Draft QIS 5 specification
Solvency II Breakfast briefing

Presented by
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Principal

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Agenda: QIS5 Draft Specification (456 pages)

- **Section 1 – Valuation of Assets and Liabilities**
- **Section 2 – Standard Formula SCR**
- Section 3 – Internal Models
- **Section 4 – Minimum Capital Requirements**
- **Section 5 – Own Funds**
- Section 6 – Groups

- Qualitative questionnaires included in addition to template spreadsheets.
- Draft nature highlighted throughout the document – final implementing measures will be different in some areas.

- QIS5 draft package also includes CEIOPS calibration paper and CFO/CRO Forum paper on risk free returns

QIS5 – Timetable

31 December 2009	Effective date for QIS5 calculations
15 April 2010	Draft technical specification published
20 May 2010	End of consultation (7 selected stakeholders)
1 July 2010	Final technical specification published
31 October 2010	Deadline for solo results
15 November 2010	Deadline for group results
End April 2011	CEIOPS report on QIS5 results published

- CEIOPS wants at least **60%** of European insurers and reinsuers, and **75%** of European insurance groups to participate.
- Ireland has 69 life companies, 119 reinsurance and SPV companies, and 157 non-life and captive insurers.

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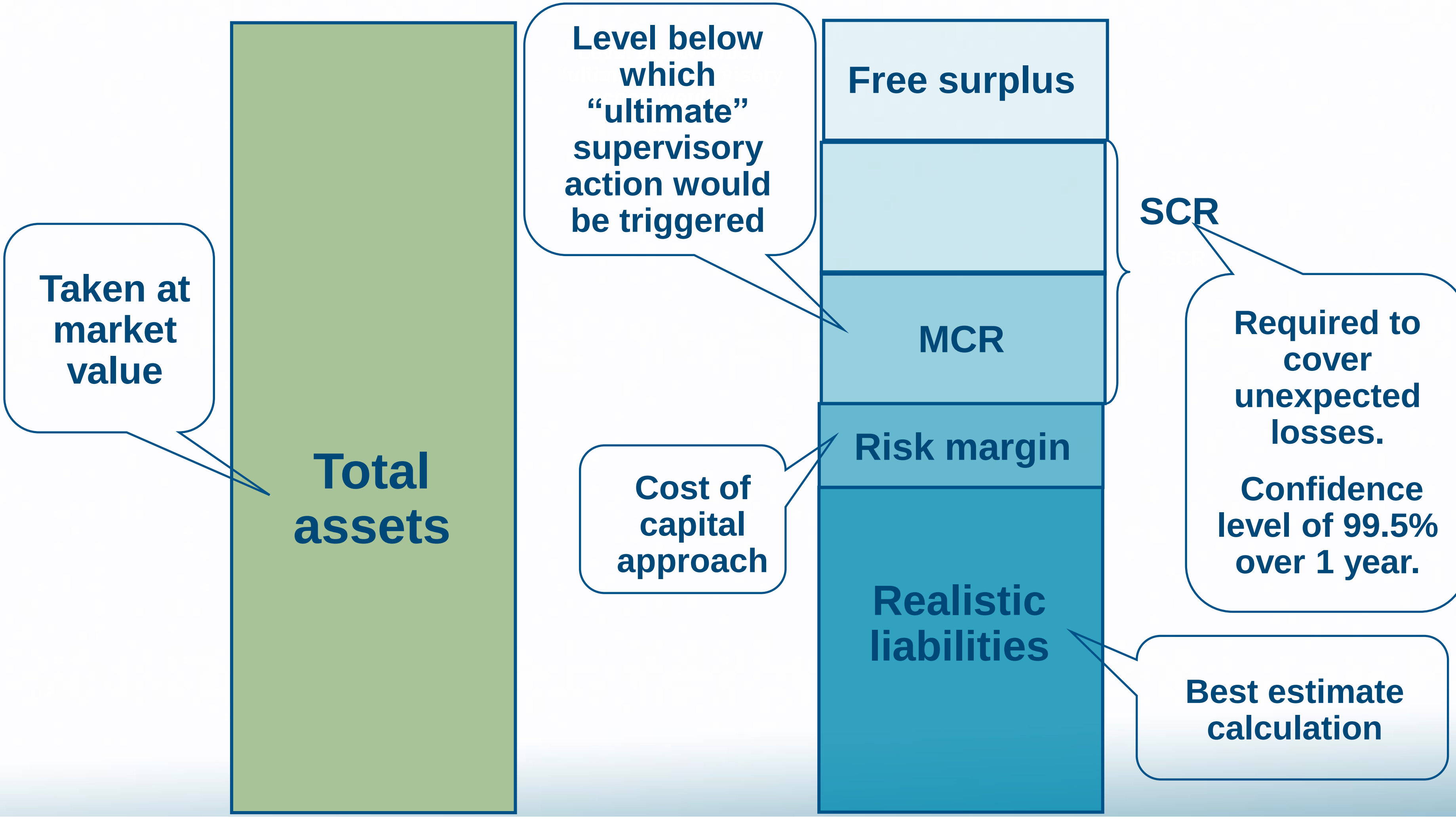
From QIS4 to QIS5 – Principal changes

- **Risk-free rates**
  - Based on swap rates (adjusted for credit risk)
  - Illiquidity premium introduced
  - Grandfathering/Transitional measures introduced
- **Risk margin**
  - Diversification between lines of business is now recognised
- **Market risk**
  - Introduction of volatility shocks (equity, interest risk)
  - QIS 4 to QIS 5 equity shock slightly lower (due to symmetric adjustment)
  - Higher calibration of spread risk
  - Higher correlations - Different depending on interest risk up/down shocks

From QIS4 to QIS5 – Principal changes

- **Life underwriting risk**
  - Some strengthening of shocks
  - Correlations – small changes. Separate aggregation of catastrophe risk
- **Operational risk**
  - Factors have been increased
- **Future premiums**
  - ‘Symmetric’ treatment for increase or decrease to TP (though still unclear in some cases)
- **Intangible Assets Risk**
  - New SCR module

How will the QIS5 balance sheet look?



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Technical Provisions – executive summary

- Market Consistent Value of technical provisions
- Best estimate (‘BEL’) + Risk Margin if non-hedgeable
- If hedgeable then use value of financial instrument
- Amount required to transfer obligations to another company
- Use financial market data

Technical Provisions – best estimate liabilities

- Probability-weighted average of future cash-flows
- Calculated gross of reinsurance
- No surrender value floor
- Policy by policy calculation is default
  - But model point approach allowed subject to being appropriately representative of risk profile
- Specification addresses when stochastic and deterministic approaches are appropriate
- Future premiums
  - Allowance for future premiums based on realistic assessment of renewal
  - If insurer has unilateral right to cancel contract, reject premiums, or amend premiums or benefits should only allow for future premiums up to that point

Technical Provisions – segmentation

- When calculating both **Best Estimate** and **Risk Margin**, segment into

- Principal business lines
  - Contracts **with profit participation**
  - Policyholders bear the **investment risk**
  - Other contracts **without profit participation**
  - Accepted **reinsurance**

- And also into
  - Main risk driver is **death**
  - Main risk driver is **survival**
  - Main risk driver is **disability**
  - **Savings** contracts with no (or negligible) protection relative to aggregated risk profile

- **16 segments** in total

- Contracts covering risks across different lines should be **unbundled**

Risk Free Rates

- QIS5 risk free rates not on government bond yields, now based on swap rates adjusted for credit risk
  - With allowance for illiquidity premium
    - Euro: 0.53% for 15 years reducing to zero after 20 years
    - GBP: 0.82% for 30 years reducing to zero after 35 years
    - USD: 0.71% for 30 years reducing to zero after 35 years
  - Extrapolated at longer end to specified long term rates (4.2% UFR for Euro, GBP and USD)

- Illiquidity premium
  - 3 interest rate curves with full, half and zero illiquidity premium
    - Full curve applies to Single Premium annuities (that meet certain criteria)
    - Half curve applies to other contracts with term of 1 year or more
    - Zero curve applies where term is less than 1 year

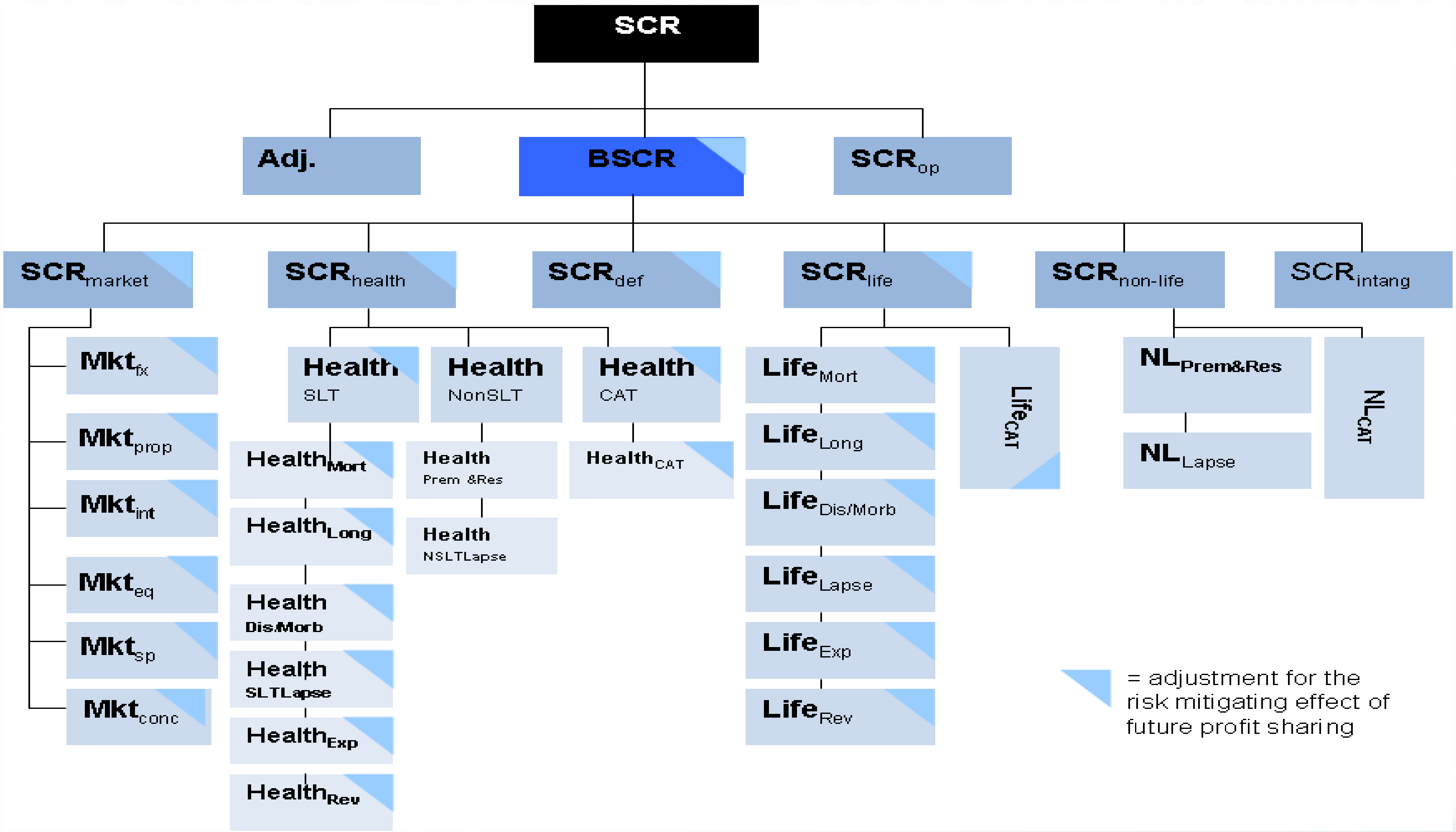
- Transitional arrangements
  - Current Solvency I discount rate may be used for annuities
  - In this case, must show calculations using QIS5 full curve also

Risk Margin – diversification now allowed

- *"The risk margin calculation should be based on the assumption that the whole insurance and reinsurance portfolio is transferred to an empty reference undertaking."*
- *"Consequently, the calculation of the risk margin should take the diversification between lines of business into account."*

- But unavoidable market risk within the risk margin has remained in QIS5.

SCR Standard Formula



SCR – Market Risk

- Interest Rate Risk
  - Up and down shocks by duration specified (max +70%, -75%). Was (max +94%, -51% under QIS4).
  - Down shock subject to a minimum of 100bps (interest rate floor of zero)
  - **NEW** Volatility shocks also specified: +12%, -3% (additive)
  - Four scenarios in total

- Equity Risk
  - Global equities: -30% (QIS 4 -32%)
  - Other equities: -40% (QIS 4 -45%)
  - Note that the stresses above take account of a YE09 symmetric adjuster to equity of **-9%, so changing them from their base level of 39% and 49% respectively.**
  - (22% fall for strategic participations, equities backing certain long term pensions liabilities)
  - NEW Volatility shocks also specified: +10%, -3% (additive)

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SCR – Market Risk

- Property Risk
  - 25% fall (no differentiation between City and non-City properties). Was 20% fall under QIS4.
- Currency Risk
  - +/-25% change versus reporting currency. Was 20% under QIS4.
- Spread Risk
  - Applies to bond, credit derivatives, structured credit products and mortgage loans
  - EEA or OECD Government bonds or Government guaranteed bonds are excluded
  - Factor based approach with different factors specified for different asset types
  - Potentially large capital requirement, especially for lower rated assets
  - More interaction between revaluation of illiquidity premium and technical provisions under this heading

SCR – Market Concentration Risk

- Excludes
  - assets covered by counterparty default risk module
  - **unit-linked (**but adjustment if options/guarantees)
- Only accumulation of exposures with **same counterparty**
  - i.e. not geographical, industry etc.
- **Government bonds** exempt
- Investments in UCITS exempt, if sufficiently diversified
- Process
  - Calculate **excess exposure** (depends on rating e.g. 3% threshold if A rated)
  - Calculate **risk charge per name** by multiplying excess exposure by factor, which depends on rating (e.g. factor is 0.21 if A rated)
  - Aggregate assuming **correlation of 0.25**
  - Separate calculation for **property** concentration (where single property is more than 10% of total assets)
- Investments
  - Where possible must apply **look-through approach** to underlying funds

SCR – Counterparty Risk

- Covers
  - Reinsurance, securitisations and derivatives
  - Receivables from intermediaries
  - Any other credit exposures not covered under spread risk
    - Policyholder debtors
    - Cash at bank
    - Deposits with ceding institutions
    - Capital, letters of credit received by undertaking
    - Guarantees, letters of credit provided by undertaking

- Two types of exposure
  - Type 1, likely to be rated
  - Type 2, unlikely to be rated
  - Deposits or called up but unpaid capital: <= 15 counterparties means Type 1

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SCR – Counterparty Risk

- Type 1 SCR = min [sum LGD, Factor * STDDEV(loss distribution)]
  - LGD for reinsurance is equal to risk mitigating effect reduced by recovery rate and deduct any collateral
  - Recovery rate set at 50% for reinsurers and 10% for derivatives
    - In some cases, reinsurance recover rate limited to 10%
  - Factor is either 3 or 5 depending on volatility of risk

- Type 2 SCR = 15% * exposures + 90% * receivable from intermediaries due for more than 3 months

SCR – Life Underwriting Risk

- Mortality Risk
  - Immediate +15% applied to mortality rates (QIS 4 was +10%).
  - Applies where mortality strain exists
  - No need to unbundle death and survival benefits on the same life within a contract, floor of zero applies to risk charge

- Longevity Risk
  - Permanent -25% applied to mortality rates (no change on QIS4).

- Disability Risk
  - Inception rates: +50% year 1, +25% thereafter
  - NEW Termination rates: -20%
  - Was +35% increase throughout under QIS4

SCR – Life Underwriting Risk

- Lapse Risk (no change since QIS4)
  - Max (LAPSEdown, LAPSEup, LAPSEmass)
  - LAPSEdown = -50% * surrender rate, where surrender profits exist
    - Subject to max of 20% change in surrender rate in absolute terms
  - LAPSEup = +50% * surrender rate, where surrender strain exists
    - Subject to max of 100% to shocked surrender rate
  - LAPSEmass = x% * surrender strain for policies with positive strain
    - Where x% = 30% for retail business, 70% for non-retail business

- Expense Risk (broadly no change since QIS4)
  - Future expenses: +10%
  - Expense inflation: +1%

SCR – Life Underwriting Risk

- Catastrophe Risk (no change since QIS4)
  – Applies to policies with mortality strain
  – +1.5 per mille over the following year

- Simplifications
  – Various simplifications are allowed for different risks

SCR – Operational Risk

- Step 1
  - Calculate max. (4% * premiums, 0.45% * technical provisions) – was 3% and 0.3% under QIS 4.
    - Premiums = earned life premiums + amount of increase over last year (if over 10%)
    - Technical provisions = life technical provisions (excluding risk margin) + amount of increase over last year (if over 10%)
    - Unit-linked business excluded
- Step 2
  - Apply cap of 30% * BSCR to result 1, if relevant
- Step 3
  - Add 25% unit-linked administrative expenses

- For unit-linked companies, only step 3 is relevant

SCR – Other

- Intangible Assets Risk
  – NEW SCR = capital charge for 80% fall in fair value of asset
- Financial risk mitigation
  – Can only allow for effect of hedging instruments in place at balance sheet date.
- Aggregation of risk charges
  – Correlation matrices set out in the draft specification for risks within sub-modules and between modules
  – Two alternative correlation matrices are specified for market risk
    - one for Interest Up shock, one for Interest Down shock

Own Funds – Tiering criteria

- **Tier 1**
  - Sufficient duration - max(10 years, longest dated insurance liability)
  - Subordinated - most deeply subordinated in wind-up
  - Loss absorbency - first to absorb losses
  - Other loss absorbency characteristics

- **Tier 2**
  - Sufficient duration = max(5 years, weighted average maturity liabilities)
  - Subordination – effectively subordinate in wind-up
  - Loss absorbency – doesn’t need to be fully paid but can be called upon and must absorb losses to some degree. Coupons must be deferrable.
  - May have moderate incentives to redeem
  - Free from encumbrances

- **Tier 3**
  - Duration greater than 3 years
  - Free from encumbrances
  - No redemption on breach of SCR unless supervisor approves
  - Not allowed to cause/accelerate insolvency

5.6 QIS5 Own Funds – Limits

- **SCR** limits applicable
  - SCR: Tier 1 items >= 50%
  - SCR: Tier 3 items < 15%

- **MCR** limits applicable
  - MCR: Tier 1 >= 80%
  - MCR: Tier 3 = 0

- Other limits
  - **Tier 1**: (preference shares + subordinated liabilities) <= 20%

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Own Funds – key issues in QIS5

- Winding up Gap & Expected Future Profits & Deferred Tax Assets (within 12 months)
  - Classified as Tier 1 under QIS5
  - Will be further debate before implementing measures are finalised

- Grandfathering
  - Transitional arrangements envisaged to allow for various current forms of capital e.g. some relaxation of “incentives to redeem” criteria
  - Tier 1 limit of 20% for hybrid debt includes grandfathered arrangements
  - QIS5 will be key to informing final transitional arrangements

QIS 5 overall summary

- QIS5 more onerous than QIS4
  - But less onerous than CEIOPS final advice for level 2
- Key open issues include
  - Winding up gap/expected future profits
  - Illiquidity premium
- Calibrations are not final and will be further changes before implementing measures are finalised
- We now need to wait for 1 July final specification, and spreadsheet templates for QIS 5 results