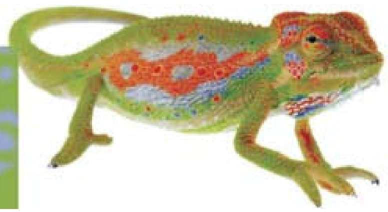
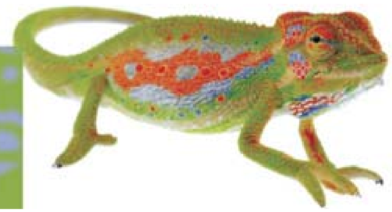

# The Cost of Capital Approach to Risk Margins

Prepared by Felix Tang



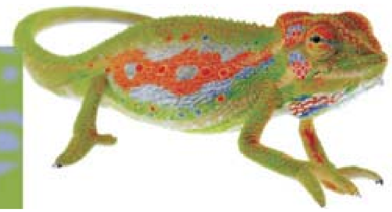
# Why am I here?

- IFRS is coming!
- “Exit Value” concept is fundamental
- Risk margin as the “compensation required for transferring liability to another party”
- Do I need to change what I’m doing?



# Philosophy of Risk Margin

- Two main perspectives:
  - – Policyholders' view of risk margins
  - – Shareholders' view of risk margins
- Tension in the dichotomy
- "Exit Value" concept is arguably based on the <u>shareholders' view</u>



# "Candidate" Risk Margin Approaches

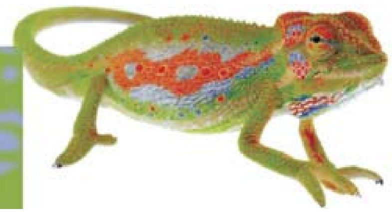
- Cost of Capital (CoC) approach
- Percentile approach
- Others deemed invalid or less preferred

- CoC given much attention, because:
  - Deemed consistent with "Exit Value" concept
  - "Desirable characteristics" of risk margins

# CoC's consistency with Exit Value

- Capital is required to support business
- Level should be commensurate with risk
- A return is demanded on capital at risk
- Compensation required such that this return is achieved

- So CoC approach seems consistent

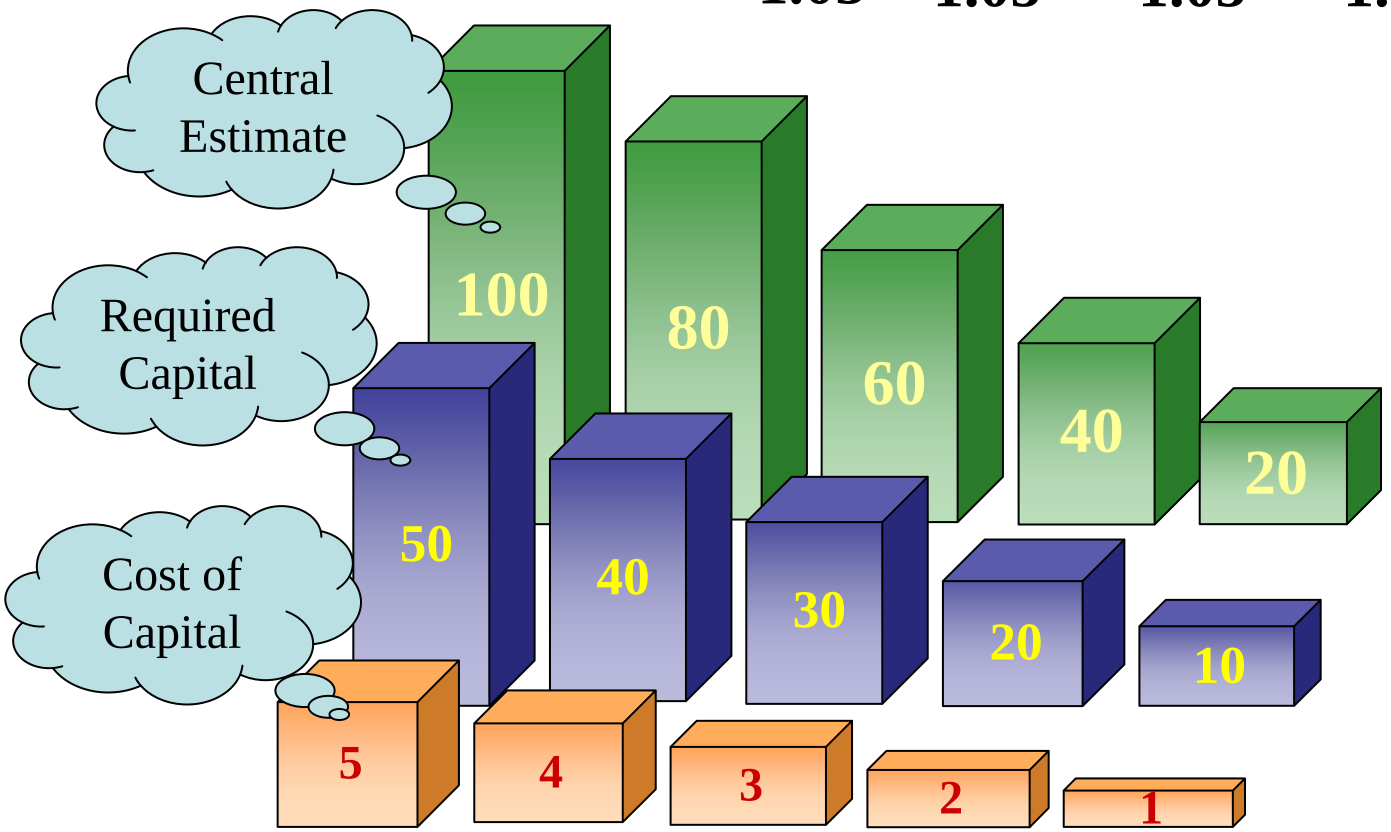


# Desirable Characteristics

- Accounting
  - Consistency with “Exit Value”
- Regulatory
  - “Sensible” responses to changes in circumstances
- Actuarial
  - Consistency with the central estimates methodology
- Industry
  - Ease, stability and comparability of calculation

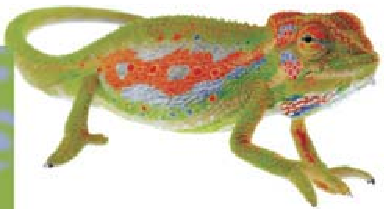
# How is a CoC Risk Margin Calculated?

$$5+\frac{4}{1.05}+\frac{3}{1.05^2}+\frac{2}{1.05^3}+\frac{1}{1.05^4}=14.1\,\text{units}$$



# The Key Elements in CoC

- The CoC approach has 4 key elements:
  - Profile of the transferee
  - Capital requirements
  - Pattern of future capital needs
  - Cost of capital rate
- Elements are interlinked
- Issues in each still to be resolved



# Issues with the Key Elements

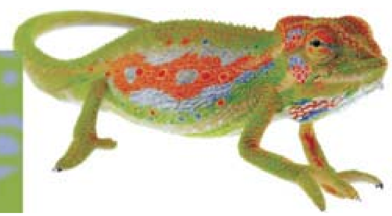
- A deep and liquid market for insurance liabilities does not exist!
- What are the "possible" choices?
  - Company itself
  - Whole industry
  - The average industry player
  - Other prescribed "profile"
- But is there a most "correct" profile?
- Risk of an <u>artificial</u> "Exit Value"…

**Profile of the Transferee**

Capital Requirements

Pattern of Future Capital Needs

Cost of Capital Rate



# Issues with the Key Elements

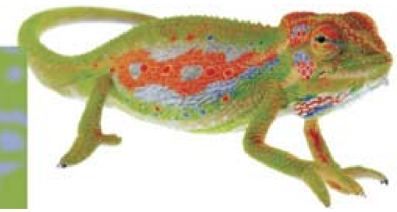
- Which "measure" of capital?
  - Allocated net assets
  - Regulatory (or solvency) capital
  - Economic capital
- Whose capital?
  - The company's?
  - The (imaginary) transferee's!?

Profile of the Transferee

**Capital Requirements**

Pattern of Future Capital Needs

Cost of Capital Rate



# Issues with the Key Elements

- Many possible "patterns"
- Obvious ones:
  - – Link to pattern of central estimate
    - Proportional to payments – problematic
  - – Link to pattern of uncertainty
    - Appropriate, but no consensus on "how"
  - – Prescribed pattern

Profile of the Transferee

Capital Requirements

**Pattern of Future Capital Needs**

Cost of Capital Rate

# Issues with the Key Elements

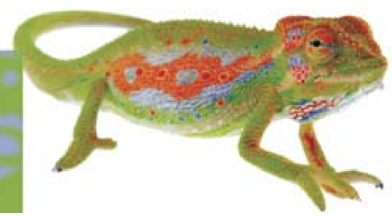
- Many issues to resolve:
  - Defined consistently with capital
  - Whose rate?
  - Varies by class and country, and over time?
  - Consistency with "observable prices"?
  - Reinsurance?
  - Tax?
  - Other entity-specific aspects?

Profile of the Transferee

Capital Requirements

Pattern of Future Capital Needs

**Cost of Capital Rate**



# Dollar Impact of Using CoC Approach

- Inconclusive, but…
- Some numerical examples suggest:

| Outstanding claims | **Percentiles that CoC risk margins may translate to:** |
|---|---|
| **Short-tailed** | 60% to 65% |
| **Long-tailed** | 80% to 90% |

- Comparisons very sensitive to assumptions underlying the examples

# Global Developments

- Accounting
  - Exploring alternatives in light of challenges faced in “Exit Value”
- Regulatory
  - Continuing to develop a “global” solvency framework in parallel
- Actuarial
  - Contributing significantly to discussion and research
- Industry
  - Many stakeholders propose to conduct further research on CoC

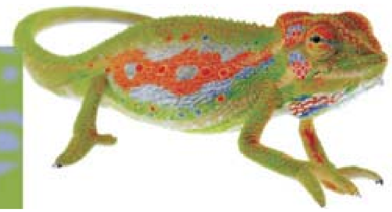
# Relevance to Australia

- What if "Exit Value" is introduced here?
  - New framework for solvency and financial reporting (including all needed calibrations)
  - Greater exposures to market cycles and volatility in reserving process
  - Increased focus on capital and cost modelling
  - Tension between policyholders' and shareholders' needs becomes more "real"?

# Relevance to Australia

- "Exit Value" is not currently the general concept used here (with some exceptions)
- We seem happy with "percentile" approach
  - We have become more advanced and sophisticated
  - We are becoming further advanced and sophisticated
- Little research so far to understand "CoC" approach
  - CoC approach used for pricing than reserving

- We need to start doing something about this!



# Conclusions

- Which approach should we use?
  - Is this an important question? **Probably.**
  - Is this the "right" question? **Not really.**

- The real issue lies in the dichotomy of policyholders' and shareholders' view
- This decision will fundamentally impact on direction of where we will go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