Life Forum

Society of Actuaries in Ireland – Life Committee

22 May 2008

Agenda

- Update on Committees & Activities - Richard O'Sullivan
- Disclosure on CPPI type products - Colin Murray
- A practical guide to v3.0 of ASP LA-3 - Colin Murray
- Survey of reserving methodologies used for Italian Substitute Tax - Dermot Corry
- Developments in Financial Reporting/MCEV - Brian Morrissey
- Solvency 2: QIS4 - Mike Frazer

Update on Committees

Richard O’Sullivan

Update on Committees

- Life Committee has 12 members and 8 sub-committees
  - Richard O’Sullivan – Chairman
  - Tony Jeffery – Insurance Risks
  - Michael Culligan – International
  - Peter Gough – Valuation Regulations Working Party
  - Bill Hannan – Governance and Regulation
  - Brian Morrissey – Accounting Issues
  - Mike Frazer – Life Reinsurance
  - Brona Magee – Communications
  - Dermot Corry – Cross Border
  - Colin Murray – Market Conduct
  - Linda Kerrigan – PRSA
  - John Feely

Update on Committees – Insurance Risks

- Annuitant mortality survey completed in 2007 (2006 experience)
- Will shortly commence a similar exercise for 2007 experience
- We plan to carry out a similar exercise on Term Assurance in 2008
  - Initial indication from a number of Appointed Actuaries that they will participate
  - We will send out a formal request later in year

Update on Committees – Valuation Regulations

- New Working Party established to review valuation regulations
  - Chaired by Peter Gough
- Set up to consider whether changes to regulations or ASPs are appropriate in light of:
  - Changes to UK prudential regulations since last Valuation Regulations Working Party (VRWP) reported in 2000
  - Issues identified by previous VRWP that have not yet been addressed by changes to regulations or guidance
  - New products introduced since 2000
- Committee has agreed its workplan
- WP will issue survey to AAs in June to quantify the impact of specified reserve changes on statutory capital
- If you have any views please email Peter.Gough@eaglestarlife.ie

Update on Committees – International, Cross Border

- International:
- Solvency II likely to continue to dominate agenda in short/medium term
  - QIS4 exercise & results
  - Evolution of Solvency II Directive text
  - Risk management
  - Role of actuary in Solvency II world
  - Will also need to link in with Accounting Issues Committee re IFRS Phase 2
  - Link also with corresponding Non-Life group

- Cross Border:
- Survey of reserving methodologies used for Italian Substitute Tax

Update on Committees – Market Conduct, PRSA

- Market Conduct:
  - Disclosure for CPPI products
  - Disclosure for variable annuity products
  - Policyholder information regimes around the world
  - Issues on the Consumer Protection Code
  - Held preliminary meeting with Regulator to offers assistance in its planned review of policy disclosure

- PRSA:
  - PRSA Forum held on 9 April

Update on Committees – Governance , Accounting

- Governance:
  - Completed revamp of ASP LA-3 effective July 2008
    - Final change in a suite of work to review life ASPs
  - Will be operating on a care and maintenance basis for 2008

- Accounting:
  - Plans for 2008
    - Review IFRS for life business
    - Review CFO Forum EEV principles

Other Matters

- Working party (chaired by Anthony Brennan) to review market practice in relation to unit pricing has now met twice
  - Initial Focus is on practical aspects of unit pricing, how is pricing operated and identify key inputs and assumptions
  - Currently working on a survey of all AAs, hopefully over the summer
  - Key headings include pricing basis changes, pricing controls, pricing errors and tax
  - Survey will be mainly yes/no type answers with room for comments so aim to be fairly quick to complete
  - Independent ctee members (i.e. consultants) to follow up on any interesting answers
  - Result will be a broad summary of current practice with no companies identified
  - next phase will include looking at international best practice and comparing to Irish

Disclosure for CPPI/Lifestyling

Colin Murray

CPPI Products

- Use dynamic hedging to meet guarantees at maturity date
- Guarantees usually
  - Return of premium or
  - A percentage of highest ever bid price
- Initial equity portion expected to decline to zero
- Some products may have min guaranteed equity proportion (at expense of upside)

The Issue

- Market Conduct Committee concerned that companies may be using opening asset mix to derive investment return for projections for CPPI/Lifestyling without testing appropriateness.
- DC SORP also mentions explicit allowance for asset mix in Lifestyling

Disclosure for CPPI/Lifestyling

- Not explicit within ASP-LA 8
- However ASP-LA 8 states

"2.2 (a) …illustrations of projected benefits, expenses and charges…fair clear and not misleading

2.2 (b) …facilitate comparisons between different companies"

Disclosure for CPPI/Lifestyling

- Section 3.8 additional requirements for Actuary who believes that projection is potentially misleading
- Section 6.2 (setting of investment returns) “…having regard to the asset mix relating to the contract..”

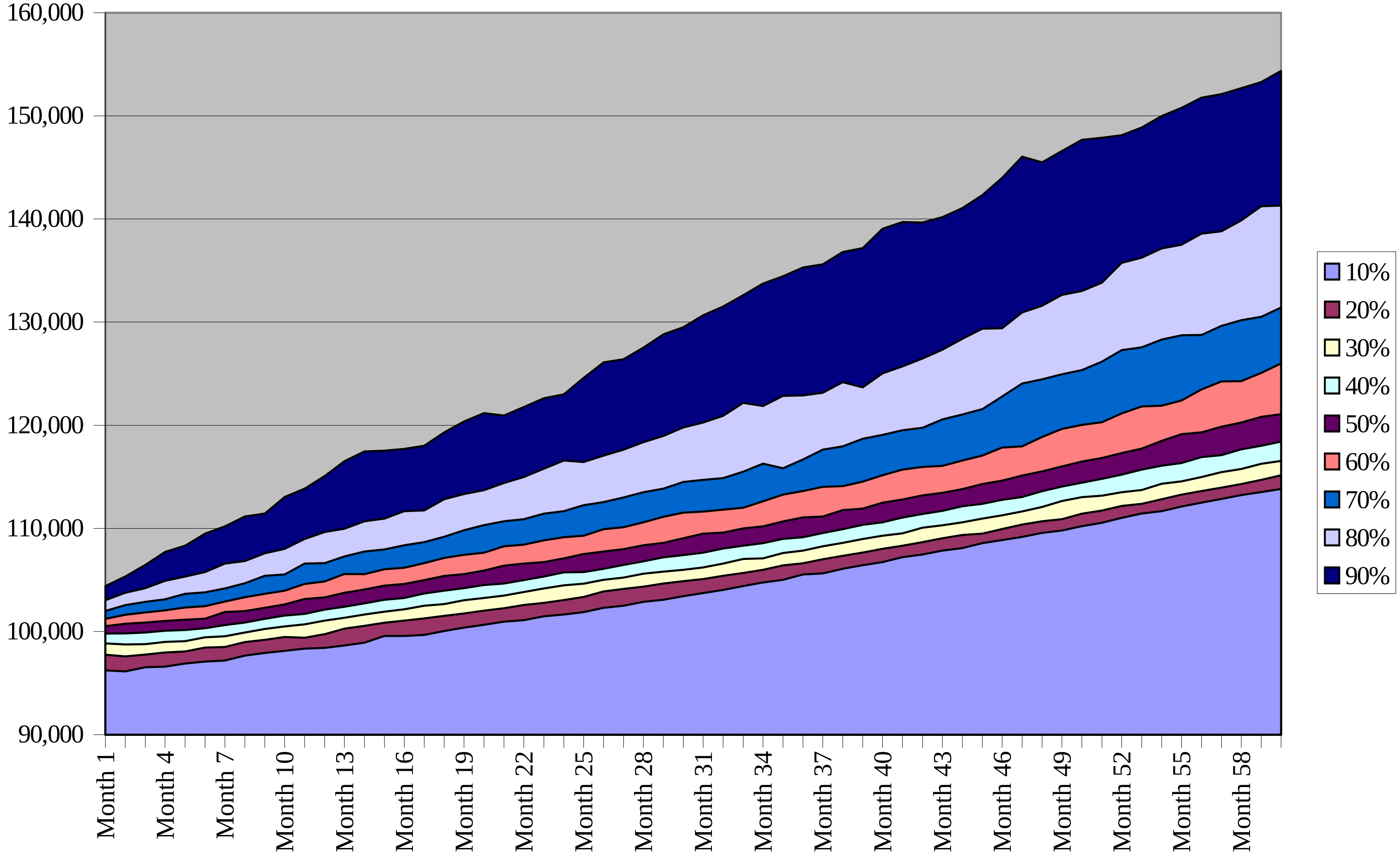
Recommendation

- Companies test the appropriateness of their opening asset mix for both CPPI and Lifestyling projections
- CPPI
  - Stochastic tests
  - Consumer Protection Code provisions
- Lifestyling
  - Asset mix movements at/before retirement
- Make ASP-LA 8 clearer

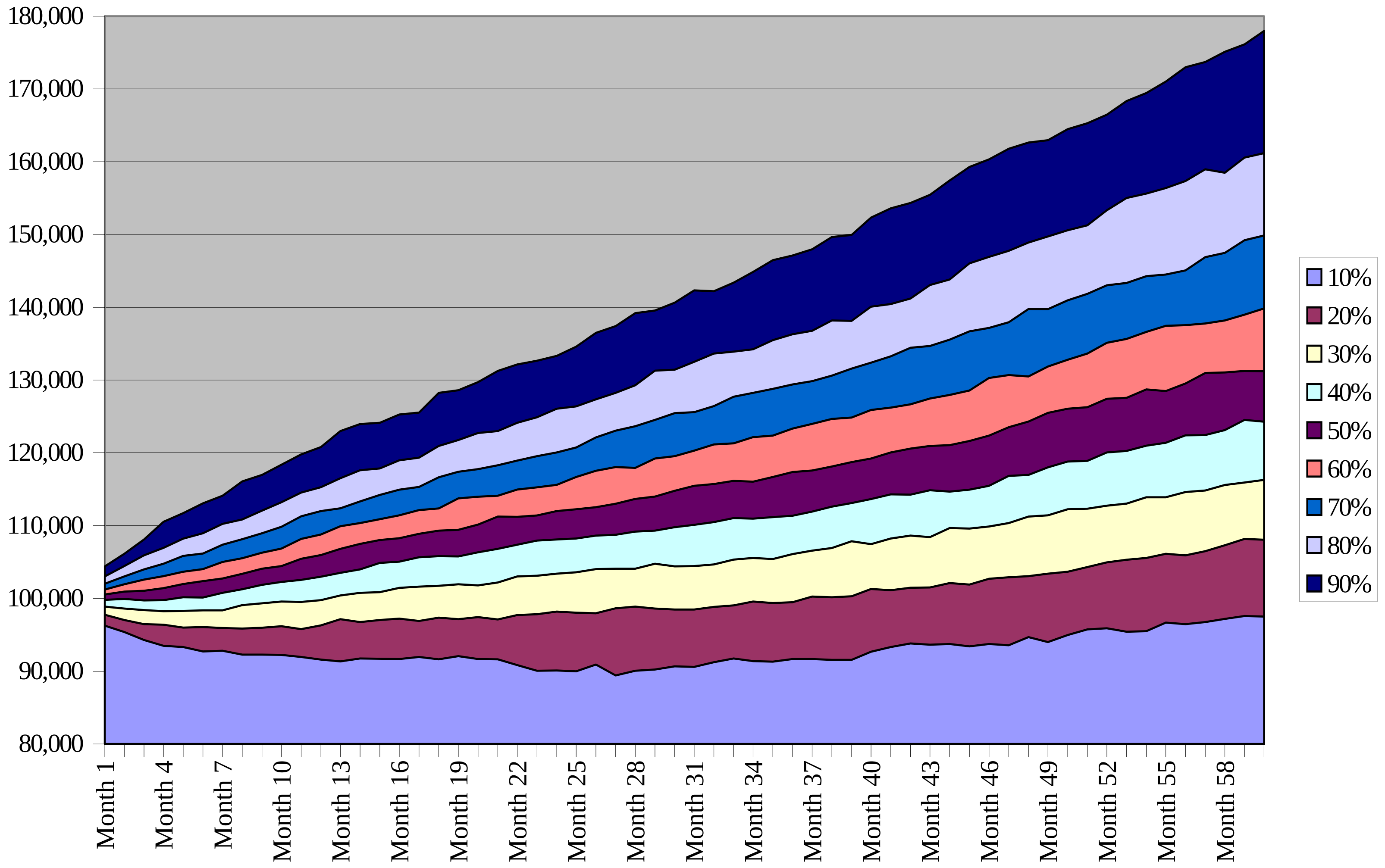
CPPI Example

- Product guarantees 80% of highest ever bid price or return of premium if greater.
- Term 5 years – no charges
- Opening asset mix 60% equity/40% bonds (6%)
- Monthly rebalancing min equity prop 0%
- CPPI strategy – stress test current mix by 10% equities, 0.5% bond yields
- 1000 simulations
- Log normal model equities mean 7% p.a. vol 20% p.a.
- Bond yield Vasicek mean 4.5% p.a. vol 0.8% p.a.

Stochastic CPPI



Stochastic Managed Fund



Results

CPPI	
Average	€128,000
St Dev	€19,000
Annual return	5.1%

Man Fund	
Average	€135,000
St Dev	€33,000
Annual return	6.1%

Consumer Protection Code

- “Tracker Bond” provisions
- Subdivide between bond and other portion
- Bond provides guaranteed payment
- Other asset roll up per ASP-LA 8 Section 6.2

Consumer Protection Code

- Assume €100,000 invested in 5 year CPPI bond
- 80% used to purchase guarantee over 5 years
- 20% purchase derivative to give equity exposure (BS participation 100%)
- No charges
- Projected maturity value = €128,000
- Annual return = 5% p.a.

Governance and Regulation Sub-Committee Update

Colin Murray

Terms of Reference

1. To be responsible to the Life Committee in assisting members adopt best professional practice by the preparation of guidance notes.
2. To assist the Financial Regulator with the development of regulations for life assurance business.

Membership

Bill Hannan

Yvonne Lynch

Dermot Corry

John Gibson

Jonathan Goold

Brian Morrissey

Fergal O’Shea

Graham Cherry

ASP LA-3
Outline

- **Rationale**
  - Valuation Regulations Working Party
  - Report of the Expenses WP
  - Additional guidance on some other areas where relevant
  - Tidy-up & consistency with other ASP's esp. ASP LA-1
- **Effective date**
  - 1 July 2008
- **Presentation at May 2007 Forum**
- **Consultation**
- **Some issues raised in consultation and flagged in Forum incorporated in final draft**
- **Practical implications**

ASP LA-3

Outline

- **Headline changes**
  - Valuation of with profits [2.3-2.5]
  - Policy options [2.6, 3.6.1-3.6.6]
  - Regular withdrawals [3.6.7]
  - PUPs [3.6.8]
  - PHI [2.8]
  - Expense assumptions & reviewable charges [2.9]
  - Altered policies [2.10]
  - Resilience testing [3.2]

- **Practical implications**

ASP LA-3
Practical implications

- **Valuation of with profits [2.3-2.5]**

  - **Strengthen PRE consideration**
    - on implicit allowance for future bonuses
    - fund support future TB
    - consider circumstances where payouts exceed asset shares & establish reserve for excess payouts until payouts in line with asset share, allowing for PRE
    - align reserves with PRE considerations of surrender values
    - most likely to be current best practice amongst practitioners

  - **Note TB can be used a first charge on fall in asset shares in resilience test**

ASP LA-3

Practical implications

- **Policy options [2.6, 3.6.1-3.6.6]**
  - **GN8 silent on this though requirement of Para 10 Annex IV**
  - **Regard to PRE**
  - **Prudent approach re policyholder exercise of option and take-up considering**
    - policyholder preferences
    - past experience as relevant under valuation basis and future experience
    - circumstances can change
  - **Stochastic or option pricing approach**
    - eliminate “double counting” of resilience test
    - can consider overall effect on matching assets and liabilities esp. where hedge in place
    - benchmark asset model used in stochastic approach
    - mitigating impact of bonus and policyholder liabilities
  - **Materiality**

ASP LA-3
Practical implications

- **Regular withdrawals [3.6.7]**
  - Allow if prudent to do so i.e. increase reserves
  - Allow if in place or likely to arise

- **PUPs [3.6.8]**
  - Prudent assumption on proportion of policies expected to be PUP’ed
  - Purist approach - calcs at each future step on prudent PUP assumptions
  - Practical alternatives:
    - sample calculations
    - assume mass PUP if prudent
  - Can assume lower renewal expenses (but not commission recoveries)

ASP LA-3

Practical implications

- **Expense assumptions & reviewable charges [2.9]**
  - Discretionary charges / deductions should consider (potentially conflicting) requirements of:
    - UCT
    - Other regulation
    - PRE
    - intended practice

- **Future expenses [3.5.2 new]**
  - TPA’s and other contractual obligations

- **Net and gross premium allowance prudent [3.5.4]**

- **Closed fund expenses [3.5.5-6]**
  - Allowance for outstanding margins
  - Allowance for expense overruns over closure period, variety of exit costs (staff retention, redundancy, fixed, project, etc.)

ASP LA-3
Practical implications

- **PHI [2.8]**
  - Use inception-recovery model or multi-state model
  - Alternatives possible if as prudent
  - Must consider how observed experience may change with age of business and in future circumstances
  - Immature business may require significant margins

- **Altered policies [2.10]**
  - General requirement to consider but guidance very limited after consultation

ASP LA-3

Practical implications

- **Resilience testing [3.2]**
  - **Consider mismatch provisions from asset & liability cashflows over a range of investment conditions**
  - **If cashflow mismatch, prudent assumption on adverse market movements**
  - **Can have cashflow match but strain on valuation basis**
  - **Consider effect of changes in interest rates, <u>credit spreads</u>, <u>volatilities</u>, asset values, <u>other relevant factors</u> (on prudent basis) [note addition of <u>underlined</u> considerations from GN8]**
  - **Unit linked [new paragraph 3.2.8]**
    - Impact of changed asset values on cashflows
    - Revised valuation rate of interest on non-unit reserve

ASP LA-3

Practical implications

- **Lapses [3.7]**
  - New paragraph
  - Prudent allowance
  - “Prudent” not necessarily = Zero lapses

- **Credit risk [3.3.4]**
  - Additional guidance on assessing credit spreads

- **ASP LA-1 [2.10]**
  - 3.3.1-3.3.3 [valuation interest] tidy up for consistency with LA-1

- **Solvency margin 25% expense calc [4.4]**
  - Have regard to internal expense allocations
  - Expense allocation consistency with valuation assumptions and Form 2
  - Check for totality

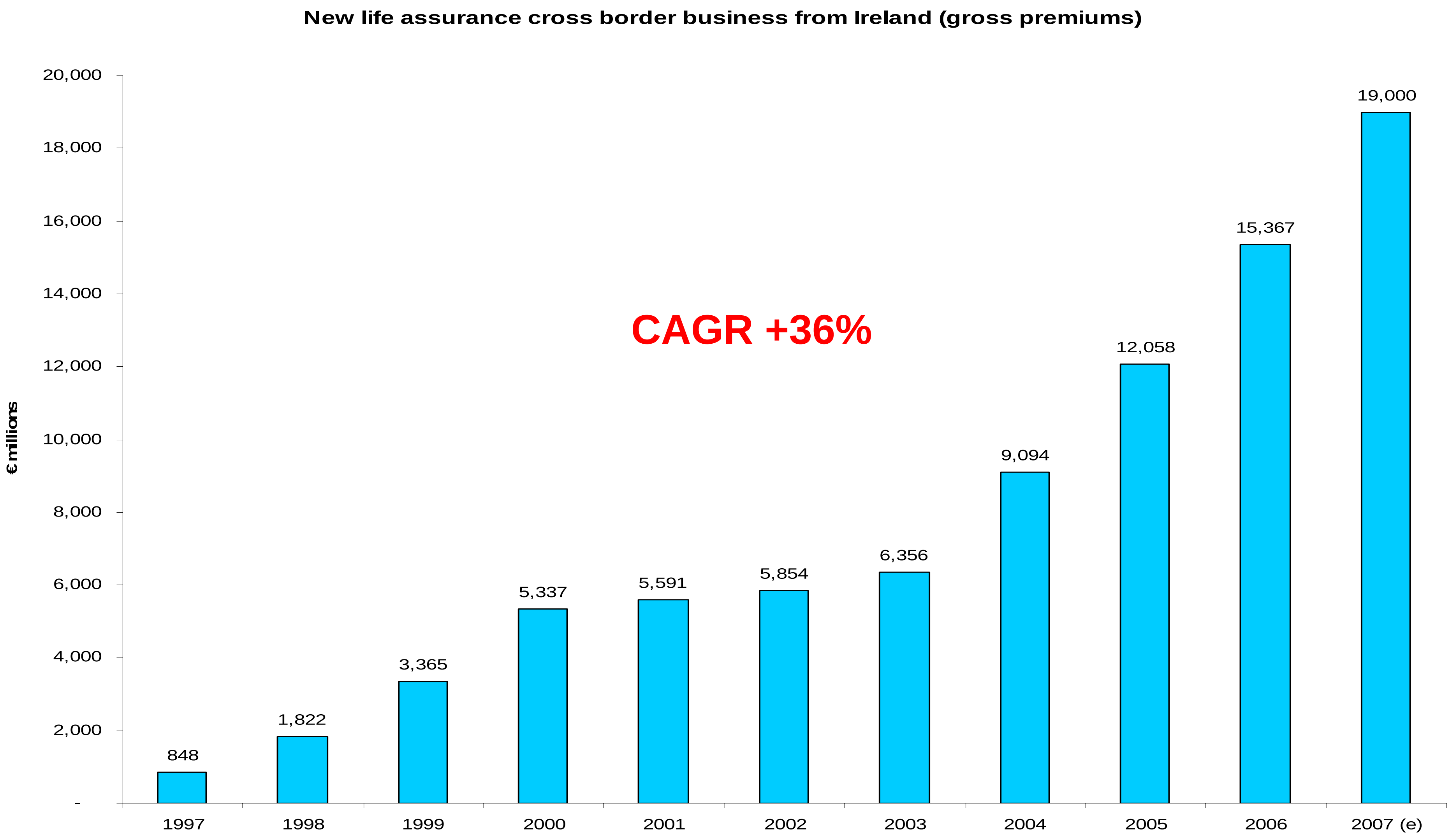
ASP LA-3

Questions

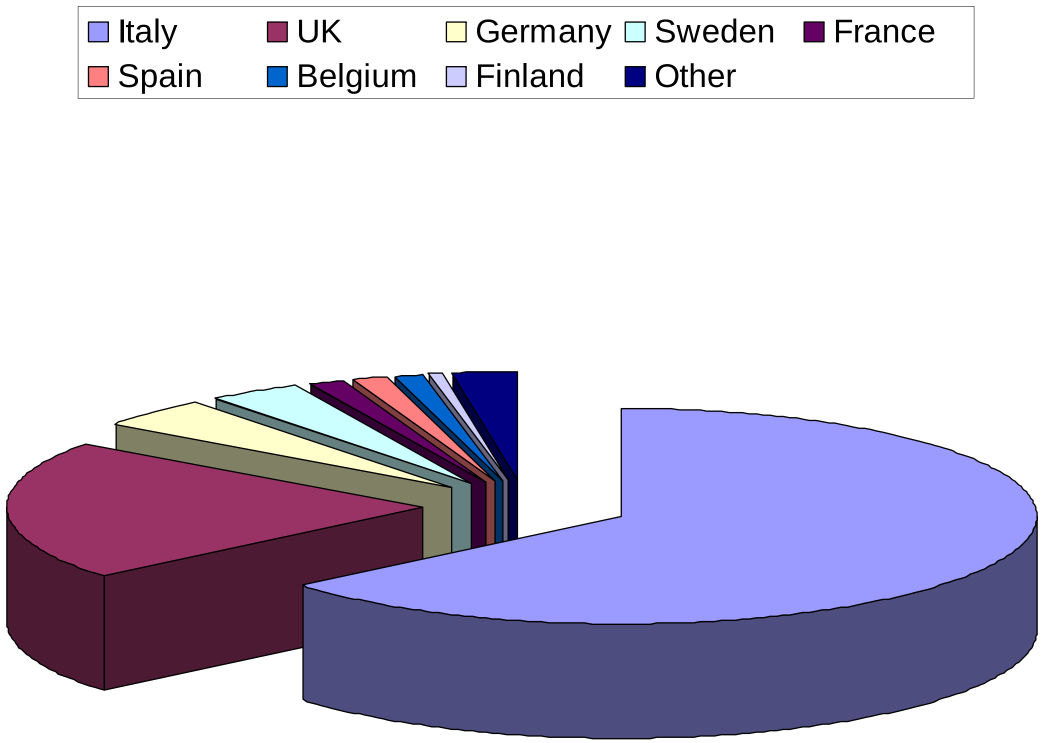
Cross Border Life Committee – Survey on reserving for Italian tax

Dermot Corry

New business 1997 – 2007 €000s



Target markets



- 20+ EEA Countries
- Historically high concentration in Italy & UK
- Italy accounts for over half of cross border sales (over €10bn per annum)

Italian substitute tax

- First introduced by the Italian Revenue in 2004 (first payment due in 2005)
- Freedom of Service companies can opt out but this leads to additional requirements for the policyholder – approx 12 companies affected
- Initially 0.2% of unit reserves each year
- Subsequently increased to 0.3%
- Based on current assets in force, represents payments of approx €70m per annum
- Viewed as a pre-payment of policyholder exit tax
- Life companies can reclaim the tax payments:
  - through policyholder exit taxes on surrender or partial encashment
  - Against other against other taxes due to Italian revenue (corporate tax, payroll tax…)
  - By selling the tax asset to a sister company after 5 years (Group Relief)
    - Some companies have formal agreement with parent to purchase asset
  - Ultimately by claiming back from the Italian Revenue (not sure how this works)

Creates interesting dilemmas

- What is the status of the tax asset – i.e. the amount paid to the Italian Revenue to date
  - Consider that this is a growing illiquid asset

- How to reserve for the tax?
  - Financial Statements
  - Regulatory Returns

- Cross Border Committee conducted a survey to understand practice
  - 9 companies participated

Survey Findings – Tax Asset

- Financial Statements
  - 6 companies held at face value
  - 3 companies held at a discount, based on projected time to recovery
- Solvency Returns
  - 1 company held at face value
  - 7 companies held a discounted value
  - 1 company held a nil value
  - 3 companies classified as Government Debt, 2 as other assets and 3 as tax recoveries due

Survey Findings - Reserving

- Financial Statements Reserving
  - 7 companies hold no explicit reserve
  - Logic is that tax payment is held as an asset at par and therefore no impact on profit
  - 2 companies include an explicit reserve
- Solvency Reserving
  - 7 companies explicitly allow for tax payments in reserves
  - 2 companies do not explicitly reserve
    - Either felt that there was adequate margin in the valuation generally or that the payment was not a life assurance liability

Survey Findings – Reserving (2)

- Range of different approaches for those who reserve
  - Treat full 0.3% as an expense
  - As above but allow for recoveries on the portfolio (from both claims and group relief)
  - Allow for economic cost of payment – e.g. time value of money over 5 years to recovery

Life Insurance Accounting – Committee update

Brian Morrissey

Agenda

- Committee update
- Financial Reporting update
- Introduction to Market Consistent EV

Committee members

- Eoghan Burns
- Brent Engelke
- Neil Guinan
- Steven Hardy
- Niall Kavanagh
- Andrew Kay
- Linda Kerrigan
- Brian Morrissey
- David Roberts

Domestic, international, life reinsurance, consultants represented

Activities

- Feedback to IAA paper: Measurement of Insurance Liabilities for Insurance Contracts - Current Estimates & Risk Margins (23 May)
- Review other IAA papers
- SAI Evening meeting 30 Sept
  - IFRS Phase II
  - Updated EEV Principles and Guidance due to be issued by the CFO Forum
- Watching eye on other life insurance accounting issues

Financial Reporting Update

Financial Reporting Update

- Comments from the Committee:
  - Significant effort involved with financial reporting disclosures
  - Making sense of IFRS profits vs more traditional EV measures
  - Bank vs life insurance accounting approaches
  - Multiple interpretations of IFRS
  - Companies at different stages in terms of use of EV from traditional through to market consistent EEV methods
  - Solvency II being prioritised over IFRS Phase II in terms of planned development effort
  - US and Canadian developments

Financial Reporting Update

- Continue to bed in FRS 26 “Financial Instruments: Measurement” processes from YE06
- Disclosure requirements from FRS 29 “Financial Instruments: Disclosures” wef YE07

FRS 29

- Disclosure of exposure to financial risks from use of financial instruments for insurance and investment contracts
  - Credit risk
  - Liquidity risk
  - Market risk
  - Operational risks
  - Persistency risk
- Disclosures required for each type of risk
  - Exposure
  - Objectives, policies and processes for managing and measuring the risk
  - Any changes in the above from prior period
- Disclosure of risk based on information provided internally to management

FRS 29 (cont) e.g. Market Risk

- Key areas of exposure
  - Interest rate risk
    - Exposure
    - Objectives, policies and processes for managing the risk and methods used to measure it
    - Any changes in the above from the prior period
    - Sensitivity analysis with an explanation of method and assumptions used and any changes therein
  - Currency risk
  - Equity price risk
- Nature of company's exposure
- Objectives, policies and processes for management of risk not changed significantly from prior periods
- Management of market risks
- Assumptions, methodology and limitations of sensitivity analysis

Market Consistent EV

What is wrong with the traditional EV approach

- Not consistent with economic theory
  - Anticipation of unearned mismatch profit
  - Capitalisation of credit spreads
  - Valuation of options not consistent with how priced in the market
- Method for setting risk discount rate is too subjective
  - Single RDR is approximation of average risk margin
  - What is the correct risk margin anyway?

Arguments for Market Consistent EV

- Using a traditional approach is at odds with economic theory
- Such a groundswell towards using a MC approach that those that use traditional methods are in danger of being seen as outdated
- Analysts want firms to follow a MC approach – and will try to adjust the results themselves if they don't

Traditional EV not consistent with economic reality

Example

- Loan £100 at 5% pa
- Value of loan on day 1 = amount invested i.e. £100

Now assume loan invested in equities with expected return of 7%

Traditional approach looks at net cash flows i.e.

Year	1	2	3	4	5	………
Equity	7	7	7	7	7	……..
Loan	(5)	(5)	(5)	(5)	(5)	……..
Net cash flow	2	2	2	2	2	……..

- There is no discount rate which equates the net cash flows to zero i.e. the traditional approach says the value of £100 is more than £100 – ?!?!

So why is MC approach better

- Rather than value net cash flows, assets and liabilities are valued directly and results adjusted for costs associated with structure and managing the company (agency costs)
- Assets valued at market value
- Liabilities valued by reference to traded assets with same cashflows and by the use of certainty equivalent techniques this is the same a projecting cashflows at the risk free rate and discounting at the risk free rate

MC EV – a definition

- Free surplus allocated to the covered business (at market value)

+

- Required capital (to both the regulatory level and that required by internal objectives)

+

- Value of in-force (post-tax PVFP - cost of financial options/ guarantees - frictional costs on required capital - cost of non-hedgeable risks)

Advantages of MC approach

- Don’t have to determine appropriate RDR – use risk free rate
- Don’t anticipate investment profits before they arise
- Don’t capitalise credit spreads – account for them as they arise
- Options and guarantees consistent with derivative pricing
- More meaningful analysis of investment profit

Elements of Risk Discount Rate – MCEV more objective

Increasingly subjective

RDR	Traditional EV	Market Consistent EV
Agency Costs	Implicit	Potential explicit allowance
Operational Risk	Implicit	Explicit allowance
Double Taxation	Implicit	Can be an explicit allowance
Cost of Capital	Implicit	Can be an explicit allowance (not common)
Insurance Risk (Mortality, Expenses, Persistency etc)	Implicit	Diversifiable – Not required Non-diversifiable – Explicit
Market & Credit Risk (Options & Guarantees)	Implicit	Market Consistent allowance
Risk Free Rate	Implicit	Directly Included

Why Real World is best…….

- Why Real World is best?
  - Using a MC approach is at odds with reality
  - Why do most companies back solve to get traditional RDR?
  - More inconsistencies between MC approaches than real world
  - Consistent approach to projecting cashflows on a real world basis
- What is wrong with MC approach
  - Not consistent with reality
  - Who actually believes they will earn risk free rate?
  - No cost of capital?
  - Method for setting RDR too subjective

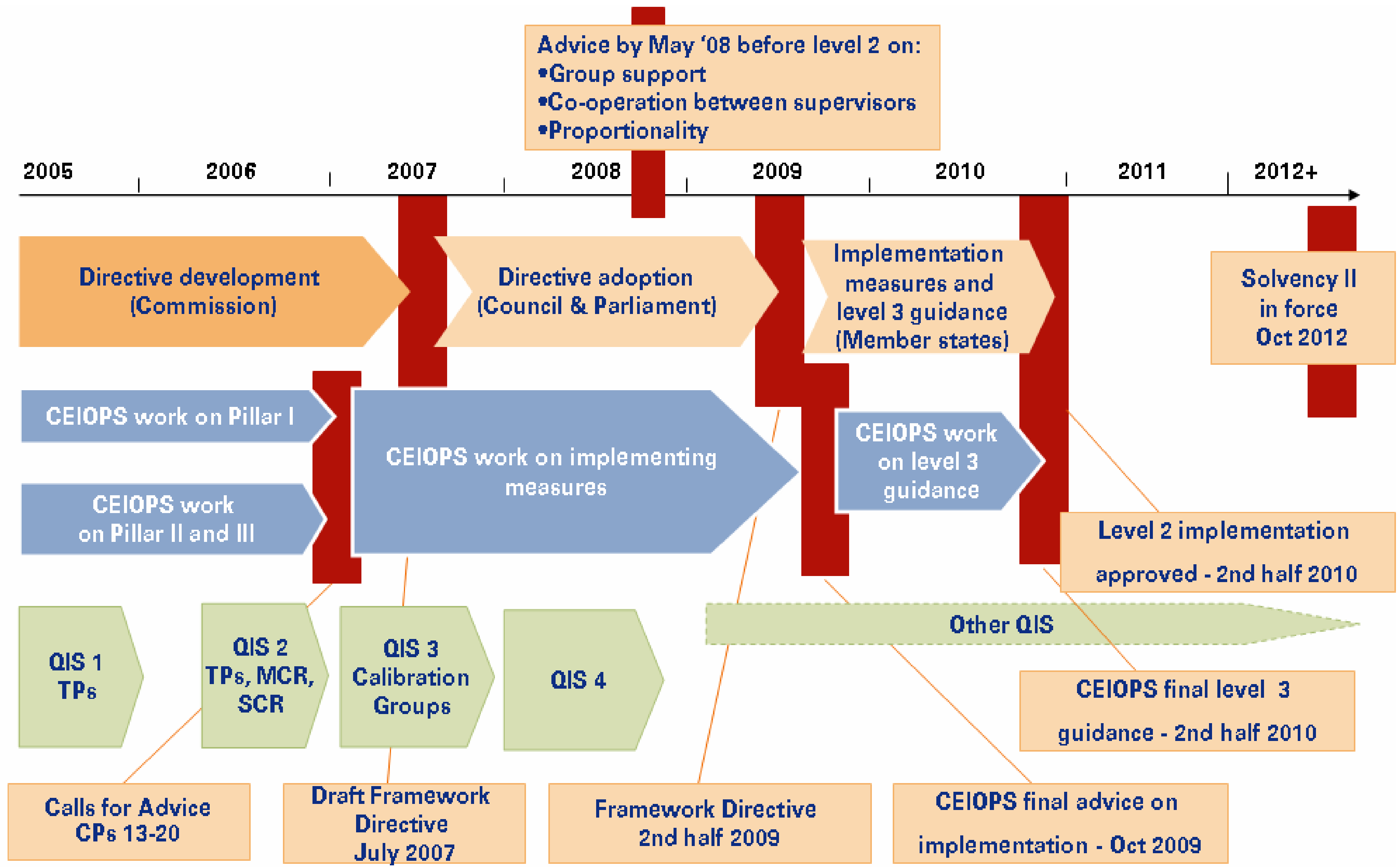
QIS 4

Mike Frazer

Agenda

- The Solvency II timeline – QIS4 in context
- QIS4
  - Focus
  - Key features
  - What nearly happened
  - Issues to note
  - Final thoughts

The Solvency II timeline



QIS4 – Timeline 2008

- **Jan - Mar** - QIS4 public consultation and processing of submissions received
- **1 April** - Final QIS4 specification published (but …)
- **May** - Financial Regulator QIS4 workshops under way (including a life session this afternoon … places still available)
- **7 July** - Deadline for solo QIS4 submissions to the Financial Regulator
- **31 July** - Deadline for group QIS4 submissions to the supervisor responsible for group supplementary supervision
- **Sept** - Initial high-level QIS 4 results to be presented
- **Nov** - Final QIS 4 report to be published

QIS4 Focus

- Proportionality principle for smaller undertakings and test of simplified methods
- Group capital requirement with respect to intra-group diversification and intra-group transactions
- Comparability of results derived from the Standard Model, partial models, and internal models
- Design and calibration of the new MCR formula

QIS4 Technical Specification – Key features

- Tentative views on the extent to which IFRS valuations can be used as a reasonable proxy for economic valuations under Solvency II – assets and other liabilities
- Further guidance for the three tier systems adopted for own funds – Tier 1/ 2/ 3 – quality of information poor arising from QIS3
- Additional guidance on valuation of technical provisions including:
  - Attempt to provide more guidance on best estimate
  - Criteria for simplifications and proxies that can be used
  - Cost of capital calculation excludes market risk
- New formula for MCR to address issues from QIS3 (i.e. where life MCR > SCR)
  - Factor based model; applied to technical provisions/ capital at risk

QIS4 – what nearly happened

- Certain proposals from the draft spec have been amended in the final version, e.g.:
  - Risk free discount rate was proposed to be based on gilts; final spec allows swap curve (similar to QIS3)
  - Definition of future premiums was based on IFRS Phase II consultation in draft; this potentially more restrictive approach has been revised to something more reasonable
- These are welcome changes, but what do they tell us about the process?

QIS4 – Issues to note

- Technical Provisions
  - Risk Margin
    - No allowance for diversification between lines of business which is harsh
    - 6% cost of capital regarded as high
  - Allowance for default risk in derivation of reinsurance asset (double count with SCR)?
  - Treatment of with-profits business still being refined (risk mitigants and different funds within entity); allows simplified approaches
- SCR
  - Issues with different correlations and calibrations e.g. Interest/ equity; mortality/ disability
  - Market Risk
    - Free assets subject to market risk test (QIS3 provided an option)
  - Life u/wing Risk
    - Factor based methods still crude

QIS4 – Issues to note

- SCR continued
  - Concentration Risk
    - Treatment of funds withheld assets as single asset (issue for reinsurers)
    - Thresholds/ limits applied low
  - Counterparty Risk
    - Treatment of unrated reinsurers (for external reinsurance)
- Operational Risk – will it stay in its present format/ arbitrary cap of 30% of BSCR
  - Where is the reward for effective operational risk management?
- MCR – back to the drawing board (back to the future?)
- Limited guidance on tax effects which can be significant for life entities

QIS4 – final thoughts

- Commission's target is 25% participation rate in QIS4
  - Direct life sector achieved 30% in QIS3
  - Only 2 life reinsurers in QIS3
- Emphasis on small and medium enterprises
- "…main quantitative input that will be used by CEIOPS in the development of its final advice on level 2 implementing measures"
- Risk of fewer submissions than QIS3
  - End of 2007 a different world to end of 2006
- Is there a professional responsibility aspect to participation?

See CEIOPS website for QIS4 material:

- http://www.ceiops.org/content/view/118/124/

Wrap Up

Colin Murray