The Actuarial Profession
making financial sense of the future

Life Conference 2011
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What alternative investments are of interest to life companies?

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What alternative assets have low correlation to market risk?

- How does the behaviour of alternative assets differ to standard assets?
- Diversification benefit
- Difficult to find assets with low correlation to market risks
- Tail dependency
- Important to understand correlations at different stress levels

What alternative assets have low correlation to market risk? (cont.)

- Size and liquidity of alternative asset markets
- Alternative assets that companies might consider are:
  - hedge funds
  - insurance risk
  - commodities
  - climate change / green energy investments
  - infrastructure projects

What alternative assets have low correlation to market risk? (cont.)

Further discussions on:

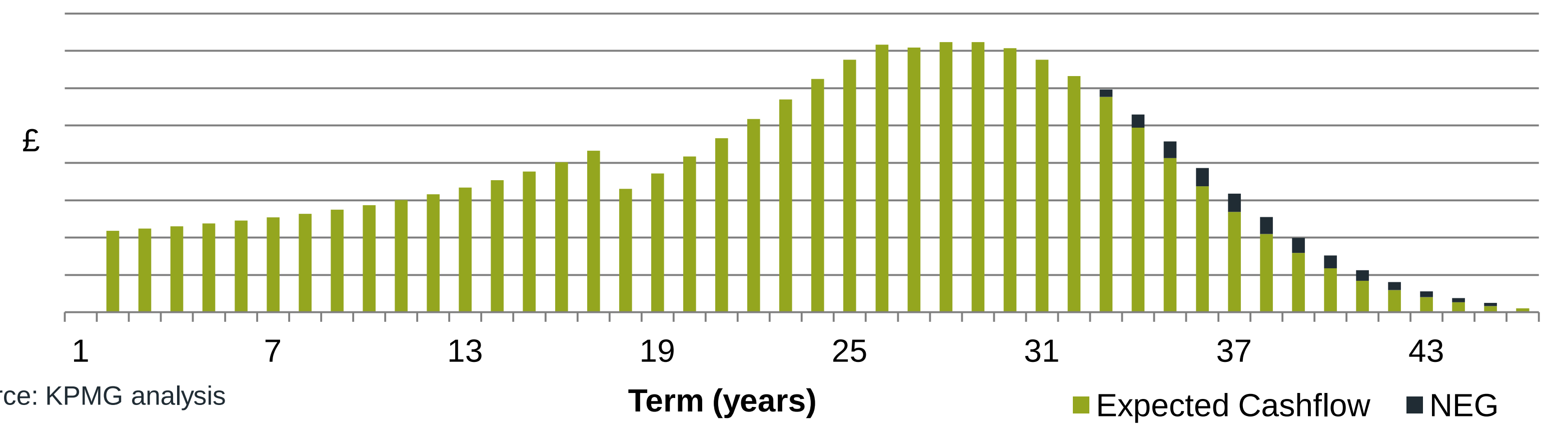
1. Equity release mortgages
2. Insurance-linked securities (including life settlements)
3. Gold

What alternative assets have low correlation to market risk? (cont.)

Equity release mortgages	
Features	• Different products e.g. Lifetime Mortgage - provider lends the borrower cash and takes a mortgage charge on the property • Fixed rate mortgage to homeowners aged 55+ • No negative equity guarantee • Typical LTV's range from c.15% to 50% depending on age • Pensioners (aged 65+): 33% of property equity for this age group (c. £249bn) is in London and the South East of England (Source: Key Retirement Solutions Index at end Aug 2011)
Benefits	• Improves return on equity by providing additional yield and provides risk diversification for investors (no credit risk)
Issues	• Dynamism of different risks, idiosyncratic nature of the asset • Modelling house price inflation and correlation with prepayment risk

Equity release mortgages (cont.)

Expected Cashflow Profile from Equity Release Mortgages



Source: KPMG analysis

Equity release mortgages

- How to gain access to this asset class:
  - Origination
    - ❑ Do it yourself
    - ❑ Silently fund an existing originator
  - Purchase loan books from existing holders

- Market update
  - – made new advances of £206.2m in Q3 2011, 12% up on Q2 2011 (£184.9m)
  - – 10% increase in the number of equity release customers over the same period
  - – average amount released in an equity release mortgage was £50k (6% increase over the last 12 months)

  Source: SHIP's Q3 2011 press release

What alternative assets have low correlation to market risk? (cont.)

Life Settlements / Traded Life Policies	
Features	• Whole of life policies sold by policyholders to investors with the investors paying the premiums until the policies mature on death • Senior life policies (over-65s)
Benefits	• Potential to offer stable, predictable returns regardless of investment market performance
Risks	• Longevity risk • Default risk • Interest rate risk (but can be hedged)
Markets	• Estimated US$11.8bn of life settlement transactions in 2008, with US$31bn of US life settlement in force at the end of 2008 Source: Merlin Stone Report (August 2010)

Insurance-linked securities

- Wider insurance-linked securities market
  - Life and health issuance of US$525m occurred during the 12 months to 30 June 2011 (this was the second largest year of issuance since the US$1.1bn that was issued in the year to 30 June 2007)
  - Total bonds at risk of US$11.5bn as at 30 June 2011 (down US$1.7bn from a year earlier)
  - Swiss Re successfully transferred US$180m of extreme mortality risk to the capital markets through the Vita securitisation programme in August 2011.
  - Swiss Re issued a US$50m longevity bond during Q4 2010 (first ever public transaction of a longevity bond) that covered future variability in longevity trends)
  - Swiss Re issued an excess mortality bond of US$175m during October 2010

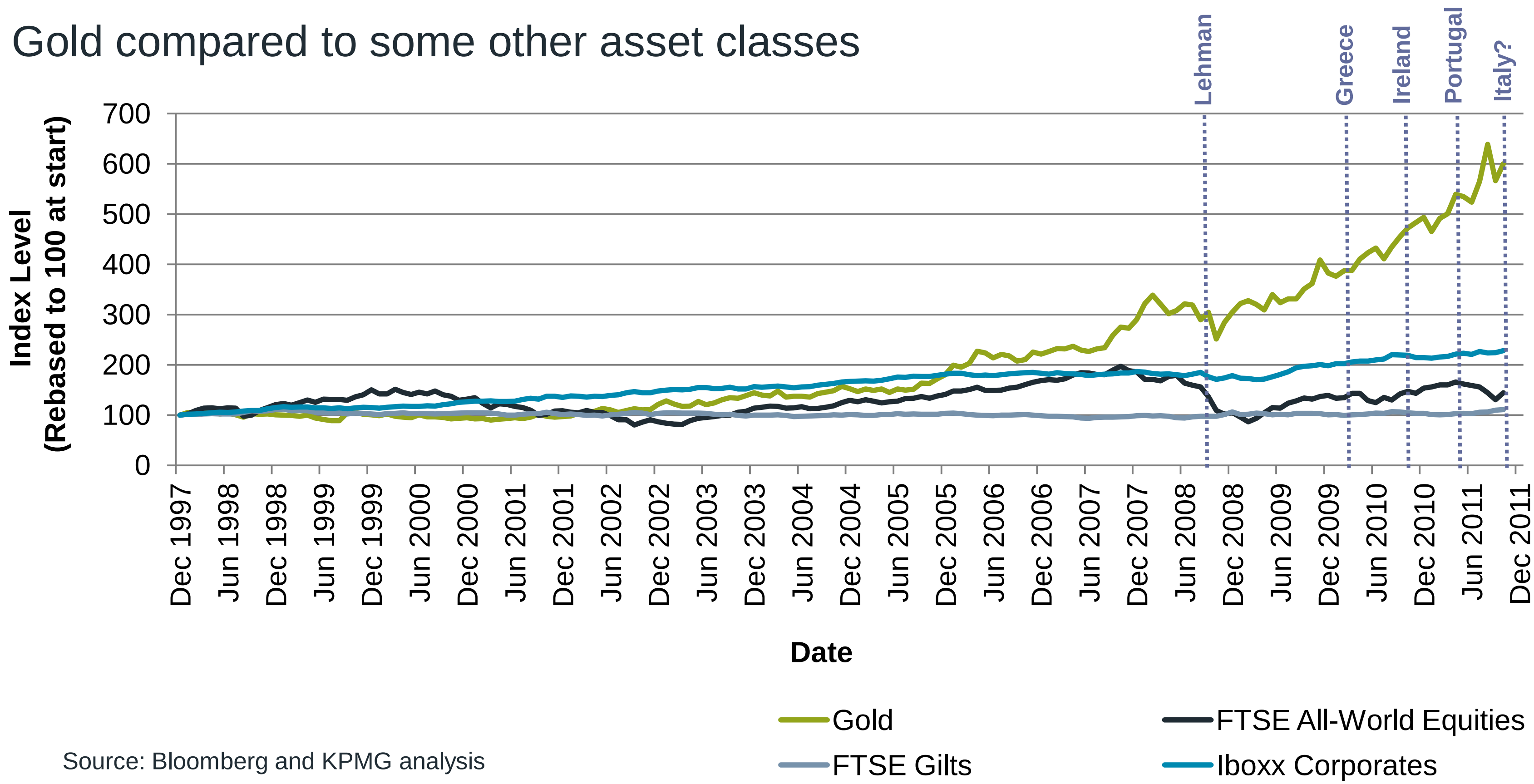
  Source: AON Benfield report: Insurance-Linked Securities – Consistency and Confidence 2011

What alternative assets have low correlation to market risk? (cont.)

Gold	
Benefits	• Flight to quality, ‘safe haven’, intrinsic value • Particularly the case in a world of negative real interest rates • Hedge against financial consequences from economic and political turmoil • Low or negative correlation with other assets at the tails
Markets	• Gold bullion • Gold ETFs / Funds • Gold certificates • Other forms

What alternative assets have low correlation to market risk? (cont.)

Gold compared to some other asset classes



Source: Bloomberg and KPMG analysis

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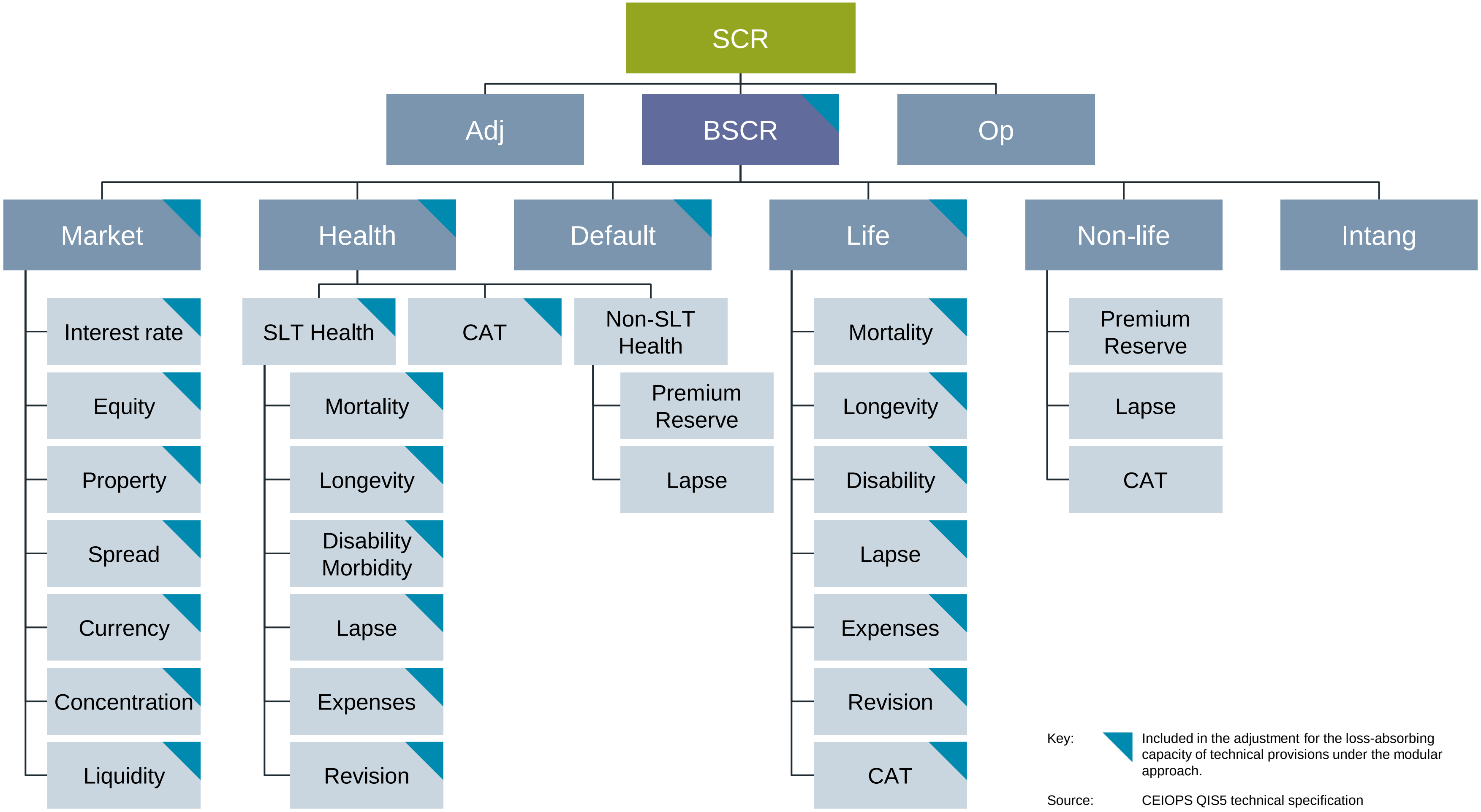
2. How to model alternative asset risks?
3. What is the capital benefit from increased diversification?
4. What non-financial risks should we consider?

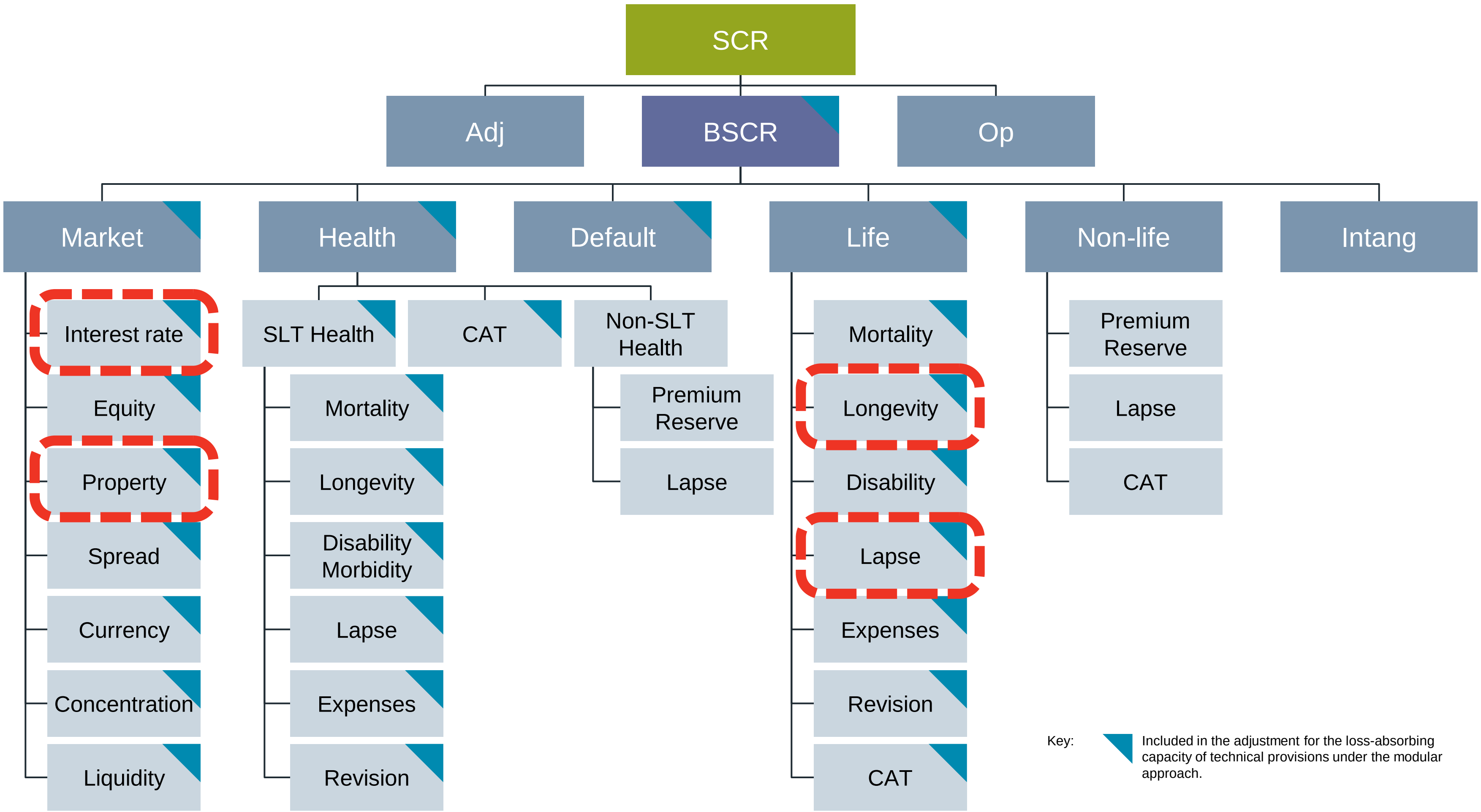
Standard Formula from QIS5



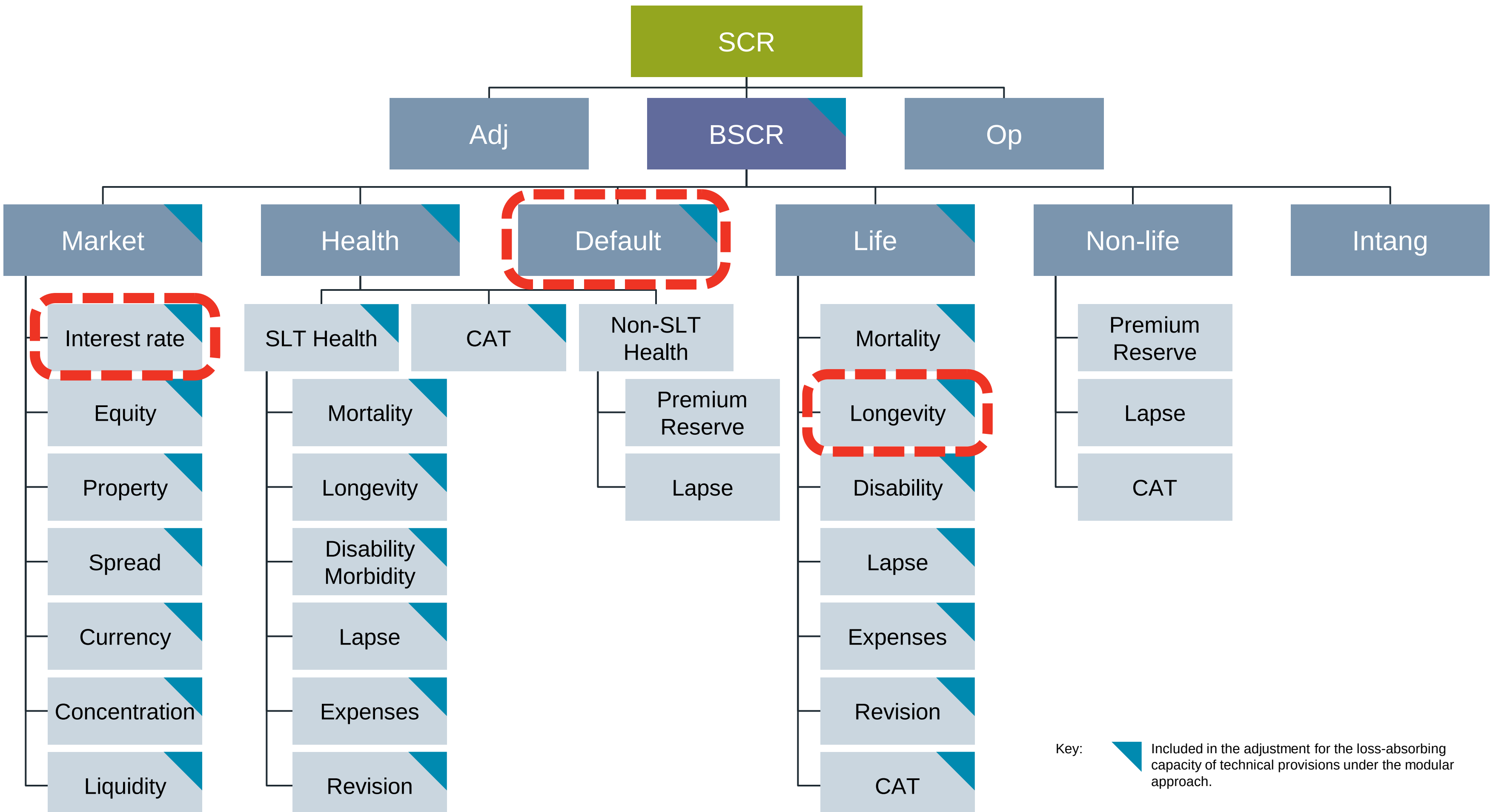
Key: Included in the adjustment for the loss-absorbing capacity of technical provisions under the modular approach.

Source: CEIOPS QIS5 technical specification

How to model alternative asset risks? – Equity release mortgages



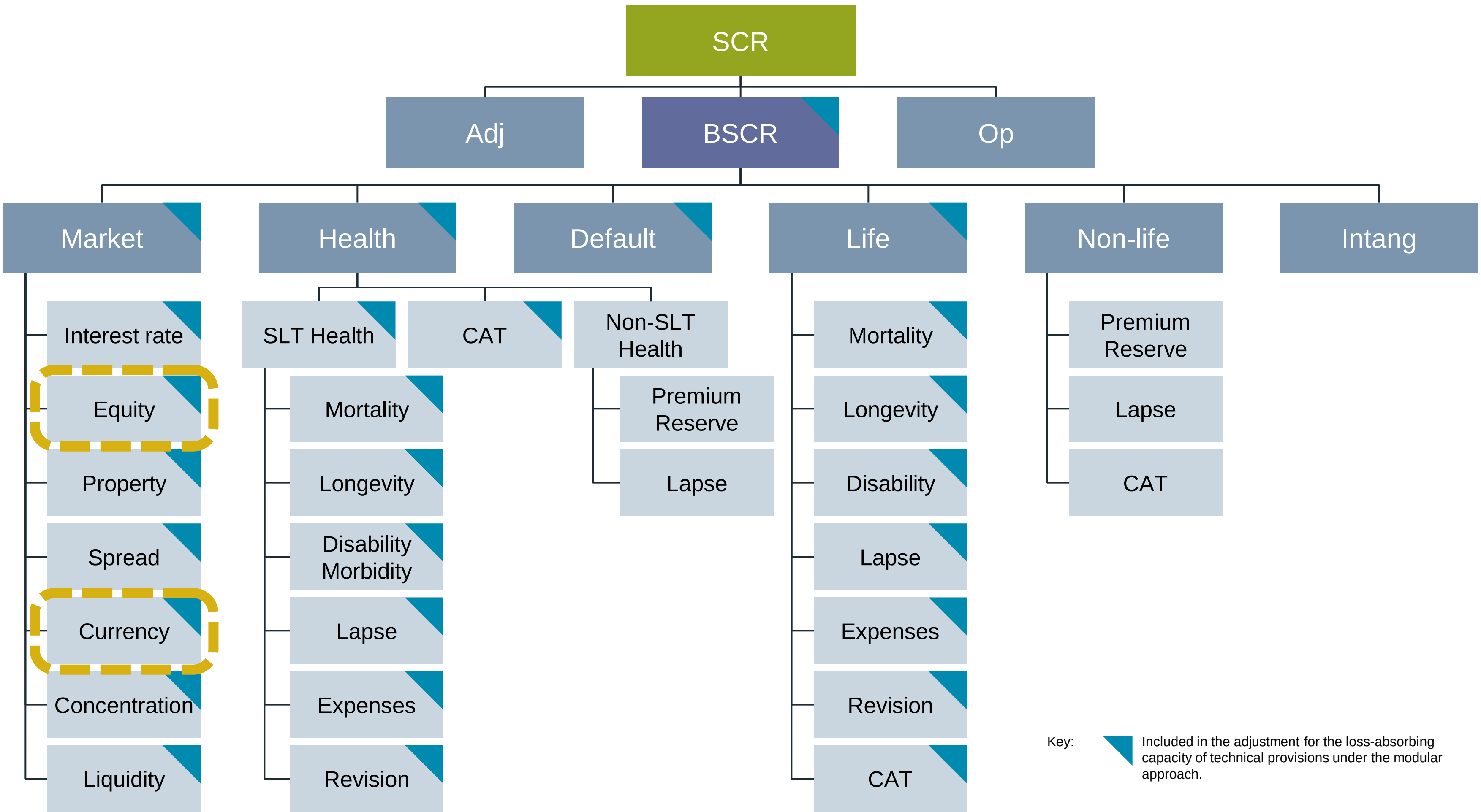
How to model alternative asset risks? – Life settlements



How to model alternative asset risks? – Gold

- Gold
  - Careful consideration needs to be given to the potential treatment under Solvency II:
    - Standard Formula
    - Internal Model

How to model alternative asset risks? – Gold



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Analysis of the capital benefits from increased diversification

- Demonstration of two case studies
  – Equity release mortgages
  – Life settlements

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What non-financial issues should we consider?

- Operational risk
- Systems and controls
- Reputational risk
- Inaccurate life expectancy estimates
- Data complications – lack of granularity
- Servicing risk
- Liquidity risk
- Tracking risk
- Ownership risk
- Legal risk

What non-financial issues should we consider? (cont.)

- Exit risk
- Communication with the Board, regulator and third party providers
- Internal interdepartmental communications
- Compliance costs and governance
- In-house expertise
- What to do if things go wrong
- Model error, valuation and misestimation risk
- Tax risk
- Regulatory risk

Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.