insurance premiums)	Indirect	+	Medium	Permanent
		Enhanced stability of the insurance sector improves policyholders' protection	Indirect	+	High	Permanent
	Investors / financial markets	Enhanced comparability and transparency encourages investors to invest in the insurance sector	Direct	+	Medium	Permanent
	EU economy	Cost of capital (risk premium) for the insurance sector better corresponds to its economic features, increasing efficiency of the economy as a whole	Indirect	+	Medium	Middle term
	All	Delay the whole Solvency II project, until the IASB officially issues IFRS 4 Phase II standards.	Direct	--	High	Short term
6.3 Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged	Industry	Need to change reserving policies, procedures and IT systems (to a more limited extent), need to train staff or to hire new staff (administrative costs)	Direct	-	High	Short term
		Accounting standards and supervisory reporting standards may diverge, even though the overall philosophy (IFRS / Solvency II) is common. Additional administrative costs.	Direct	-	Medium	Permanent
		Technical provisions are calculated in a harmonised way and it is easy to compare insurance companies with one another.	Direct	+	High	Permanent
		Possibility to design common supervisory reporting tools across Europe, which reduces administrative costs for insurance companies/groups operating cross-border.	Direct	+	High	Permanent
		Technical guidance regarding the valuation of technical liabilities facilitates use of sound actuarial and accounting techniques by insurers to value their insurance liabilities	Direct	+	High	Permanent
		Pricing of insurance products, which is based on claims experience (including technical provisions) and forecasts, is more transparent, facilitating comparison across insurers and ensuring a level playing field	Indirect	+	High	Permanent
		Insurers' financial position is easier to analyse (cf. Pillar III): financial investors feel more comfortable with accounting rules and require a lower risk-premium from insurers	Indirect	+	High	Permanent

Policy Issue n ° 6: Calculation of technical provisions for prudential and accounting purposes

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
6.3 Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged	Supervisors	Need to change reserving methods, tools and IT systems, need to train staff or to hire new staff (administrative costs)	Direct	-	High	Short term
		Reporting requirements on technical provisions are not tailored to the local legal environment anymore; they are nevetheless tailored to the supervisor's needs.	Direct	-	High	Short term
		Technical provisions are calculated in an harmonised way and it is easy to compare all insurance companies.	Direct	+	High	Permanent
		Sound technical guidance regarding the valuation of technical liabilities improves the overall financial stability of the insurance sector.	Indirect	+	High	Permanent
		Possibility to design common supervisory reporting tools across Europe, which facilitates group supervision and European cooperation.	Direct	+	High	Permanent
	Policyholders	Comparability strengthens the integration of the Single Market and competition (lower insurance premiums)	Indirect	+	Medium	Permanent
		Enhanced stability of the insurance sector improves policyholders protection	Indirect	+	High	Permanent
	Investors / financial markets	Enhanced comparability and transparence encourages investors to invest in the insurance sector	Direct	»	Medium	Permanent
	EU economy	Cost of capital (risk premium) for the insurance sector better corresponds to its economic features, increasing efficiency of the economy as a whole	Indirect	+	Medium	Short-term
	All	No need to wait for international accounting developments (IFRS Phase II)	Direct	++	High	Short-term

Policy Options Comparison - Issue n° 6: calculation of TP for prudential and accounting purposes

Policy Option	Relevant Objectives					
	3.3.2 Harmonise calculation of technical provisions		3.3.5 & 3.3.6 Harmonise supervisory methods, tools, powers and reporting		3.3.8 Promote compatibility of valuation and reporting rules with the IFRS rules	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)
6.1 Retain current rules regarding the calculation of technical provisions	0	0	0	0	0	0
6.2 Harmonise and align calculation of technical provisions for both accounting and prudential purposes	++	0	++	0	++	++
6.3 Harmonise the calculation of technical provisions for prudential purposes, but leave the calculation of technical provisions for accounting purposes unchanged	++	++	++	++	+	+

ANNEX B7 - POLICY ISSUE 7:

CALCULATION OF CAPITAL REQUIREMENTS

Under the current regime the minimum solvency margin does not capture all the risks an insurer is exposed to. As a consequence a number of Member States have introduced supplementary solvency rules.

This is particularly the case with respect to investment risk, as it is not captured in the current regime. These supplementary rules often involve the use of stress and scenario tests – i.e. capital requirements are based on the worst-case outcome from a set of scenarios applied to an insurance company's operations.

In the United States, a new Risk-Based Capital (RBC) system was introduced in the 1990's. The principle underlying the RBC system is to assign a capital requirement to each of the main risks facing insurance companies: the calculation methods used, which are more complex than the current EU system, are standardised but take account of the characteristics of each company. A cumulative capital requirement is then calculated by combining the capital requirements assigned to each risk.

However, neither the current EU regime nor the US RBC system take a full economic capital approach targeting a specific confidence level and time horizon – e.g. they are not designed with the objective of ensuring that no more than a specified percentage of insurance companies would be expected to fail over a given time horizon. In addition, neither regime allows for internal models to be used in the calculation of capital requirements instead of the standard formula.

Policy options discussion

The options regarding the calculation of capital requirements will be referred to in the rest of this annex as follows:

- **Option 7.1**: Update the current required solvency margin calculation;
- **Option 7.2**: Introduce an advanced scenario-based approach;
- **Option 7.3**: Introduce a European RBC system, similar to the RBC system in the US;
- **Option 7.4:** Introduce a system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either calculated using a standard formula or an internal model.

Two tables are presented at the end of this annex, summarising the detailed analysis of these four options:

- Table "Policy issue 7" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 7" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 7.1: Update current solvency required margin calculation

The lack of risk sensitivity of the required solvency margin means that it does not provide incentives for EU insurers to improve their risk management. In addition, the required solvency margin lacks a clear capital definition and therefore the overall supervisory objective of the regime is unclear. Furthermore, the structural weaknesses of the regime mean that it cannot be developed to incorporate all the risks facing an insurer. This is why supplementary rules applied by Member States generally involve the use of entirely separate assessments of financial strength.

Consequently, the level of policyholder protection delivered by the current solvency regime is sub-optimal and uneven, supervision is not as effective and efficient as it could be and insurance undertakings are subject to additional costs resulting from inefficient allocation of capital and lack of alignment of regulatory and industry practice. Furthermore insurance undertakings operating on a cross-border basis are subject to increased administrative burden as a result of the lack of a harmonised approach regarding the calculation of capital requirements.

Conversely, only making minor changes to the current regime would limit any initial one-off costs relating to the introduction of the new regime, particularly for smaller insurance undertakings, and the simple and objective nature of the calculation makes verification straight-forward and would not require the recruitment of new supervisory resources.

Policy Option 7.2: ***Introduce an advanced scenario based approach***

The use of an advanced scenario based approach will provide incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks as well as interactions between risks. Advanced scenario based approaches take account of the specific risk profile of the insurance undertaking as well as the impact of risk mitigation techniques.

However, the introduction of an advanced scenario based approach would impose initial significant one-off costs relating to the introduction of the new regime for most undertakings, unless they were already using an advanced scenario based approach for internal purposes. In addition, advanced scenario based approaches require a number of assumptions to be made relating to the parameters and data sets to be used.

This can make the approach quite subjective and thus could result in an uneven level of policyholder protection. Advanced scenario based approaches are more difficult to supervise than the current regime as considerable actuarial and risk management knowledge is required to evaluate whether the underlying assumptions used in the scenario are appropriate.

The use of an advanced scenario based approach would result in better allocation of capital and align regulatory and industry practice (for those insurers using a scenario based approach internally) and thus reduce costs. The use of an advanced scenario based approach would result in more effective and efficient supervision by facilitating more accurate and timely intervention by supervisors.

Policy Option 7.3: ***Introduce European RBC system, similar to the RBC system in the US***

The introduction of a European Risk Based Capital (RBC) system, similar in style to the US RBC regime, would improve the risk sensitivity of the regime and thus provide some incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks. An RBC system would be much more sensitive to the specific risk profile of an insurance undertaking, than the current required solvency margin.

However, RBC systems tend to be less good at capturing the interactions between risks as well as the impact of risk mitigation techniques and insurance undertakings would continue to incur costs arising from inefficient allocation of capital and lack of alignment of regulatory and industry practice.

The costs of implementing a European RBC system would be limited given the relatively simple and straight-forward nature of the calculation. The introduction of a European RBC system would facilitate more timely interventions by supervisors and would not require the recruitment of new supervisory resources. The introduction of an RBC system would also reduce the administrative burden for insurance undertakings operating on a cross-border basis through harmonisation of regulatory capital requirements.

<u>Policy Option 7.4</u>: ***Introduce system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either using a standard formula or an internal model***

The introduction of an economic risk based approach will provide strong incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks as well as interactions between risks. An economic risk based approach also takes account of the specific risk profile of the insurance undertaking and the impact of risk mitigation techniques, as well as size and diversification effects.

The use of an economic risk based approach will result in better allocation of capital for insurers and will align regulatory requirements with industry practice as well as make supervision more effective and efficient by facilitating more accurate and timely interventions by supervisors.

The ability to use a standard formula to calculate an economic risk based capital requirement will limit the cost of implementing the regime for smaller insurers, whilst still providing the opportunity to use more sophisticated methods if desired. Implementation of internal models will nevertheless be expensive to both develop and maintain.

The use of an economic risk based approach leaves little room for interpretation if it is calculated using a standard formula and will thus reduce burden for insurance undertakings operating on cross-border basis through harmonisation of regulatory capital requirements. However, when calculated using an internal model there is considerable subjectivity regarding the design, parameters and data sets to be used. Increased supervisory co-operation and co-ordination will be required to ensure harmonisation with respect to the approval of internal models.

Validation of internal models by supervisors will require considerable actuarial and risk management knowledge and increased supervisory resources, although verification of capital requirements calculated using the standard formula should be relatively straight-forward.

The use of an economic risk based approach provides the best framework for establishing a clear relationship between supervisory objectives and capital requirements.

<u>Conclusion:</u>

Option 7.1 (Update current solvency required margin calculation) was discarded as it does not meet objectives 3.2.1 (Improve Risk Management of EU insurers and reinsurers), objective 3.2.4 (Provide for a better allocation of capital resources) and objective 3.2.2 (Advance supervisory convergence and co-operation). Option 7.2 (Introduce an advanced scenario based approach) was discarded because although it meets the first two of these objectives very effectively, it does not do so as efficiently as Option 7.3 (Introduce European RBC system) or Option 7.4 (Introduce a system based on the amount of economic capital corresponding to a specific ruin probability and time horizon).

Option 7.4 (Introduce a system based on the amount of economic capital corresponding to a specific ruin probability and time horizon) has been retained as the best option as it more effectively and consistently meets the objective 3.2.1 (Improve Risk Management of EU insurers and reinsurers), objective 3.2.4 (Provide for a better allocation of capital resources) and objective 3.2.2 (Advance supervisory convergence and co-operation) than Option 7.3.

Policy Issue n° 7: Calculation of capital requirements

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
7.1 Update current solvency required margin calculation	Policyholders	The lack of risk sensitivity of the required solvency margin means that it does not provide incentives for EU insurers to improve their risk management	Indirect	-	High	Permanent
		Uneven level of policyholder protection, arising from a lack of risk sensitivity of the required solvency margin. The required solvency margin lacks an underlying capital definition and therefore the overall supervisory objective of capital adequacy is unclear	Indirect	-	High	Permanent
	Large insurers	Increased administrative burden for insurance undertakings operating on a cross-border basis arising from lack of harmonisation because many Member States impose additional solvency requirements	Direct	-	High	Permanent
	All insurers	Additional costs arising from inefficient allocation of capital for insurance undertakings and lack of alignment of regulatory and industry practice	Indirect	-	High	Permanent
	Small insurers	Insurance undertakings would face limited initial one-off costs relating to the introduction of the new regime as insurers will not be required to make major changes to current supervisory reporting systems	Direct	+	High	Short-term
	Supervisors	Less effective and efficient supervision because current solvency required margin is not sufficiently risk sensitive and therefore does not facilitate accurate and timely interventions by supervisors	Indirect	-	High	Permanent
		Simple and objective calculation makes verification of regulatory requirements straight-forward and would not require the recruitment of new supervisory resources	Direct	+	High	Permanent
7.2 Introduce an advanced scenario based approach	Policyholders	The use of an advanced scenario based approach will provide incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks (including underwriting risks) as well as interactions between risks. Advanced scenario based approaches can also take account of the specific risk profile of the insurance undertaking and the impact of risk mitigation techniques	Indirect	+	High	Permanent
		Advanced scenario based approaches require a number of assumptions to be made relating to the parameters and data sets to be used. This can make the approach quite subjective, which in turn could result in an uneven level of policyholder protection	Indirect	-	Medium	Permanent
	Small insurers	Advanced scenario based approaches would impose significant initial one-off costs relating to the introduction of the new regime for most undertakings, unless they were already using an advanced scenario based approach for internal purposes.	Indirect	-	High	Short-term
	All insurers	The risk sensitive nature of advanced scenario based approaches would result in better allocation of capital and thus reduce costs	Indirect	+	High	Permanent
	Large insurers	For those insurers using a scenario based approach administrative burden would be reduced, as regulatory requirements and industry practice would become closely aligned	Indirect	+	High	Permanent
	Supervisors	More effective and efficient supervision because structural improvements in risk management will facilitate more accurate and timely interventions by supervisors	Indirect	+	High	Permanent
		Advanced scenario based approaches are more difficult to supervise than the current required solvency margin regime as considerable actuarial and risk management knowledge required to evaluate whether underlying assumptions used in the scenario are appropriate	Direct	-	High	Permanent
7.3 Introduce European RBC system, similar to the RBC system in the US	Policyholders	The use of a European RBC system will provide some incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks (including underwriting risks). However RBC systems tend to be less good at capturing the interactions between risks as well as the impact of risk mitigation techniques. The RBC system is though much more sensitive to the specific risk profile of an insurance undertaking, than current required solvency margin.	Indirect	-	High	Permanent
		The use of a European RBC system leaves little room for interpretation and therefore should deliver a level playing field with respect to policyholder protection	Direct	+	Medium	Permanent
	Small insurers	The costs of implementing a European RBC system would be limited given the relatively simple and stright-forward nature of the calculation	Direct	+	High	Short-term

Policy Issue n° 7: Calculation of capital requirements

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
7.3 Introduce European RBC system, similar to the RBC system in the US (continued)	All insurers	Continued costs arising from inefficient allocation of capital for insurance undertakings and lack of alignment of regulatory and industry practice	Indirect	-	High	Permanent
	Large insurers	Reduced administrative burden for insurance undertakings operating on a cross-border basis through harmonisation of regulatory capital requirements	Direct	+	High	Permanent
	Supervisors	The introduction of a European RBC system would facilitate more timely interventions by supervisors	Indirect	+	High	Permanent
		The relative simplicity of a European RBC system, would make verification of regulatory requirements more straight-forward than if an advanced scenario based approach were used, whilst being more complex to verify than the current regulatory requirements. The use of a European RBC system would probably not require the recruitment of new supervisory resources	Direct	+	High	Permanent
7.4 Introduce system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either calculated using a standard formula or an internal model.	Policyholders	The use of an economic risk based approach will provide strong incentives for EU insurers to improve their risk management, as it can capture a wide-range of financial risks (including underwriting risks) as well as interactions between risks. An economic risk based approach can also take account of the specific risk profile of the insurance undertaking and the impact of risk mitigation techniques, as well as size and diverisifcation effects.	Indirect	+	High	Permanent
		The use of an economic risk based approach leaves little room for interpretation if it is calculated using a standadrd formula. However, when calculated using an internal model there is considerable subjectivity regarding both the desgin, parameters and data sets to be used	Direct	?	Medium	Permanent
	Small insurers	The ability to use a standard formula to calculate an economic risk based capital requirement limits the costs of implementing the regime for smaller insurers, whilst still providing the opportunity to use more sophisticated methods if desired. Implementation of internal models will though, be expensive to develop and maintain.	Direct	?	High	Short-term
	All insurers	The use of an economic risk based approach, will result in better allocation of capital for insurers and will align regulatory requirements with industry practice	Indirect	+	High	Permanent
	Large insurers	Reduced administrative burden for insurance undertakings operating on a cross-border basis through harmonisation of regulatory capital requirements using either the standard formula or an internal model. Increased supervisory co-operation and coordination will play important role in ensuring harmonisation with respect to treatment of internal models in this regard.	Direct	+	High	Permanent
	Supervisors	More effective and efficient supervision as economic risk based approach will facilitate more accurate and timely interventions by supervisors	Indirect	+	High	Permanent
		Validation of internal models will require considerable actuarial and risk management knowledge, although verification of capital requirements calculated using the standard formula should be relatively straight-forward	Direct	-	High	Permanent
		An economic risk based approach provides the best framework for establishing a clear relationship between supervisory objectives and capital requirements	Direct	+	High	Permanent

Policy Option Comparison - Policy Issue n° 7: Calculation of capital requirements

Policy Option	Relevant Objectives							
	3.2.1 Improve the risk management of EU insurers and reinsurers			3.2.4 Provide for a better allocation of capital resources			3.2.2 Advance supervisory convergence and cooperation	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
7.1 Update current solvency required margin calculation	0	0	0	0	0	0	0	0
7.2 Introduce a scenario based approach	++	0	0	++	0	0	0	0
7.3 Introduce European RBC system, similar to the RBC system in the US	+	+	0	+	+	0	+	+
7.4 Introduce system based on the amount of economic capital corresponding to a specific ruin probability and time horizon, either calculated using a standard formula or an internal model.	++	+	+	++	+	+	+	+

ANNEX B8 - POLICY ISSUE 8:

METHODS FOR THE CALCULATION OF TECHNICAL PROVISIONS

Background information: calculation of technical provisions

Regarding the calculation of technical provisions, two main components are often referred to in today's actuarial literature[63]:

- The best estimate which represents the expected (present) value of all future cash flows related to insurance obligations (e.g. claims, expenses, etc.).

- The risk margin which is added to the best estimate to take account of the uncertainty (e.g. inflation of claims and expenses) related to these future cash flows over their whole time horizon. By nature, insurance obligations are often subject to significant volatility and uncertainty. Any insurer intending to take over and meet those obligations would therefore hold funds in addition to the best estimate.

The resulting amount of technical provisions is the sum of the best estimate and the risk margin.

As far as the risk margin is concerned, two calculation approaches are commonly considered:

- the percentile approach, under which the risk margin is determined as a function of a certain confidence level (e.g. the amount of technical provisions should be sufficient to settle liabilities in 75% of the situations);

- the Cost-of-Capital approach, under which the risk margin is set equal to the cost that an insurer would incur to hold a sufficient amount of capital in order to cover non-hedgeable risks related to the insurance obligations.

It was agreed during Phase I of the Solvency II project that the calculation of technical provisions for prudential purposes should be harmonised (See Annex B.6). However, the approach to be applied to determine the new harmonised calculation was left for Phase II of the project.

A number of options were tested in the *PFS* and *QIS1* and *QIS2*, all of which were based on a best-estimate plus risk margin approach.

With respect to the calculation of the best-estimate, the key question relates to whether cash-flows should be discounted using the relevant risk-free interest rate or not, as this option was left open to Member States under the current regime.

With respect to the calculation of the risk margin, a number of different methodologies and approaches were considered, in line with discussions taking place internationally both within the IAIS and IASB. In the *PFS* and *QIS1*, a percentile approach was tested (75^{th} percentile and 90^{th} percentile). In *QIS2* a 75^{th} percentile and cost-of-capital approach were tested.

Policy options discussion

The options regarding the harmonised calculation of technical provisions for prudential purposes can thus be summarised as and will be referred to in the rest of this annex as follows:

[63] See European Commission (2006), Document MARKT 25/15/06 (*"Framework for Consultation"*).

- **Policy Option 8.1**: Undiscounted best estimate with percentile risk margin calculation;
- **Policy Option 8.2**: Discounted best estimate with percentile risk margin calculation;
- **Policy Option 8.3**: Discounted best estimate and cost-of-capital risk margin calculation.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 8" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 8" setting out the extent to which each option meets the objectives of the Solvency II project.

Important remark: The calculation of technical provisions on a discounted basis is broadly in line with a market consistent approach to valuation. Regarding pure unit-linked business, this policy issue is irrelevant, since unit-linked liabilities are already valued on a market-consistent basis under Solvency I and will continue to be valued in the same way under Solvency II. Although, not discussed in this impact assessment report another important issue regarding the calculation of technical provisions is whether financial guarantees embedded in insurance contracts should be valued on a market consistent basis or not.

Should technical provisions be discounted or not?

The argument put forward for not discounting[64] technical provisions is that it is imprudent to do so, since it accelerates the recognition of future income. Some supervisors argue that discounting technical provisions would consequently lead to lower quantitative requirements, weaken the financial standing of insurance and reinsurance undertakings, and undermine policyholder protection[65].

On the other hand, if an insurer is required to calculate a discounted best estimate, it needs to further analyse both its settlement patterns and the time value of money, in line with good actuarial practice. When correctly applied, discounting provides a better measure of the true economic value of insurance liabilities. Furthermore, explicit discounting does not necessarily imply that the level of policyholder protection is weakened, because appropriate prudence is provided by both the inclusion of a risk margin and the imposition of capital requirements (See *KPMG Report* – Section 4). In the light of these elements, the concerns expressed by some supervisory authorities seem unfounded, as they create additional costs for the insurance industry and indirectly for policyholders.

As far as international developments are concerned (the IAIS, the IASB and the IAA), are all moving towards the discounting of technical provisions[66] in line with a more general move towards market consistent valuation of assets and liabilities.

QIS1 provided valuable quantitative information on the impact of discounting the best estimate, as compared to the current situation. It showed that this will lead to a significant decrease in non-life insurance technical provisions (~ -15%), especially in those countries where market-consistent discounting is currently unauthorised. With respect to life insurance technical provisions, the impact

[64] Using the current relevant risk-free interest rate

[65] See CEIOPS (2005), *Answers to the European Commission on the second wave of Calls for Advice in the framework of the Solvency II project,* Sections 3 and 4.

[66] See IAIS (2007), *Common structure for the assessment of an insurer solvency*, IAA (2007), *Measurement of liabilities for insurance contracts: current estimates and risk margins*, exposure draft, and IASB (2007), *Preliminary views on insurance contracts*, Discussion Paper.

of discounting[67] is less material, since it is largely offset by the inclusion of expected discretionary bonuses in the best estimate[68].

Overall, using a discounted best estimate would provide incentives to properly measure the true economic value of technical provisions, whilst using undiscounted technical provisions would bring few benefits and create additional quantitative requirements for a number of countries (e.g. UK, NL, and FI). As a result Option 8.1 was discarded.

How should the risk margin be calculated?

With respect to the choice of a calculation method for the risk margin, *QIS2* showed that the outputs of the two methods tested did not differ much, in practice. Significant divergences were observed for certain long-tail non-life operations (e.g. medical liability insurance and construction insurance), but in only a few instances. Following *QIS2,* Supervisors recommended using the Cost-of-Capital method, as it seemed to be favoured by a large majority of insurers and provided a similar level of policyholder protection (as compared to the percentile approach).

In addition, most of the life insurance industry expressed major practical concerns regarding the percentile approach, because this method necessitates building the full underlying probability distribution, which is technically challenging for many life underwriting risks (e.g. longevity risk). Small undertakings also preferred the cost-of-capital method, as it was easier to calculate than the percentile method.

From a more fundamental perspective, a majority of insurance and reinsurance companies pointed out that the cost-of-capital method, by measuring the cost of raising additional capital to support the insurance risks, better reflected the way they manage their risks[69]. They also noted that this approach was based on sound economic principles (transfer value of an insurance portfolio) and was consistent with a market consistent approach to the calculation of assets and liabilities as well as the IFRS philosophy[70].

For all these reasons, **Option 8.3** was retained as it is based on sound economic principles and is easier to calculate.

[67] i.e. using the current relevant risk-free interest rate term structure instead of the technical interest rate

[68] Under Solvency I, technical provisions only covered minimum guarantees, even though policyholders' expectation might be much higher because of discretionary bonuses.

[69] See CEA (2005), *Comments on CEIOPS draft answer to the second wave of Calls for Advice*, CEA (2005), *Guidance for QIS2*; and *Industry Reports* – Annex C.8c.

[70] See IASB Updates.

Conclusion:

As a conclusion, Option 8.1 (undiscounted best estimate + percentile) was discarded as it only partially contributes to objectives 3.3.2 (harmonise calculation of technical provisions) and 3.3.3 (introduce harmonised risk-sensitive solvency standards). On the other hand, Option 8.2 (discounted best estimate + percentile) is in line with objectives 3.3.2 (harmonise calculation of technical provisions), 3.3.5 (harmonise supervisory methods, tools and powers), and 3.3.3 (introduce harmonised risk-sensitive solvency standards), but is difficult to calculate and would consequently impose additional costs on the industry - especially SMEs and life insurers.

Option 8.3 (discounted best estimate + cost-of-capital risk margin) has been retained as the best option as it is the most effective and efficient solution with respect to objectives 3.3.2 (harmonise calculation of technical provisions), 3.3.3 (introduce harmonised risk-sensitive solvency standards), 3.3.5 (harmonise supervisory methods, tools and powers), and 3.3.4 (proportionate treatment of small undertakings). In addition, it seems to be a more sustainable solution, since the most recent IFRS developments tend to rely on the same philosophy, in line with objective 3.3.8 (promote compatibility with IFRS rules).

Policy Issue n ° 8: Methods for the calculation of technical provisions

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
8.1 Undiscounted best estimate with percentile risk margin calculation	Industry: unit-linked business	Unit-linked operations are valued on a pure market-consistent basis.	Direct	≈	High	Permanent
	Industry: life business	Other life insurance operations are valued using the "technical interest rate", which is lower than the risk-free interest rate, which leads to higher technical provisions.	Direct	-	High	Permanent
		Underlying probability distributions are very difficult to compute for most of life insurance operations, so the percentile risk margin is uneasy to derive	Direct	–	Medium	Permanent
	Industry: non-life business	Non-life insurance operations are not discounted at all, which leads to higher technical provisions, especially for long-tail non-life business.	Direct	-	High	Permanent
	Industry: "northern" Europe	Insurers from "northern" countries (e.g. UK, NL) discount their technical provisions under Solvency I.	Direct	-	High	Permanent
		Insurers from "northern" countries (e.g. UK, NL) tend to value their technical provisions using lower safety margins under Solvency I (close to best-estimate).	Direct	-	High	Permanent
	Industry: "southern" Europe	Insurers from "southern" countries (e.g. ES, FR, IT) do not discount their technical provisions under Solvency I.	Direct	≈	High	Permanent
		Insurers from "southern" countries (e.g. ES, FR, IT) tend to value their technical provisions using higher safety margins under Solvency I (close to 90% percentile).	Direct	+	High	Permanent
	Large companies	Larger companies derive their percentile risk margin from larger databases, which provides more relevant / accurate results.	Direct	+	Medium	Permanent
	SMEs	Smaller companies derive their percentile risk margin from smaller databases, which provides less relevant / accurate results.	Direct	–	Medium	Permanent
	Industry	Absence of discounting (or partial discounting) leads to higher capital requirements and increased insurance prices; the use of a 75% percentile risk margin does not correspond to the way some insurers manage their risks, even though this provides incentives for sound risk analysis.	Direct	–	High	Permanent
	Supervisors and Policyholders	Absence of discounting (or partial discounting) leads to higher capital requirements and a lower probability of ruin.	Indirect	+	Medium	Permanent
		The approach is not consistent with economic principles and can hamper good risk management. Insurance prices are higher because capital allocation is inefficient.	Indirect	–	Medium	Permanent
	EU economy	Using a percentile approach provides a good incentive to better analyse and manage insurance risks, but the absence of discounting in the valuation of technical provisions is not an economic approach (diverge from IFRS).	Indirect	-	Medium	Permanent
8.2 Discounted best estimate with percentile risk margin calculation	Industry: unit-linked business	Unit-linked operations are valued on a pure market-consistent basis.	Direct	≈	High	Permanent
	Industry: life business	Other life insurance operations are valued using the risk free interest rate, which leads to a fairer amount for technical provisions.	Direct	+	High	Permanent
		Underlying probability distributions are very difficult to compute for most of life insurance operations, so the percentile risk margin is uneasy to derive	Direct	–	Medium	Permanent
	Industry: non-life business	Non-life insurance operations are valued using the risk free interest rate, which leads to a fairer amount for technical provisions.	Direct	+	High	Permanent
	Industry: "northern" Europe	Insurers from "northern" countries (e.g. UK, NL) discount their technical provisions under Solvency I.	Direct	≈	High	Permanent
		Insurers from "northern" countries (e.g. UK, NL) tend to value their technical provisions using lower safety margins under Solvency I (close to best-estimate).	Direct	-	High	Permanent
	Industry: "southern" Europe	Insurers from "southern" countries (e.g. ES, FR, IT) do not discount their technical provisions under Solvency I.	Direct	+	High	Permanent
		Insurers from "southern" countries (e.g. ES, FR, IT) tend to value their technical provisions using higher safety margins under Solvency I (close to 90% percentile).	Direct	+	High	Permanent
	Large companies	Larger companies derive their percentile risk margin from larger databases, which provides more relevant / accurate results.	Direct	+	Medium	Permanent
	SMEs	Smaller companies derive their percentile risk margin from smaller databases, which provides less relevant / accurate results.	Direct	–	Medium	Permanent
	Industry	The use of a percentile risk margin does not correspond to the way some insurers manage their risks, even though this provides incentives for sound risk analysis.	Direct	–	Medium	Permanent
	Supervisors and policyholders	The approach is partly consistent with economic principles and enhances good risk management. Insurance prices better reflect the cost of risk / money (discounting).	Indirect	+	Medium	Permanent
	EU economy	Using a percentile approach provides a good incentive to better analyse and manage insurance risks, but it cannot be proved that it is a full economic approach (diverge from IFRS).	Indirect	≈	Medium	Permanent

Policy Issue n ° 8: Methods for the calculation of technical provisions

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
8.3 Discounted best estimate with cost-of-capital risk margin calculation	Industry: unit-linked business	Unit-linked operations are valued on a pure market-consistent basis.	Direct	≈	High	Permanent
	Industry: life business	Other life insurance operations are valued using the risk free interest rate, which leads to a fairer amount for technical provisions.	Direct	+	High	Permanent
		The Cost-of-Capital method is easy to compute, because there are possible simplifications (no need to derive the underlying probability distribution).	Direct	+	Medium	Permanent
	Industry: non-life business	Non-life insurance operations are valued using the risk free interest rate, which leads to a fairer amount for technical provisions.	Direct	+	High	Permanent
	Industry: "northern" Europe	Insurers from "northern" countries (e.g. UK, NL) discount their technical provisions under Solvency I.	Direct	≈	High	Permanent
		Insurers from "northern" countries (e.g. UK, NL) tend to value their technical provisions using lower safety margins under Solvency I (close to best-estimate).	Direct	-	High	Permanent
	Industry: "southern" Europe	Insurers from "southern" countries (e.g. ES, FR, IT) do not discount their technical provisions under Solvency I.	Direct	+	High	Permanent
		Insurers from "southern" countries (e.g. ES, FR, IT) tend to value their technical provisions using higher safety margins under Solvency I (close to 90% percentile).	Direct	+	High	Permanent
	Large companies	The Cost-of-Capital method is easy to compute, because there are possible simplifications.	Direct	+	Medium	Permanent
	SMEs	The Cost-of-Capital method is easy to compute, because there are possible simplifications.	Direct	+	Medium	Permanent
	Industry: non-life business, long-tail	For long-tail non-life business, the Cost-of-Capital provides higher results than the percentile approach, which is considered excessive by certain specialised insurance companies (may come from certain simplifications though).	Direct	–	Medium	Permanent
	Industry	The use of the Cost-of-Capital risk margin corresponds to the way many insurers manage their risks and provides incentives for sound risk analysis.	Direct	+	Medium	Permanent
	Supervisors and policyholders	The approach is largely consistent with economic principles and enhances good risk management. Insurance prices better reflect the cost of risk (Cost-of-Capital) / money (discounting).	Indirect	+	Medium	Permanent
	EU economy	It is a full economic approach, which should enhance efficient risk and capital allocation (consistent with IFRS).	Indirect	+	Medium	Permanent

Policy Options Comparison - Issue n ° 8: Methods for the calculation of technical provisions

Policy Option	Relevant Objectives									
	3.3.2 Harmonise the calculation of technical provisions		3.3.5 Harmonise supervisory methods, tools and powers		3.3.8 Promote compatibility of valuation and reporting rules with the IFRS rules		3.3.3 Introduce risk-sensitive harmonised solvency standards		3.3.4 Small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Sustainability (0/+/++)	Effectiveness (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
8.1 Undiscounted best estimate with percentile risk margin calculation	+	0	+	0	0	0	+	0	0	0
8.2 Discounted best estimate with percentile risk margin calculation	++	+	++	+	0	0	++	+	0	0
8.3 Discounted best estimate with cost-of-capital risk margin calculation	++	++	++	++	+	+	++	+	++	++

ANNEX B9 - POLICY ISSUE 9:

CALIBRATION OF THE SOLVENCY CAPITAL REQUIREMENT

(SCR)

It was agreed at the conclusion of Phase I of the project that the Solvency Capital Requirement (SCR) for the new system should be based on the amount of economic capital corresponding to a specific ruin probability and time horizon, calculated either using a standard formula or internal model.

However the specific choice of ruin probability and time horizon was left to Phase II. Under *QIS2*, the results were calibrated to a ruin probability of 0.5% over a one year time horizon (a working hypothesis introduced into the Framework for Consultation in July 2005). The results of *QIS2* were benchmarked against the current solvency requirements in order to ascertain what the impact of using a ruin probability of 0.5% over a one year time horizon would be and whether or not it should be adjusted up or down.

However, it should be noted that the main focus of *QIS2* was the design of the standard formula for the SCR, not calibration. Therefore the results and analysis provided below should be regarded as purely indicative and provisional. In particular, *QIS2* focussed on solo capital requirements. Group requirements and requirements based on internal model calculations are being tested for the first time as part of QIS3. Consequently, this analysis will need to be updated in the light of QIS3. The results of QIS3 will provide a more precise indication of the overall impact on capital requirements.

Policy options discussion

The options regarding the ruin probability to be used for the SCR can thus be summarised as and will be referred to in the rest of this annex as follows:

- **Option 9.1**: Use a 0.5% ruin probability over a one-year time horizon for the SCR;
- **Option 9.2**: Use more onerous capital standard – i.e. higher capital requirement;
- **Option 9.3**: Use less onerous capital standard - i.e. lower capital requirement.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 9" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 9" setting out the extent to which each option meets the objectives of the Solvency II project.

Rationale for choice of QIS2 working hypothesis

Regarding the choice of the confidence level and time horizon[71] used in *QIS2*, it was taken as a given that a supervisory regime, no matter how strict, can never be a zero failure regime, and that the confidence level should therefore be less than 100%.

[71] See CEIOPS (2005), *Answers to the European Commission on the second wave of Calls for Advice in the framework of the Solvency II project*, Call for Advice 10; CEIOPS (2007), *Advice to the European Commission in the framework of the Solvency II project on Pillar I issues – further advice*; and IAA (2004), *A global framework for insurer solvency assessment*.

A Value-at-Risk measure subject to a 99.5% confidence level over a one year time horizon (equivalent to a probability of ruin of 0.5%), is believed to roughly correspond to a "secure" financial strength (or BBB) rating for an insurer.

Standard & Poor's assigns a BBB rating level to firms with "good" capital adequacy (i.e. actual capital at disposal of the firm is 100 to 125% of the minimum economic capital considered necessary). Imposing a more onerous capital standard (Option 9.2) would imply asking for a higher rating, e.g. an A rating, corresponding to "strong" capital adequacy (i.e. 125% to 150%); or on the other hand, a lower rating (Option 9.3), e.g. a BB rating, corresponding to "vulnerable" capital adequacy (below 100%) – See *KPMG Report* (Annex C.1a Section 9).

Imposing a more onerous capital standard (Option 9.2) would be preferable from a policyholder perspective, as it effectively contributes to the objective of enhancing policyholder protection. However, imposing a higher capital requirement would also increase costs for EU insurers and undermine their international competitiveness. Conversely, imposing a less onerous capital standard (Option 9.3) would be preferable from the perspective of the industry, allowing them to compete more effectively internationally, but would provide a lower level of protection for policyholders.

The chosen ruin probability of 0.5% over a one year time horizon can be viewed in two different ways. Either that a specific insurer would be expected to fail once every two hundred years or that on an annual basis, one in every two hundred insurers will fail.

For comparison purposes, in the banking sector, the capital requirements for credit and operational risk has been calibrated to a 99.9% confidence level over a one year time horizon, whereas for market risk capital requirements are calibrated to 3 times a 99% confidence level over a time horizon of ten days[72]. Therefore, the banking approach relies on the same philosophy, even though the chosen calibration is different, depending upon the risks being considered. The higher confidence level for credit and operational risk is usually justified on the grounds of financial stability and the lower time horizon for market risk in the trading books of banks on the grounds that this business is generally short-term in nature.

Option 9.1 (0.5% ruin probability over a one year time horizon) was therefore chosen for the SCR calibration, and tested in the context of QIS2.

Practical testing of Option 9.1 in QIS2

Although the main focus of *QIS2* was on the design of the standard formula for the SCR, rather than on its actual calibration, it did provide some initial indication of the possible impact of the new capital requirements based on a ruin probability of 0.5% over a year time horizon.

The impact of the capital requirements tested under *QIS2* differed from Member State to Member State (24 countries took part to *QIS2*). Generally, the *QIS2* results indicated that the SCR was higher than the current solvency requirements, particularly in the case of non-life business.

However, it is important to note that the baseline varies considerably from Member State to Member State, depending on:

- the current valuation criteria adopted for assets (historical cost vs. a market consistent approach);

- current valuation criteria adopted for technical provisions (e.g. whether or not technical provisions are discounted);

[72] Directives 2006/48/EC and 2006/49/EC.

- the existence of additional capital requirements in some Member States on top of the current required solvency margin (e.g. the Enhanced Capital Requirement in the United Kingdom).

Therefore, a better indicator of the overall impact of the requirements tested under QIS2 is the "effective" relationship between the SCR and the Solvency I capital requirement, taking into account changes in the valuation criteria for assets and liabilities[73]. This ratio compares the new explicit capital requirement (SCR) based on economic principles with the "overall requirements" of Solvency I, including both explicit requirements (the required solvency margin) and implicit requirements (prudence embedded in the current valuation criteria for assets and liabilities, e.g. assets valued at historical cost, and no discounting of technical provisions).

In the life sector, the "nominal" relationship between the SCR and the required solvency margin indicated that the tested requirement under QIS2 was between 1 and 3 times higher than at present. However, the "effective" relationship between the SCR and the required solvency margin differed from Member State to Member State. For Member States, where assets are valued at historical cost, the life capital requirement was effectively lower than the required solvency margin (sometimes as much as 50% lower), whereas for Member States where assets are already valued on a market-consistent basis, the life capital requirement was higher than the required solvency margin.

In the non-life sector, the "nominal" relationship between the SCR and the required solvency margin indicates that the requirement tested under QIS2 was between 2.5 and 4.5 times higher than at present. However, the "effective" ratio showed a much smaller increase, once the consequences of the introduction of market consistent valuation of assets and discounting of technical provisions are taken into account.

Although caution is needed - as QIS2 did not test the new definition of capital elements eligible to cover the new requirement and did not analyse the impact of current additional capital requirements in some Member States - the impact of the requirement tested under QIS2 on the solvency position – i.e. the relationship between available capital and required capital - of firms can be qualitatively assessed.

In the life sector, eleven countries indicated that available capital under QIS2 specifications expressed as a percentage of the SCR was lower than available capital as defined under the current regime expressed as a percentage of the required solvency margin, although in most cases the percentage was still over 100%. In other words insurers would not be required to raise additional capital to meet the requirements tested under QIS2. Conversely, six countries reported that on average capital requirements would be lower.

In the non-life sector, sixteen countries indicated that on average the ratio of available capital over capital requirements was lower under QIS2 than under the current regime. Again on average the percentage was though still over 100%. However, there were a not insignificant number of non-life insurers who would be required to raise additional capital to meet the requirements tested under QIS2.

Overall, the QIS 2 results indicated that in the case that the tested requirements were introduced, the European insurance industry holds sufficient capital to meet them without having to raise additional funds, even in the non-life sector where the impact was greater (See *DG ECFIN Report*). However, some small non-life undertakings, mostly mono-liners and/or mutual companies reported that they would be required to raise additional capital. This was partly due to the presence of a size factor

[73] The effective ratio is equal to: SCR / (Solvency I capital requirement + differences between the current statutory/accounting valuation of assets and liabilities and their valuation according to the new Solvency II principles).

adjustment in the QIS2 specification which has been eliminated from the SCR formula that will be tested in QIS3.

Concerns were also expressed about the calibration of the capital charge for equity and property risk (corresponding to a shock of 40% of the market value of equity investments and 20% of property) in QIS2 by some stakeholders, because it was considered to be inappropriate and overly conservative[74]. In their opinion, the proposed treatment did not properly reflect the interaction between assets and liabilities and in particular the use of equity to match long-term liabilities. Experience shows that volatility in equity is high in the short term, but less significant over the long term. An alternative proposal[75] for the calculation for equity risk will be tested in QIS3, which uses different equity shocks depending on the expected holding period of the equity position. In addition, the original treatment of equity and property risk has been refined for the purposes of QIS3. However, the critical comments received from stakeholders on this point did not relate to the target level of 99.5% over one year, rather that they felt the methodology used in QIS2 to calibrate the equity risk parameters was not in line with the overall calibration target level.

If the new capital requirements are not appropriately calibrated, then this could provide incentives for insurers to move out of equities into bonds. An econometric study conducted by the ECB (See *ECB Report*) shows that the introduction of Solvency II is already having some impact on insurers' asset allocation. Although, this is good from a financial stability perspective as it suggests there will be a smooth transition from Solvency I to Solvency II, it also illustrates that care will need to be taken in calibrating the charges applied to equity risk in order not to undermine the important role insurers play in the economy as institutional investors.

Conclusion:

All three options considered (0.5% ruin probability over a one year time horizon, more onerous capital standard, less onerous capital standard) fully meet objective 3.3.3 (harmonized risk-sensitive solvency standard), providing a different level of policyholder protection depending on the minimum level of financial strength required from insurance undertakings.

Option 9.2 (higher capital requirement) would be the most effective with respect to objective 3.1.2 (enhance policyholder protection), but at the detriment of objective 3.1.3 (improve international competitiveness of EU insurers and reinsurers). On the other hand, Option 9.3 (lower capital requirement), would be most effective with respect to objective 3.1.3 (improve international competitiveness of EU insurers and reinsurers), but at the detriment of objective 3.1.2 (enhance policyholder protection).

Option 9.1 (Use a 0.5% ruin probability over one year time horizon for SCR) has been retained as the best option, after being tested in QIS2: it effectively contributes to objective 3.3.3 (introduce harmonised risk-sensitive solvency standards) and achieves an appropriate balance between objective 3.1.2 (enhance policyholder protection) and objective 3.1.3 (promote international competitiveness of EU insurers).

[74] See CEA, *Preliminary feedback on QIS2* and CEA (February 2007), *Calibrating the standard approach: building blocks.*

[75] See Letter from the Ministries of finance of France and the United Kingdom to Mr Van Hulle, Head of Insurance and pensions Unit of the DG MARKT, 8th March 2007.

Policy Issue n° 9 - calibration of the Solvency Capital Requirement

Policy option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
Option 9.1: Use a 0.5% ruin probability over a one year time horizon for SCR	policyholders	protection for policyholders due to the fact that the economic capital held by insurers must be at least equivalent to that held by an insurer with a secure financial rating (BBB).	Indirect	+	High	Permanent
	non life firms	introduction of capital standard equivalent to that required of a BBB rated insurer. Results of QIS2 suggest that most insurers hold sufficient capital to meet this standard, although this was not the case for some small monoliners.	Direct	≈ / -	High	Permanent
	life firms	introduction of capital standard equivalent to that required of a BBB rated insurer. Results of QIS2 suggest that the impact will vary from Member State to Member State, depending on whether a market consistent valuation approach is already in place or not.	Direct	≈ / +	High	Permanent
	financial markets	risk of portfolio reallocation out of equities into bonds to avoid increased capital charges and to reduce investment risk, if the new capital requirement is not designed appropriately	Indirect	-	Low	Short-term
Option 9.2: Use more onerous capital standards - i.e. higher capital requirement	policyholders	high policyholder protection due to the fact that the economic capital held by insurers must at least be equivalent to that held by an insurer with a very strong financial rating (e.g. A rating)	Indirect	+	High	Permanent
	non life firms	introduction of much stricter capital requirements than under the current regime. Risk that overly prudent assumptions will undermine competitiveness	Direct	-	High	Permanent
	life firms	the impact on the solvency position and capital needs of insurers varies from Member State to Member State, depending on whether a market consistent valuation approach is already in place or not.	Direct	- / ≈	Medium	Permanent
	financial markets	risk of portfolio reallocation out of equities into bonds to avoid increased capital charges and to reduce investment risk, if the new capital requirement is not designed appropriately	Indirect	-	Medium	Short-term
Option 9.3: Use less onerous capital standards - i.e. lower capital requirement	policyholders	low policyholder protection due to the fact that the economic capital held by insurers will be only equivalent to the that held by an insurer with a vulnerable financial rating (e.g. BB rating)	Indirect	-	High	Permanent
	non life firms	reduction in capital requirements for most insurers	Direct	≈ / +	High	Permanent
	life firms	reduction in capital requirements	Direct	+	High	Permanent
	financial markets	limited risk of portfolio reallocation	Indirect	≈	High	Short-term

Policy Options Comparison - Issue n° 9 - calibration of the Solvency Capital Requirement

Policy Option	Relevant Objectives					
	3.3.3 Introduce risk sensitive harmonized solvency standards		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
9.1 Use 0.5% ruin probability over a one year time horizon for SCR	++	+	+	+	+	+
9.2 Use more onerous capital standard - i.e. higher capital requirement	++	0	++	0	0	0
9.3 Use less onerous capital standard - i.e. lower capital requirement	++	++	0	++	++	++

ANNEX B10 - POLICY ISSUE 10:

CHOICE OF A RISK MEASURE FOR SOLVENCY PURPOSES
(VaR vs. TVaR)

Background information: risk measures

A "risk measure" is a mathematical function that assigns an amount of capital to a certain probability distribution: the higher the underlying risk exposure is, the higher the resulting amount of capital is.

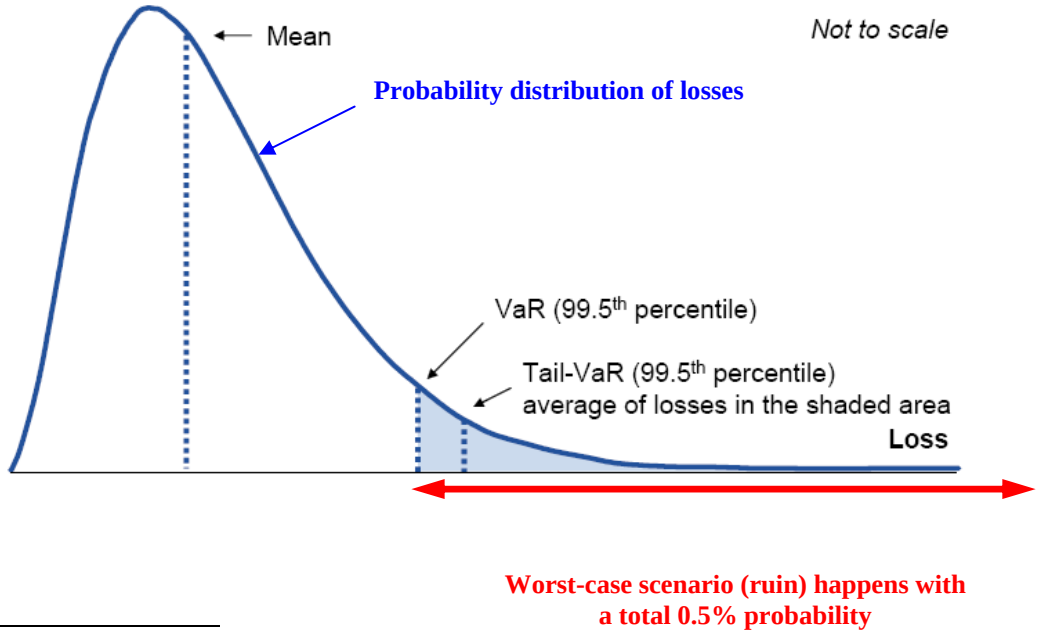
For solvency purposes, the probability distribution to consider is the distribution of the company's economic wealth, i.e. its available capital. Indeed, capital acts as a cushion against unforeseen losses and reduces the probability of insolvency.

In practice, a risk measure can provide a required amount of initial capital, given the probability distribution of available capital over the solvency time-horizon (e.g. one year). The Value at Risk (VaR) and Tail Value at Risk (TVaR) functions are the most commonly used risk measures:

- VaR is the maximum potential loss (i.e. decrease in available capital) given a certain confidence level (α %), over a certain time horizon (*x* years). Assuming VaR equals 100, the probability for capital to become negative (ruin)[76] in the *x* following years will amount to 1 - α %, provided the company holds 100 of initial capital. VaR enables the company to precisely assess how much initial capital it should hold.
- TVaR is the expected loss that will affect the company under "worst-case" circumstances, given a certain confidence level (α %) and over certain time horizon (*x* years). Assuming TVaR equals 115, it means that in the worst cases (the 1 - α % situations in which capital becomes negative in the *x* following years), the company will lose 115 in the average. If the company holds 115 of capital, it should therefore survive these worst-case scenarios (very) roughly half of the time.

The following graph represents how VaR and TVaR are derived from a probability distribution with a 99.5% confidence level, over one year.

Figure: graphical definition of VaR and TVaR



[76] When available capital becomes negative, then the company is considered to be insolvent or "ruined".

In Phase I of the project it was decided to introduce capital requirements based on a specific definition of ruin and time horizon (See Annex B.7), however no decision was made regarding the risk measure to be used to express the probability of ruin.

It is important to define a clear risk measure, since it will serve as a benchmark for the standard formula and the various internal models (full or partial) that companies may develop. This common benchmark will ensure consistency between the standard approach and the individual ones.

Policy options discussion

With respect to the definition of an appropriate risk-measure so as to calculate the Solvency Capital Requirement (SCR), there was considerable debate regarding whether it should be expressed as a Value-at-Risk figure (VaR) or a Tail Value-at-Risk figure (TailVaR).

This question does not impact the overall calibration of the SCR, but it is especially important for insurance and reinsurance wishing to use an internal model.

The options regarding the risk measure to be used for the SCR can thus be summarised and will be referred to in the rest of this annex as follows:

- **Policy Option 10.1**: Use Value-at-risk measure;
- **Policy Option 10.2**: Use Tail-value-at-risk measure;
- **Policy Option 10.3**: Use Value-at-risk measure, but allow insurers using an internal model to use alternative risk measures as long as they deliver an equivalent level of policyholder protection;

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 10" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 10" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 10.1: ***Use Value-at-risk measure***

The main disadvantage of **Option 10.1** is that VaR does not meet all the theoretical and actuarial qualities for such a risk measure. In particular, there might be some cases where VaR does not appropriately reflect diversification effects or, conversely, where VaR may underestimate the level of risk exposure[77]. It is also to be noted that reinsurers rarely refer to VaR, since TVaR is much more appropriate to analyse extreme events, as long as it can be properly implemented. These theoretical weaknesses concern some supervisors, since the latter call for optimal policyholder protection[78].

On the other hand, Option 10.1 has many practical advantages, since it is rather easy to understand and implement, and is already used by the majority of insurance companies and by the banking sector. Consequently, Option 10.1 would limit initial implementation costs for many companies[79].

[77] VaR is not "sub-additive", which means that VaR (risk A + risk B) might be higher than the sum of VaR (risk A) and VaR (risk B), which is not logical since there should be risk mitigation between risk A and risk B.

[78] CEIOPS (2007), *Advice to the European Commission in the framework of the Solvency II project on Pillar I issues – further advice*; CEIOPS (2006), Note on the "*Choice of risk measure for solvency purposes*".

[79] CEA (2006), *Working paper on the risk measures VaR and TailVaR.*

<u>Policy Option 10.2</u>: Use Tail-value-at-risk measure

As opposed to Option 10.1, **Option 10.2** establishes TVaR, an excellent risk measure in theory, especially when it comes to the analysis of extreme external events. Such extreme events can act as a "trigger" and provoke insolvency when a company is already vulnerable, which is why many supervisors favour TVaR[80].

Yet, TVaR raises numerous practical concerns. First, Option 10.2 would be likely to cause significant additional costs for the industry, since TVaR is more difficult to understand, embed in the company's culture, and implement than VaR, and it is rarely used by insurance companies as of today[81]. Second, TVaR brings up cross-sectoral consistency issues, as the other financial sectors tend to refer to VaR. Third, TVaR is often difficult to implement properly. Companies often lack the necessary data to simulate extreme events (e.g. an event like Katrina happens only once in 35 years, so it is extremely difficult to conduct proper statistical analysis). They sometimes have to make haphazard assumptions to assess TVaR, and consequently it is often subject to significant modelling error.

<u>Policy Option 10.3</u>: ***Use Value-at-risk measure, but allow insurers using an internal model to use alternative risk measures as long as they deliver an equivalent level of policyholder protection***

Option 10.3 achieves common ground between the first two options. Indeed, it establishes VaR as a benchmark, which seems to be the most practical solution for a great number of insurers, but does not prevent companies that are willing and able to build a more sophisticated internal model to use a TVaR risk measure. This provides flexibility to take account of technological progress.

On the other hand, so as to give assurance to supervisors, policyholders and competitors, that the use of a different risk measures does not create "cherry-picking" opportunities, companies referring to an alternative risk measure in their internal model are required to demonstrate that the output of the model delivers an equivalent level of protection to policyholders.

<u>Conclusion</u>:

Option 10.2 (Tail Value-at-Risk) was discarded as it does not contribute to objective 3.3.4 (proportionate treatment of small undertakings) and is not consistent with respect to objective 3.3.3 (introduce risk sensitive harmonised standards). On the other hand, Option 10.1 (Value-at-Risk) is broadly in line with objectives 3.3.3 (introduce harmonised risk-sensitive standards), 3.3.4 (proportionate treatment of small undertakings), 3.3.5 (harmonise supervisory methods, tools and powers) and 3.3.7 (compatibility of prudential supervision with banking sector), but is not as efficient as Option 10.3.

Option 10.3 (Value at Risk, with some allowance for alternative risk measure) was retained as the best option, since it has very few drawbacks. Indeed, it is the most effective, efficient and consistent solution with respect to objectives 3.3.3 (introduce risk-sensitive harmonised standards), 3.3.4 (proportionate treatment of small undertakings), 3.3.5 (harmonise supervisory methods, tools and powers) and 3.3.7 (promote compatibility of prudential supervision of insurance and banking sector).

[80] See *Sharma report*; CEIOPS (2007), *Advice to the European Commission in the framework of the Solvency II project on Pillar I issues – further advice*; CEIOPS (2006), Note on the "*Choice of risk measure for solvency purposes*".
[81] CEA (2006), *Working paper on the risk measures VaR and TailVaR*

Policy Issue n ° 10: Choice of a risk-measure for the SCR (VaR vs. TailVaR)

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
10.1 Use Value-at-Risk measure	Industry: overall philosophy	VaR is easy to explain to top-management and other stakeholders. It is therefore easy to implement throughout the company and to embed in the company's risk culture (so as to improve risk management).	Direct	+	High	Permanent
		99.5% VaR focuses on the worst 9 950th loss out of 10 000 simulations: it is the worst scenario under "normal" circumstances. It does not focus on extreme events, which might be criticised from a "reinsurance perspective".	Direct	–	Low	Permanent
	Industry: implementation	VaR refers to "normal" circumstances: it is easier to collect data and make realistic assumptions. Since VaR refers to one worst-case scenario (the 99.5% confidence level), it is easy to design a proxy stress-test to calculate VaR. This is important for SMEs.	Direct	+	High	Permanent
	Industry: insurance companies	VaR is the most commonly used risk-measure within insurance companies: internal models, when already in place, are based on VaR.	Direct	+	Medium	Permanent
	Industry: reinsurance companies	VaR is less often used by reinsurers, since it captures extreme events less effectively: internal models, when already in place in reinsurance companies, are based on Tail VaR.	Direct	-	High	Permanent
	Financial conglomerates	VaR is very commonly used in the banking sector (Basel II: e.g. market risk).	Direct	+	High	Permanent
	Supervisors and Policyholders	VaR is not a perfect risk-measure in theory and does not capture very extreme events, even though practical consequences of this in general are not significant.	Indirect	-	Medium	Permanent
		VaR limits initial implementation costs for most insurance companies	Indirect	+	Medium	Permanent
10.2 Use Tail Value-at-Risk measure	Industry: overall philosophy	TailVaR requires more mathematical background to be understood and implemented. It is more difficult to embed in the company's culture.	Direct	–	High	Permanent
		99.5% TailVaR focuses on what happens in the 50 worst scenarios out of 10 000 simulations: it tackles large risks and extreme events. Such risks often trigger bankruptcy: studying them should limit the probability of insolvency.	Direct	+	Low	Permanent
	Industry: implementation	Companies often lack the necessary data to simulate extreme events it is often impossible to conduct proper statistical analysis). Companies sometimes have to make haphazard assumptions to assess TailVaR, so results are often subject to significant modelling error.	Direct	-	High	Permanent
		TailVaR is more difficult to implement, especially for SMEs.	Direct	-	High	Permanent
	Industry: insurance companies	TailVaR is not a commonly used risk-measure within insurance companies: internal models, when already in place, are based on VaR.	Direct	-	Medium	Permanent
	Industry: reinsurance companies	TailVaR is the preferred risk-measure of reinsurers, since it captures extreme events more effectively: internal models, when already in place in reinsurance companies, are based on Tail VaR.	Direct	+	High	Permanent
	Financial conglomerates	VaR is very commonly used in the banking sector (Basel II: e.g. market risk).	Direct	–	High	Permanent
	Supervisors and Policyholders	TailVaR is an excellent risk-measure in theory and captures very extreme events	Indirect	+	Medium	Permanent
		TailVaR will increase intial implementation costs for most insurance companies	Indirect	–	Medium	Permanent

Policy Issue n ° 10: Choice of a risk-measure for the SCR (VaR vs. TailVaR)

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/≈/+)	Likelihood (L/M/H)	Timing (S/L/P)
10.3 Use Value-at-Risk measure, but allow insurers using an internal model to use alternative risk-measures as long as they deliver an equivalent level of policyholders' protection	Industry: overall philosophy	VaR is easy to explain to top-management and other stakeholders. It is therefore easy to implement throughout the company and to embed in the company's risk culture (so as to improve risk management). In case the company wishes to develop more advanced tools, it is free to do so.	Direct	+	High	Permanent
		99.5% VaR focuses on the worst 9 950th loss out of 10 000 simulations: it is the worst scenario under "normal" circumstances. It does not focus on extreme events, which might be criticised from a "reinsurance perspective". However, more advanced companies, if they feel it is necessary, may develop a TailVaR internal model.	Direct	≈	High	Permanent
	Industry: implementation	VaR refers to "normal" circumstances: it is easier to collect data and make realistic assumptions. Since VaR refers to one worst-case scenario (the 99.5% confidence level), it is easy to design a proxy stress-test to calculate VaR. This is especially true for SMEs. Most advanced companies, if they feel it is necessary, may develop a TailVaR internal model.	Direct	+	High	Permanent
	Industry: insurance companies	VaR is the most commonly used risk-measure within insurance companies: internal models, when already in place, are based on VaR.	Direct	+	Medium	Permanent
	Industry: reinsurance companies	VaR is less often used by reinsurers, since it captures extreme events less effectively. However, if it is already usingTailVaR, the company may continue to use it.	Direct	≈	High	Permanent
	Financial conglomerates	VaR is very commonly used in the banking sector (Basel II: e.g. market risk).	Direct	+	High	Permanent
	Supervisors and Policyholders	VaR is not a perfect risk-measure in theory and does not capture very extreme events, even though practical consequences don't seem to be material. In case the company wishes to develop more advanced tools, it is free to do so, provided the internal model provides policyholders with the same level of protection.	Indirect	+	Medium	Permanent
		VaR limits administrative costs for most insurance companies and, where a company already has a TailVaR inetrnal model, it may continue to use it	Indirect	+	Medium	Permanent

Policy Options Comparison - Issue n ° 10: Choice of a risk-measure for the SCR (VaR vs. TailVaR)

Policy Option	Relevant Objectives							
	3.3.7 Promote compatibility of prudential supervision of insurance and banking sector		3.3.5 Harmonise supervisory methods, tools and powers		3.3.3 Introduce risk-sensitive harmonised solvency standards		3.3.4 Proportionate requirements for small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Consistency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
10.1 Use Value-at-Risk measure	++	+	++	+	++	+	++	+
10.2 Use Tail Value-at-Risk measure	+	0	++	+	++	0	0	0
10.3 Use Value-at-Risk measure, but allow insurers using an internal model to use alternative risk-measures as long as they deliver an equivalent level of policyholders' protection	++	++	+	++	+	++	++	++

ANNEX B11 - POLICY ISSUE 11:

DESIGN OF THE SCR STANDARD FORMULA

Background information: capital requirements

A number of possible approaches exist to calculate capital requirements using a standard formula. These range from simple factor based approaches to more complex scenario based approaches (See *KPMG Report*).

The **factor based approach** involves multiplying a specified factor by a risk exposure measure, often an item from the insurer's balance sheet or profit and loss account. This factor is calibrated in line with a specified confidence level and time horizon and/or the volatility or uncertainty that is trying to be captured. For example, a fixed proportion of provisions for outstanding claims is a natural proxy for measuring reserving risk in non-life insurance. The current EU Insurance Directives are factor based.

A factor based approach benefits from being simple to describe and to calculate. Its main drawbacks are that it is often not that risk sensitive as it does not capture the specificities of an individual insurer's risk profile. Indeed, it is generally recognized that for certain types of risk, a factor based approach will not work, because of the uniqueness of risks covered by each insurer, the difficulty in defining a loss distribution or the importance of infrequent yet catastrophic losses.

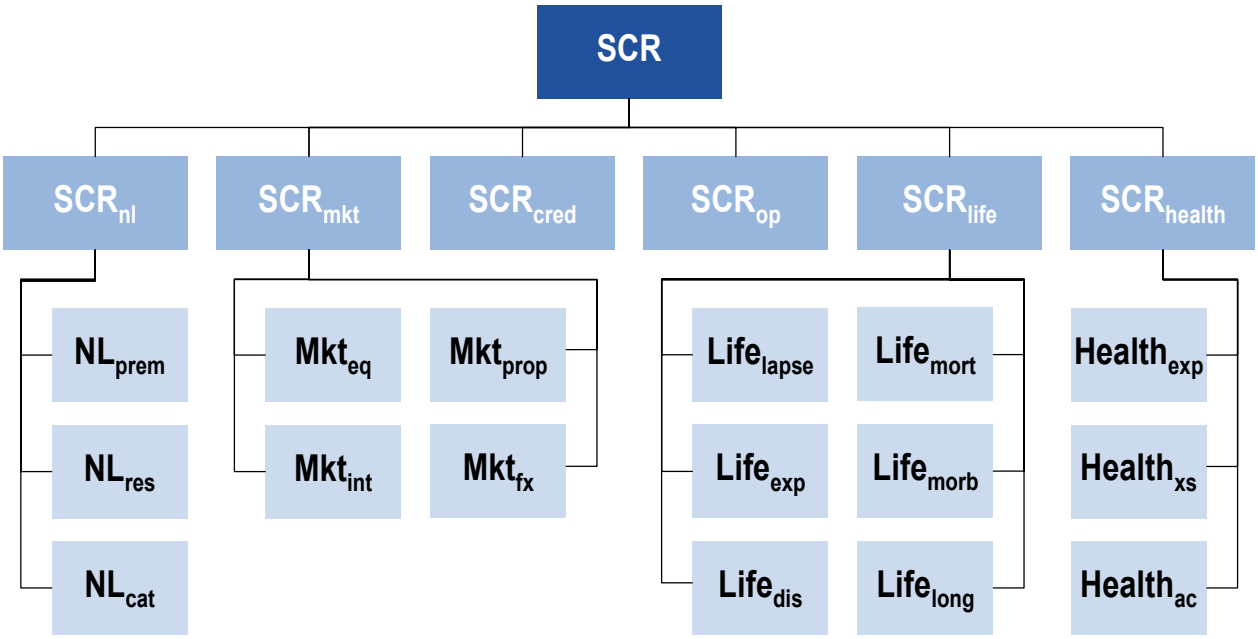
The **scenario based approach**, involves requiring insurers to test their solvency position against a range of adverse conditions by assessing the impact of a number of defined scenarios on their overall financial standing. For example, for the purposes of calculating the capital charge for the interest rate risk in *QIS2,* participants were asked to assess the change in net asset value of all their interest rate sensitive instruments (fixed income investments, insurance liabilities, loans, and derivatives) following an upward and a downward shock in interest rates.

The approach is more risk sensitive than a simple factor-based approach and can be dynamic (i.e. can take account of how management would react to the event underlying the scenario during a specified time horizon). Its main drawbacks are that it can be difficult to find scenarios that represent a worst case event for the vast majority of insurers, given the uniqueness of risks covered by each insurer, and that can be tested using available data. In addition, compliance costs can be high, as testing usually requires a substantial amount of IT and modelling work to be conducted.

The SCR standard formula tested in *QIS2* was based on a modular approach**.** The starting point of the modular approach is to consider each risk in isolation, develop an appropriate modelling treatment for each risk, and derive a capital charge for that risk using this modelling treatment. In a second step, the individual risk capital charges are combined to obtain an overall SCR capital requirement.

The risks taken into account in *QIS2* were market risk, life underwriting risk, health underwriting risk, non-life underwriting risk, credit risk and operational risk. Each risk was then further divided into sub-categories: e.g. market risk was subdivided into interest rate risk, equity risk, property risk, currency risk; life underwriting risk was subdivided into mortality risk, longevity risk, disability risk, morbidity risk, lapse risk and expense risk; and non-life underwriting risk was split into reserve risk, premium risk, and catastrophe risk.

The following diagram set out the modular architecture tested in *QIS2*. Following the results of QIS2, the architecture has been slightly modified.



Factor based and scenario based approaches were tested for each risk module under *QIS2* and the results were compared and analysed both quantitatively and qualitatively. This analysis included consideration of the ease with which smaller insurers could perform the calculations.

Policy options discussion

The options regarding the design of the SCR standard formula can be summarised as and will be referred to in the rest of this annex as follows:

- **Option 11.1**: Use scenario based approach for all SCR risk modules;
- **Option 11.2**: Use factor based approach for all risk modules.
- **Option 11.3**: Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others;
- **Option 11.4**: Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others, but provide simplified factor based approaches for those risk modules where scenarios are used;

Two tables are presented at the end of this annex, summarising the detailed analysis of these four options:

- Table "Policy issue 11" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 11" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 11.1: ***Use scenario based approach for all SCR risk modules***

The use of scenario based approaches for all SCR risk modules would result in high implementation and on-going costs for smaller insurers, as scenario testing requires skilled staff, IT and modelling work as well as accurate data.

However, the use of a scenario based approach would provide incentives for all insurers to improve risk management and would be more closely aligned than a simple factor based approach to the

internal risk management processes of larger firms. It also represents a natural transition towards the adoption of a full or partial internal model.

With respect to supervisors, the use of a scenario based approach would require more specific and sophisticated tools to check the risk analysis and valuation models underlying insurers' scenario calculations, as well as specialised staff.

The approach would result in higher implementation and on-going administrative costs for both the insurance industry and supervisory authorities. On the other hand, it would provide a better indication of the true financial standing of insurers, than a simple factor based approach, and would promote dialogue between supervisor and insurer.

Policyholders would indirectly benefit from improved risk management and analysis both by insurers and supervisors.

Policy Option 11.2: ***Use factor based approach for all risk modules***

The use of a factor based approach for all SCR risk modules would ensure straight-forward implementation for all insurers, as it would not result in significant increase in complexity relative to the current required solvency margin.

However, the use of a standardised factor based approach is likely to penalize larger insurers, as it would limit their ability to leverage internal risk management systems to calculate capital requirements better aligned with their actual risk profile and economic capital needs.

The impact of the introduction of a factor based approach would be limited for supervisors, as it would not require significant changes to current practices. However, it would do little to improve the tools supervisors have at their disposal to identify problems accurately.

Policyholders would not benefit from major improvements in their level of protection.

Policy Option 11.3: ***Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others***

An intermediate solution would be to use a mixed approach, scenarios for some SCR risk modules and a factor based approach for others.

For large firms this provides incentives to improve or leverage specific areas of risk management, but would impose significant implementation and on-going costs for smaller insurers conducting relatively straight-forward business.

With respect to supervisors, the use of a scenario based approach would require some more specific and sophisticated tools to check the risk analysis and valuation models underlying insurers' scenario calculations, as well as specialised staff, although this would be limited to the most relevant risk modules (e.g. market and underwriting risk).

Policyholders would indirectly benefit from improved risk management and analysis both by insurers and supervisors.

Policy Option 11.4: ***Use mixed approach, scenarios for some SCR risk modules and a factor-based approach for others, but provide simplified factor based approaches for those risk modules where scenarios are used***

The use of scenarios would provide large firms with incentives to improve or leverage specific areas of risk management and would be more closely aligned than a simple factor based approach to the internal risk management processes of those firms.

The development of a factor based approach for all SCR risk modules would reduce the administrative burden on small insurers conducting relatively straight-forward operations, as it would not result in significant increase in complexity relative to the current required solvency margin.

With respect to supervisors, the use of a scenario based approach would require some more specific and sophisticated tools to check the risk analysis and valuation models underlying insurers' scenario calculations, as well as specialised staff, although this would be limited to the most relevant risk modules (e.g. market and underwriting risk).

Policyholders would indirectly benefit from enhanced protection through improved risk analysis by both firms and supervisors.

Practical testing of Options 11.1, 11.2 and 11.3 in QIS2

In order to assess which approach was most suitable, in QIS2, for each risk module two alternative options were tested in QIS2: a simpler one, generally factor based, and a second, more risk sensitive scenario based approach. The "placeholder" approach, to be included in the final aggregation, was usually the simpler factor based approach. The results of QIS2, in terms of preferred methodology, were the following:

- Overall, the use of a mixed approach was supported – that is of factor approaches for some risk modules and scenarios for others. At the same time, where the more complex scenario approach is foreseen, it was suggested to allow for simplified approaches, to be used by firms with a simple risk profile.

- For interest rate risk, most Member States favoured a scenario based approach, for other market risks the majority of Member States also preferred the scenario approach, although it was suggested that both approaches might be retained as alternatives.

- Views on the two alternative approaches for life underwriting risk were fairly evenly divided.

For the purposes of forthcoming QIS3, a scenario approach has been chosen for all the market risk sub-modules. With respect to life underwriting risk, where a scenario approach is provided for in a sub-module, factor-based proxies are allowed to be used to capture less complex risk profiles. With respect to non-life underwriting risk, the same approaches as presented in QIS2 will be tested.

Conclusion:

Option 11.1 (use scenario based approach for all SCR risk modules) was discarded, as it is not in line with objective 3.3.4 (proportionate requirements for small undertakings) although this approach would help meet objective 3.3.3 (introduction risk-sensitive harmonised solvency standards) albeit inefficiently. Option 11.2 (use factor based approach for all risk modules) was discarded, as it is not in line with objective 3.3.3 (introduce risk-sensitive harmonised solvency standards), although it would effectively and efficiently meet objective 3.3.4 (proportionate requirements for small undertakings).

Option 11.4 (scenarios for some SCR risk modules and a factor-based approach for others, providing simplified factor-based approaches for those risk modules where scenarios are used) has been retained, in line with feed-back from QIS2 and in line with the conclusions of the *KPMG Report*, as the best option as it more efficiently and effectively meets objectives 3.3.3 (introduce risk-sensitive harmonised solvency standards) and 3.3.4 (proportionate requirements for small undertakings) than Option 11.3 (use scenarios for some SCR risk modules and a factor-based approach for others).

Policy Issue n° 11: design of the Solvency Capital Requirement

Policy option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
11.1 Use scenario based approach for all SCR risk modules	small firms	would result in high implementation and on-going costs for smaller insurers, as scenario testing requires skilled staff, IT and modelling work as well as accurate data.	Direct	-	High	Permanent
	large firms	Incentives for larger insurers to improve and leverage internal risk management, as a scenario based approach more closely reflects industry best practice.	Direct	+	High	Permanent
	supervisors	Changes will be required to supervisory practice, as scenario approaches require more specific and sophisticated tools for risk analysis and valuation. Necessity of staff with high mathematical and actuarial knowledge. Increased supervisory costs if scenarios are required for all risk modules as well as for all firms	Direct	-	High	Permanent
		improved and more timely identification of problems	Direct	+	High	Permanent
	policyholders	benefit from improved risk management and analysis both by insurers and supervisors	indirect	+	Medium	Permanent
11.2 Use factor based approach for all risk modules	small firms	The use of a factor based approach for all SCR risk modules would ensure straight-forward implementation for all insurers	Direct	+	High	Permanent
	large firms	use of a standardised factor based approach is likely to penalize larger insurers, as it would limit their ability to leverage internal risk management systems to calculate capital requirements better aligned with their actual risk profile and economic capital needs	Direct	-	High	Permanent
	supervisors	limited impact on supervisors, as it would not require significant changes to current practices	Direct	+	High	Permanent
		would do little to improve the tools supervisors have at their disposal to identify problems accurately	Direct	-	High	Permanent
	policyholders	would not benefit from major improvements in their level of protection	indirect	-	Medium	Permanent
11.3 Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others	small firms	significant implementation and on-going costs related to the calculation of those risk modules based on scenarios for smaller insurers	Direct	-	High	Permanent
	large firms	provides incentives to improve or leverage specific areas of internal risk management	Direct	+	High	Permanent
	supervisors	increased costs for analysis of scenario based modules	Direct	-	High	Permanent
		improved and more timely identification of problems	Direct	+	High	Permanent
	policyholders	would indirectly benefit from improved risk management and analysis both by insurers and supervisors	indirect	+	Medium	Permanent
11.4Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others, but provide simplified factor based approaches for those risk	small firms	limited implementation costs for small insurers with straight-forward operations	Direct	+	High	Permanent
	large firms	incentives for larger insurers to improve or leverage specific areas of risk management	Direct	+	High	Permanent
	supervisors	increased costs for analysis of scenario based modules	Direct	_	High	Permanent
		improved and more timely identification of problems	Direct	+	High	Permanent
	policyholders	would indirectly benefit from enhanced protection through improved risk analysis by both firms and supervisors.	indirect	+	Medium	Permanent

Policy Options Comparison - Issue n° 11: design of the Solvency Capital Requirement

Policy Option	Relevant Objectives			
	3.3.3 Introduce risk sensitive harmonised solvency standards		3.3.4 Proportionate requirements for small undertakings	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
11.1 Use scenario based approach for all SCR risk modules	++	0	0	0
11.2 Use factor based approach for all risk modules	0	0	++	++
11.3 Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others	+	+	+	+
11.4 Use mixed approach, scenarios for some SCR risk modules and a factor based approach for others, but provide simplified factor based approaches for those risk modules where scenarios are used	+	++	++	++

ANNEX B12 - POLICY ISSUE 12:

CALCULATION OF THE MINIMUM CAPITAL REQUIREMENT (MCR)

It was agreed at the conclusion of Phase I of the project that as well as a Solvency Capital Requirement (SCR) the new solvency regime should include a Minimum Capital Requirement (MCR) and that the MCR should be calculated in a more simple and robust manner than the SCR.

The SCR and the MCR represent the top and bottom of the so-called ladder of supervisory intervention. When available capital falls below the SCR, supervisors will take proportionate corrective measures. In the event that available capital falls further, the severity of the measures applied shall be increased, and in the event that the MCR is breached ultimate supervisory action will be triggered. The concept of the supervisory ladder is in line with the IAIS's Guidance Paper No. 6 on Solvency Controls Levels.

During Phase II of the project, a number of different options were discussed regarding the calculation of the MCR. These included using a percentage of the SCR, a simplified version of the SCR calibrated to a lower level of confidence, and a calculation similar to that used under the current regime. Data was collected on all three approaches as part of QIS2.

Policy options discussion

The options regarding the calculation of the MCR can thus be summarised as and will be referred to in the rest of this annex as follows:

- **Option 12.1**: MCR calculated as a percentage of the current solvency margin requirement;
- **Option 12.2**: MCR calculated as percentage of the SCR;
- **Option 12.3**: MCR calculated using simplified version of the SCR.

Two tables are presented at the end of this annex, summarising the detailed analysis of these three options:

- Table "Policy issue 12" setting out the impacts of each policy option;
- Table "Policy options comparison – issue 12" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 12.1: ***MCR calculated as a percentage of the current solvency margin requirement***

A formula based on the existing required solvency margin would have the advantage of ensuring continuity with the current regime, which would help supervisors be confident that the calculation will act as an effective backstop, and would minimise implementation costs. The calculation would also be familiar to national courts in the cases where authorisation is required to take ultimate supervisory action.

Against this, an MCR based on the required solvency margin would clearly introduce some of the disadvantages of the existing requirements into Solvency II, namely the lack of risk sensitivity, and would make it difficult to ensure the proper functioning of the supervisory ladder of intervention – i.e. that there is a sufficient difference between the SCR and the MCR.

Policy Option 12.2: ***MCR calculated as percentage of the SCR***

A simple calculation based on a percentage of the SCR standard formula would have the advantage of being consistent with the new risk-based framework and ensuring that the MCR is closely aligned with the risks that insurers face.

If the MCR were calculated as a percentage of the SCR, the incremental burden placed on insurers to calculate this charge would clearly be extremely low. The shortcut, however, would not correspond directly to a specific Value-at-Risk measure using a lower confidence level or time horizon (as opposed to the VaR measure underlying the calculation of the SCR), although the percentage could be fixed to on average deliver a specified level of confidence or time horizon.

Moreover, in this case the calculation of the MCR would rely on the SCR calculation, which is not a simple calculation. In practice, it would require companies to first run a full SCR calculation to derive their MCR. National courts would consequently be required to look at the underlining SCR (i.e. check all the underlying assumptions) in order to verify the calculation.

From the point of view of supervisors, the MCR would not provide additional information when compared to the SCR, as it would be fully dependent on the behaviour of the SCR; consequently, it would have the same volatility as the SCR and it would duplicate any potential flaws in its design.

The main advantage of the approach is that it provides automatic reassurance that there is a sufficient difference between the SCR and MCR, ensuring the proper functioning of the supervisory ladder of intervention.

Policy Option 12.3: ***MCR calculated using simplified version of the SCR***

Another option for calculating the MCR based on the SCR standard formula would be a simplified version of the standard SCR formula that would concentrate on the most important risk categories, calibrated to a lower level of confidence than the SCR (higher ruin probability), with scenario elements of the SCR formula replaced with factor-based items. This would allow a certain degree of risk-sensitivity to be retained, whilst optimising for simplicity, whereas the SCR would provide for risk sensitivity. As a result supervisors would be able to rely on two different capital requirements, both aligned to the new risk-based framework.

The resulting capital requirement should be a robust objective capital requirement, and relatively simple for national courts to understand in the event authorisation to take ultimate supervisory action is required.

The formula would not be excessively complex for insurers to calculate, however, it would be more costly to implement than the calculations envisaged under the other options.

Practical testing of Options 12.1 and 12.3 in QIS2

As part of QIS2, a methodology for the calculation of the MCR was tested, as well as a transitional methodology designed to ensure a smooth transition from the current required solvency margin to the new risk-based system.

The new MCR methodology was based on a simplified version of the SCR standard formula and followed a modular approach (Option 12.3). All risk types were included in the calculation except operational risk. For each risk type, a factor based approach was used, either calibrated to a 90% confidence level (rather than 99.5% in the case of the SCR) or the SCR factor based figure was multiplied by 0.5. The transition methodology was set equal to 50% of the current Solvency I capital requirement **(**Option 12.1).

Experience from QIS2 suggests that, the MCR and SCR calculations tested suffered from a number of structural problems. In too many cases, the MCR proved to be significantly higher than the result of the SCR, in spite of the reduced calibration, largely because of the effect of the so-called "k-factor". In the SCR calculation, insurance undertakings were allowed to deduct from their SCR calculation the extent to which they believed total technical provisions relating to future discretionary benefits of life with-profit products could be used to absorb losses. However, this possibility was not allowed for in the calculation of the MCR.

For 11 national markets, all or the majority of the respondents had an MCR less than 75% of the SCR. However, 4 national supervisors reported a substantial number of participants with an MCR/SCR ratio of more than 75%, which indicated that there was poor interplay between the SCR and the MCR in those markets.

This raised concerns regarding the modular approach adopted for the calculation of the MCR for QIS2, as it did not appear to deliver a clear hierarchy of regulatory requirements, in which the SCR was above the MCR. Concerns were also expressed that it oversimplified the relationship between assets and liabilities.

Consequently, two new approaches for the calculation of the MCR have been developed after QIS2:

- The first approach – provided in CEIOPS post-QIS2 advice – is a revised modular proposal for the MCR (**Option 12.3)**. It will be calculated following a modular, factor-based approach taking into account life underwriting risk and non life underwriting risk as well as market risk (after QIS2 results, credit risk was dropped from the MCR calculation). This new approach will reflect the risk absorbing properties of future non-guaranteed bonuses, and will be calibrated to a Value-at-Risk with a confidence level of 90%.

- An alternative "compact" proposal put forward by the CEA was also supported by some Member States (**Option 12.2)**. The CEA proposal suggests setting the MCR as a percentage of the appropriate SCR figure, approved by the supervisor, whether originally calculated by the standard approach or by internal model, and calibrated at 33% of the SCR.

Both approaches will be tested in QIS3.

Conclusion:

A number of concerns were raised regarding the approaches tested in QIS2 for the MCR, as they did not appear to deliver a clear hierarchy of regulatory requirements, in which the SCR was above the MCR. Consequently, two new methodologies have been developed after QIS2:

An approach – developed by CEIOPS post-QIS2 advice – is a revised modular proposal for the MCR (Option 12.3).

An alternative "compact" proposal - put forward by the CEA – is based on a percentage of the SCR (Option 12.2).

Both approaches will be tested in QIS3. Option 12.1 (MCR calculated as a percentage of the current solvency margin requirement) was discarded, as it is not in line with objective 3.3.3 (introduce risk-sensitive harmonised solvency standards). Only after examining the results of QIS3, will a final decision on the design of the MCR be taken.

Policy Issue n° 12: Calculation of the Minimum Capital requirement MCR

Policy option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
12.1 MCR calculated as a percentage of the current solvency margin requirement	Industry	minimal implementation costs	Direct	+	High	Permanent
	Supervisors	lack of risk sensitivity	Direct	-	High	Permanent
	National courts	would be familiar to national courts	Direct	+	High	Permanent
	Policyholders	lack of risk sensitivity of the requirement limit the enhancement of policyholder protection	Indirect	-	High	Permanent
		easy to be checked by supervisors and national courts	Indirect	+	High	Permanent
12.2 MCR calculated as percentage of the SCR	Industry	minimal incremental implementation costs	Direct	+	High	Permanent
	Supervisors	risk sensitive	Direct	+	High	Permanent
		would not provide supervisors new information on top of that already provided by the SCR and would duplicate any flaws in its design	Direct	-	High	Permanent
		would ensure sufficient difference between the SCR and MCR and proper functioning of the supervisory ladder	Indirect	+	High	Permanent
	National courts	simple to verify once SCR is known	Direct	+	Medium	Permanent
		verification of the undelining SCR more complex	Direct	-	Medium	Permanent
	Policyholders	risk sensitivity of the requirement enhance policyholder protection	Indirect	+	High	Permanent
		depends entirely on SCR (flaws and complexity in the SCR calculation)	Indirect	-	High	Permanent
12.3 MCR calculated using simplified version of the SCR	Industry	administrative burden arising from the requirement to calculate two capital requirements	Direct	-	Medium	Permanent
	Supervisors	reasonably risk sensitive	Direct	+	Medium	Permanent
		two different capital requirements - one optimized for simplicity (MCR) and the other optimized for risk sensitivity (SCR)	Direct	+	High	Permanent
		would not necessarily ensure sufficient difference between the SCR and MCR and proper functioning of the supervisory ladder	Indirect	-	Medium	Permanent
	National courts	reasonably straight-forward to verify	Direct	+	High	Permanent
	Policyholders	reasonable risk sensitivity of the requirement enhance policyholder protection	Indirect	+	High	Permanent
		reasonably easy to check by supervisors and national courts	Indirect	+	High	Permanent

Policy Options Comparison - Issue n° 12 - calculation of the Minimum Capital Requirement

Policy Option	Relevant Objectives					
	3.1.2 Enhance the protection of policyholders and beneficiaries		3.3.3 Introduce risk sensitive harmonized solvency standards		3.3.9 Promote compatibility with the work of IAIS and IAA	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
12.1 MCR calculated as a percentage of the current solvency margin requirement	+	+	0	+	0	+
12.2 MCR calculated as a percentage of the SCR	+	++	++	++	+	++
12.3 MCR calculated using simplified version of the SCR	++	+	+	+	+	+

ANNEX B13 - POLICY ISSUE 13:

INVESTMENT RULES

Background information: quantitative investment rules

Unlike the current regime, where the required solvency margin does not take account of investment risk, under Solvency II the SCR will capture quantifiable risks including investment risk to a much greater extent. This raises the question whether investment rules regarding the admissibility of assets as well as the imposition of quantitative limits are still necessary, and if so, whether they should apply only to assets covering technical provisions or assets covering both technical provisions and the SCR.

The current regime includes a requirement for insurers to manage their investments in a "prudent manner"; the IORP Directive[82] dealing with pension funds is based on the "prudent person" principle. The current insurance directives are supplemented by a series of detailed investment rules regarding the admissibility of assets covering technical provisions as well as quantitative limits on investments. These rules are then further elaborated by additional investment rules at national level further restricting the assets than can be used to cover technical provisions.

The "prudent person" principle is a long-established legal principle and practice governing the management of investments[83]. The prudent person principle encapsulates the ideas of portfolio diversification and broad asset-liability matching, based on the premise that the manager of the investments should be seeking to manage them as if they were his/her own, with due diligence and skill, thus avoiding undue risks to the beneficiaries.

Quantitative restrictions and asset admissibility rules (which are an extreme form of quantitative restrictions – a 100% deduction) limit holdings of certain types of assets within the portfolio. Both the prudent person approach and an approach based on quantitative limits seek to ensure that there is not a significant mis-match between the duration of its assets and liabilities and that assets are sufficiently well diversified and liquid.

Policy options discussion

The options regarding investment can be summarised as and will be referred to in the rest of this annex as follows:

- **Option 13.1**: Retain current investment rules and Member State options;
- **Option 13.2**: Introduced harmonised investment rules;
- **Option 13.3**: Abolish investment rules but retain the prudent person principle;
- **Option 13.4**: Abolish investment rules and prudent person principle.

Two tables are presented at the end of this annex, summarising the detailed analysis of these four options:

- Table "Policy issue 13" setting out the impacts of each policy option;

[82] Directive 2003/41/EC

[83] For historical background, see e.g. http://en.wikipedia.org/wiki/Prudent_man_rule , or Galer, R. (November 2002), "*Prudent Person Rule standard for the investment of pension fund assets*, OECD

- Table "Policy options comparison – issue 13" setting out the extent to which each option meets the objectives of the Solvency II project.

Policy Option 13.1: ***Retain current investment rules and Member State options***

The current investment rules do not provide incentives for insurers to improve their risk management and increase the administrative burden placed upon insurers resulting from a lack of alignment of regulatory requirements and industry practice.

In addition, the current investment rules prevent insurers from optimising their risk return profile and efficiently managing their investment portfolios, which in turn reduces profitability and increases policyholder premiums. The current investment rules also result in a sub-optimal allocation of capital in the economy as a whole. This is particularly important in the context of unlisted equity investment (e.g. venture capital and investment in start-ups). The lack of harmonisation of investment rules across Member States also increases costs for insurers operating on a cross-border basis and results in an uneven level of policyholder protection across the EU.

The current investment rules do though provide policyholders with assurance that assets backing technical provisions will be invested in line with quantitative limits set out in the Directive and that these quantitative limits are relatively straight-forward for supervisors to verify and are easy to legally enforce.

Policy Option 13.2: ***Introduce harmonised investment rules***

Introducing harmonised investment rules would do little to address the weaknesses of the current regime, other than to reduce costs for insurers operating on a cross-border basis and ensuring a level playing field for policyholders.

In particular, it would not address costs to the industry connected to reduced investment returns and lack of alignment of regulatory requirements and industry practice, nor would it result in a better allocation of capital in the economy as a whole.

However, it would, like the current investment rules, provide policyholders with assurance that assets backing technical provisions will be invested in line with the quantitative limits set out in the Directive and that these quantitative limits are relatively straight-forward for supervisors to verify and are easy to legally enforce.

Policy Option 13.3: ***Abolish investment rules and introduce the prudent person principle***

Abolishing investment rules and introducing the prudent person principle would reduce the administrative burden placed upon insurers resulting from a lack of alignment of regulatory requirements and industry practice. It would result in better allocation of capital in the economy as a whole and in particular would remove limits applied to investment in unlisted equities in line with the Lisbon agenda.

Furthermore, studies show that quantitative restrictions get in the way of efficient asset allocation and securities selection, leading to sub-optimal return and risk-taking[84]. The size of this effect is difficult to estimate. However, in the case of life insurance, it has been suggested that the impact on investment returns resulting from the use of strong quantitative restrictions rather than the prudent person principle could be as much as 200 to 300 basis points[85]. Currently, the extent to which

[84] European Commission (1999) *Rebuilding pensions, security, efficiency, affordability – recommendations for a code of best practice for Second Pillar Pension Funds*. Prepared by Pragma Consulting for DG-XV

[85] Bijapur, M., Croci, M., Michelin, E., and Zaidi, R., (2007) *An Empirical Analysis of European Life Insurance Portaolio Regulations*, Occasional Paper Series, 24, Financial Services Authority, London and Davis (2002).

Member States restrict investments via the use of quantitative limits varies considerably. However, even if one were to restrict analysis to those Member States imposing the strictest limits and assume improvements in investment returns an order of magnitude lower than those suggested above one could still expect to see improved returns at EU level in the order of hundreds of millions of Euros. Gains arising from these improved returns would be distributed between policyholders and the industry, in the form of reduced premiums, higher discretionary bonuses and increased profitability.

The introduction of the prudent person principle should reduce the costs incurred by insurers operating on a cross-border basis associated with the application of different quantitative rules across the EU. However, the subjective nature of the prudent person principle could still result in some differences in application from one Member State to another. The abolition of the current quantitative limits would also remove a tool from supervisors kitbag that is straight-forward to apply and verify as well as being easy to enforce legally.

Policy Option 13.4: ***Abolish investment rules and do not introduce the prudent person principle***

Abolishing investment rules and not introducing the prudent person principle would provide many of the benefits described above. However it would not provide policyholders with the comfort that assets backing technical provisions were being invested in their best interests, although insurers would be required to hold capital to cover the risk they ran. In particular, it would be more difficult for supervisors to intervene in the event that they believed that policyholders' interests were being jeopardised by an insurer's investment management activities.

Moving away from the prudent person rule would also undermine cross-sectoral consistency, particularly vis-à-vis occupational pension funds, where the IORPs Directive contains the prudent person rule. Furthermore, abandoning prudent person principle would not promote international convergence as it would not be in line with IAIS Insurance Core Principle 21 on investments.[86]

Conclusion:

Option 13.1 (Retain current investment rules and Member State options) was discarded as it does not meet objective 3.1.1 (Deepen integration of the EU insurance market), objective 3.1.2. (Enhance policyholder protection), 3.1.3 (Improve international competitiveness of EU insurers and reinsurers) and objective 3.1.4 (Provide for a better allocation of capital resources). Option 13.2 (Introduce harmonised investment rules) was discarded because it does not meet objective 3.1.3 (Improve international competitiveness of EU insurer and reinsurers) and objective 3.1.4 (Provide for a better allocation of capital resources), although it meets objective 3.1.1 (Deepen integration of the EU insurance market).

Option 13.3 (Abolish investment rules and introduce the prudent person principle) has been retained as the best option overall as it more effectively and efficiently meets objective 3.1.1 (Deepen integration of the EU insurance market), objective 3.1.2. (Enhance policyholder protection), 3.1.3 (Improve international competitiveness of EU insurer and reinsurers) and objective 3.1.4 (Provide for a better allocation of capital resources) than Option 13.4, although the two options are equally efficient.

[86] IAIS (2003), *Insurance Core Principles and Methodology*, ICP 21: "The supervisory authority requires insurers to comply with standards on investment activities. These standards include requirements on investment policy, asset mix, valuation, diversification, asset-liability matching, and risk management.

Policy Issue n° 13: Investment Rules

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
13.1 Retain current investment rules and MS option	Policyholders	Policyholders required to pay higher premiums as the current investment rules can prevent insurers from optimising their risk return profile	Indirect	-	Medium	Permanent
		Lack of incentives to improve risk management undermines policyholder protection	Indirect	-	Medium	Permanent
		Assurance that investments will be invested in line with quantitative limits set out in the Directive and that these limits can be easily verified by supervisors	Direct	+	High	Permanant
		Lack of harmonisation of investment rules across Member States results in uneven level of policyholder protection	Direct	-	High	Permanent
	Insurers	Investment rules do not provide incentives for insurers to improve their risk management and increase administrative burden due to lack of alignment of regulatory requirements and industry practice	Direct	-	High	Permanent
		Investment rules prevents insurers from optimising their risk return profile and efficiently managing their portfolio, which in turn can impact profitability	Indirect	-	Medium	Permanent
		Lack of harmonisation of investment rules across Member States increases costs for insurers operating cross-border	Direct	-	High	Permanent
	Supervisors	Assurance that investments will be invested in line with quantitative limits set out in the Directive	Direct	+	High	Permanant
		Quantitative limits are relatively straight-forward to verify and are easy to legally enforce	Indirect	+	High	Permanent
	Economy	Quantitative limits result in inefficient allocation of capital in the economy as a whole. This is particularly important with respect to the quantitative limits applied to private equity investment.	Direct	-	Medium	Permanent
13.2 Introduce harmonised investment rules	Policyholders	Policyholders required to pay higher premiums as the current investment rules can prevent insurers from optimising their risk return profile	Indirect	-	Medium	Permanent
		Lack of incentives to improve risk management undermines policyholder protection	Indirect	-	Medium	Permanent
		Assurance that investments will be invested in line with quantitative limits set out in the Directive and that these limits can be easily verified by supervisors	Direct	+	High	Permanant
		Harmonisation of investment rules across Member States will result in common level of policyholder protection	Direct	+	High	Permanent
	Insurers	Investment rules do not provide incentives for insurers to improve their risk management and increase administrative burden due to lack of alignment of regulatory requirements and industry practice	Direct	-	High	Permanent
		Investment rules can prevent insurers from optimising their risk return profile and efficiently managing their portfolio, which in turn can impact profitability	Indirect	-	Medium	Permanent
		Harmonisation of investment rules across Member States would reduces costs for insurers operating cross-border	Direct	+	High	Permanent
	Supervisors	Assurance that investments will be invested in line with quantitative limits set out in the Directive	Direct	+	High	Permanant
		Quantitative limits are relatively straight-forward to verify and are easy to legally enforce	Indirect	+	High	Permanent
	Economy	Quantitative limits result in inefficient allocation of capital in the economy as a whole. This is particularly important with respect to the quantitative limits applied to private equity investment.	Direct	-	Medium	Permanent

Policy Issue n° 13: Investment Rules

Policy Option	Party Affected	Impact				
		Description	Type (D/I)	Effect (-/?/+)	Likelihood (L/M/H)	Timing (S/L/P)
13.3 Abolish investment rules and introduce prudent person principle	Policyholders	Policyholders required to pay lower premiums as elimination of quantitative limits would enable insurers to optimise their risk return profile	Indirect	+	High	Permanent
		Introduction of prudent person rule will require insurers to invest prudently and in the best interests of policyholders	Direct	+	Medium	Permanent
		Introduction of prudent person rule will improve risk management	Indirect	+	Medium	Permanent
		Subjectivity involved in assessing the prudent person rule may result in some differences of approach from Member State to Member State	Indirect	-	High	Permanent
	Insurers	Introduction of the prudent person principle rather than quantitative limits will more closely align regulatory requirements and industry practice thus reducing administrative burden	Direct	+	High	Permanent
		Introduction of prudent person principle will enable insurers to optimise their risk return profile and efficiently manage their investment portfolio, which in turn should improve profitability	Indirect	+	Medium	Permanent
		Subjectivity of prudent person rule may lead to some differences in implementation from Member State to Member State which could have a negative impact on insurers operatin on a cross-border basis	Direct	-	Low	Permanent
	Supervisors	Elimination of relatively straight-forward benchmark that was easy to verify and legally enforce	Direct	-	High	Permanent
		Increased dialogue, arising from introduction of the prudent person principle, with insurers will improve supervisors understanding of risks being run by insurers	Direct	+	Medium	Permanant
	Economy	Better allocation of capital in the economy as a whole, resulting from removal of quantitative limits. Particularly, with respect to the quantitative limits applied to private equity investment.	Indirect	+	High	Permanent
13.4 Abolish investment rules and do not introduce prudent person principle	Policyholders	Policyholders required to pay lower premiums as elimination of quantitative limits would enable insurers to optimise their risk return profile	Indirect	+	High	Permanent
		Elimination of quantitative limits offset by introduction of capital requirements on investments, but no requirement for insurers to invest assets covering technical provisions in a prudent manner	Direct	-	High	Permanent
	Insurers	Elimination of quantitative limits will align regulatory requirements and industry practice thus reducing administrative burden	Direct	+	High	Permanent
		Elimination of quantitative limits will enable insurers to optimise their risk return profile and efficiently manage their investment portfolio, which in turn should improve profitability	Indirect	+	Medium	Permanent
	Supervisors	Elimination of relatively straight-forward benchmark that was easy to verify and legally enforce	Direct	-	High	Permanent
	Economy	Better allocation of capital in the economy as a whole, resulting from removal of quantitative limits. Particularly, with respect to the quantitative limits applied to private equity investment.	Indirect	+	High	Permanent

Policy Option Comparison - No 13: Investment Rules

Policy Option	Relevant Objectives							
	3.1.1 Deepen integration of EU insurance market		3.1.2 Enhance the protection of policyholders and beneficiaries		3.1.3 Improve international competitiveness of EU insurers		3.1.4 Provide for a better allocation of capital resources	
	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)	Effectiveness (0/+/++)	Efficiency (0/+/++)
13.1 Retain current investment rules and Member State options	0	0	0	0	0	0	0	0
13.2 Introduce harmonised investment rules covering all assets	++	+	+	0	0	0	0	0
13.3 Abolish investment rules but retain prudent person principle	+	++	++	++	++	+	++	+
13.4 Abolish investment rules and prudent person principle	++	++	0	0	++	++	++	++