



ADVISORY

Contrasting UK, Australian and US reserving practices for non life insurance

Wednesday May 6, 2008

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Introduction



Overview

- Australian market - Snapshot 30 June 2008



Reserving Practices

- Comparison between US, UK and AUS
 - Central Estimates
 - Uncertainties



Australia Developments in Reserving Role

- Drivers for Change



Regulation

- The World Leader or Tyrant



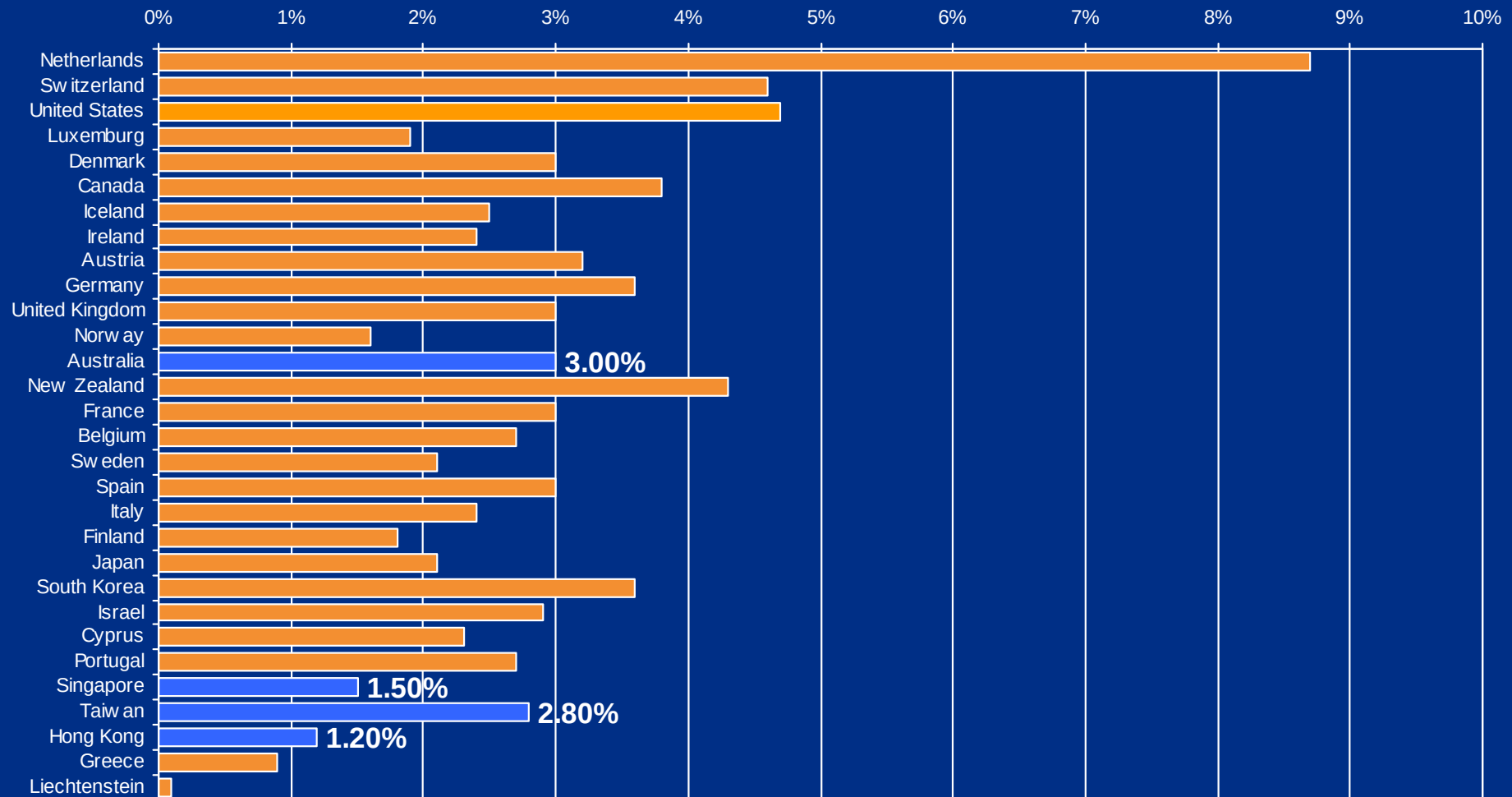
The Role of the Actuary

- Formal Role
- External Peer Review
- Financial Condition Report



Global Overview

Non-Life Premiums as % of GDP



Source: Swiss Re Sigma No.2008/03



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Snapshot 30 June 2008

Market Overview



	2008 \$m	2007 \$m	% change YoY
Gross written premium	33,620	30,536	10%
Net earned premium	28,822	25,843	11%
Underwriting surplus	1,996	2,906	(31%)
Investment revenue	2,767	3,050	(9%)
Profit after tax	3,215	4,005	(20%)

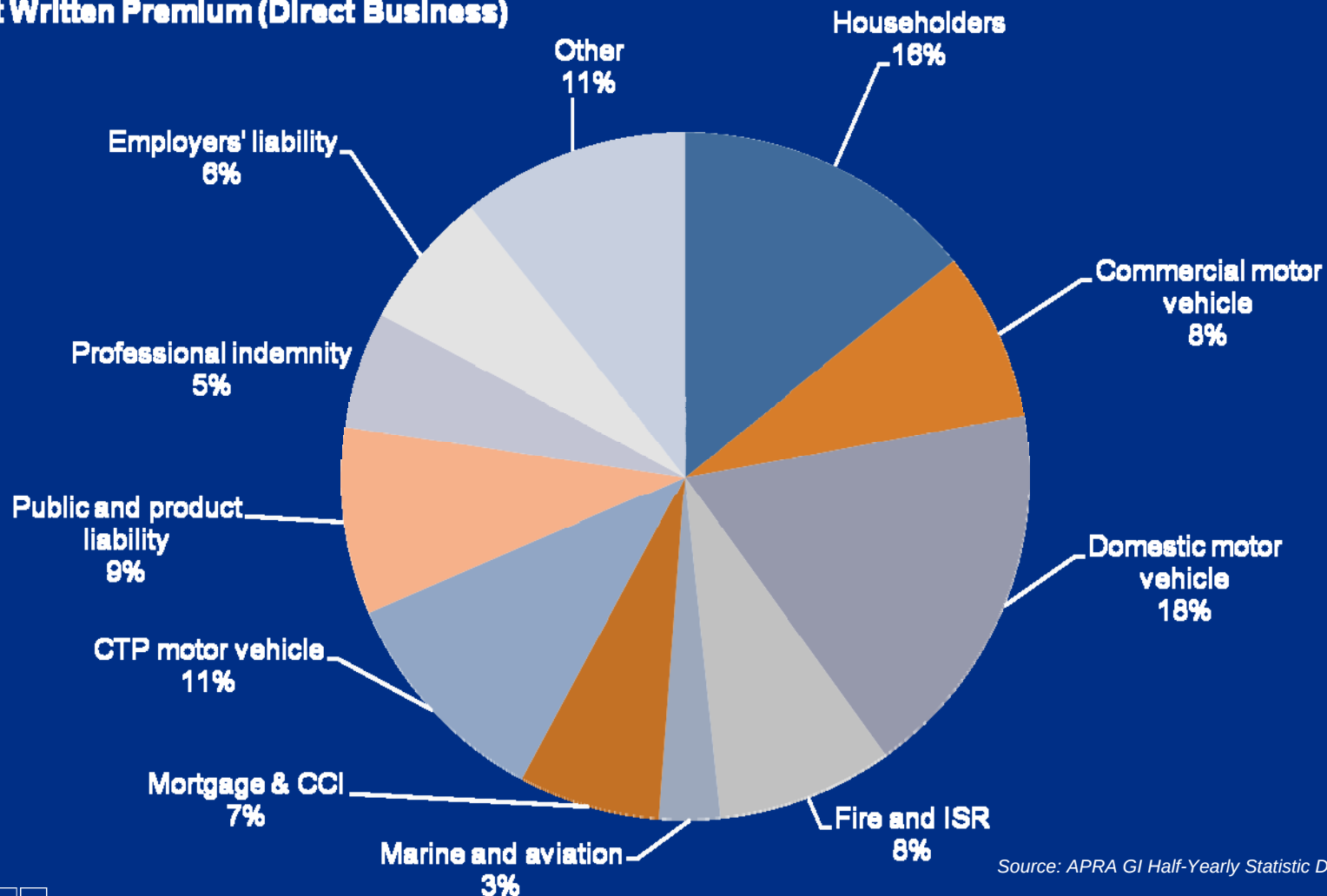
Source: 2008 KPMG General Insurance Survey

Snapshot 30 June 2008

Business Mix



Net Written Premium (Direct Business)



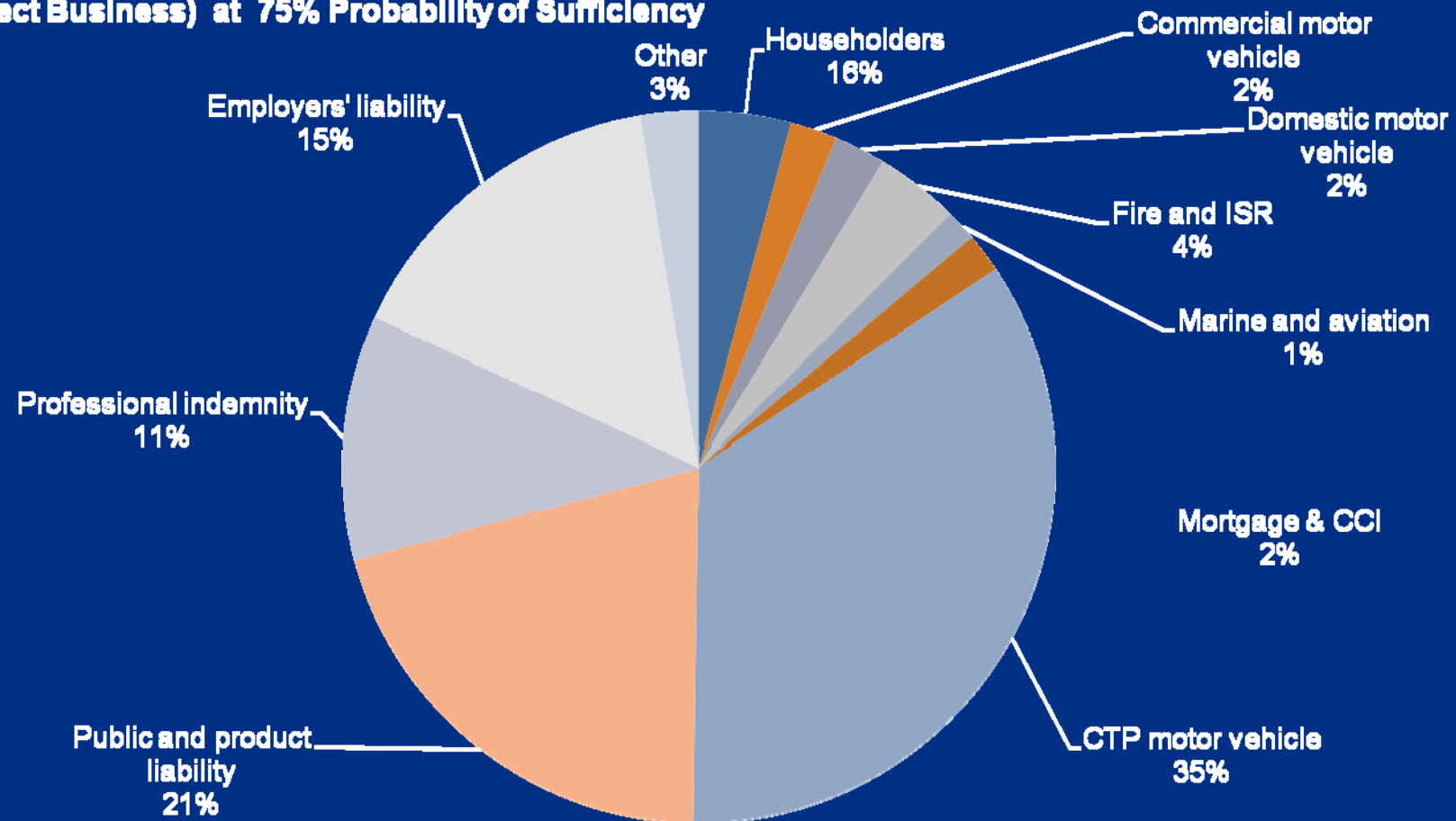
Source: APRA GI Half-Yearly Statistic December 2007

Snapshot 30 June 2008

Business Mix



Net outstanding claims provision (Direct Business) at 75% Probability of Sufficiency



Source: APRA GI Half-Yearly Statistic December 2007

Snapshot 30 June 2008

State based differences : Workers' Compensation



ACT
Private Underwritten



Reserving Practice Survey



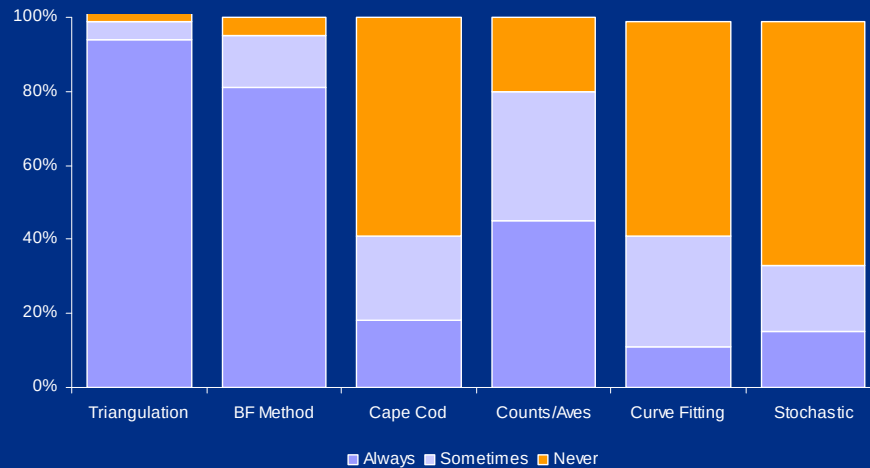
			
When	September 2008	May 2006	1 st – mid 2004 2 nd – 2007
Purpose	Understanding of current practices, and possibly to be used to shape future research.		
Profile of Participants	A range of experience levels and breadth in roles in represented in the survey.		
Background	Undiscounted reserves. No explicit requirement for measuring uncertainty.	Regime for statutory and accounting reporting (AASB1023). Discounted reserves. Explicit risk margin.	No formal requirement for actuarial involvement (except Lloyds). Uncertainty – professional guidance “quantified where practicable”.

Reserving Practice

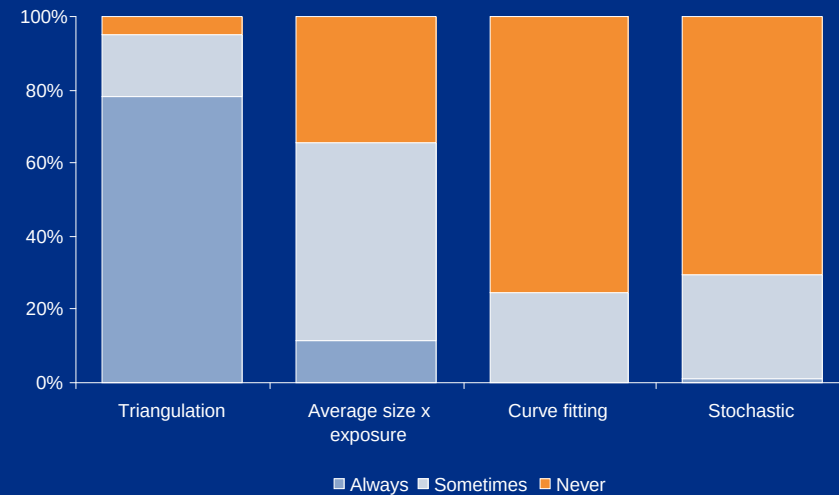
Central Estimate Reserving Methodology



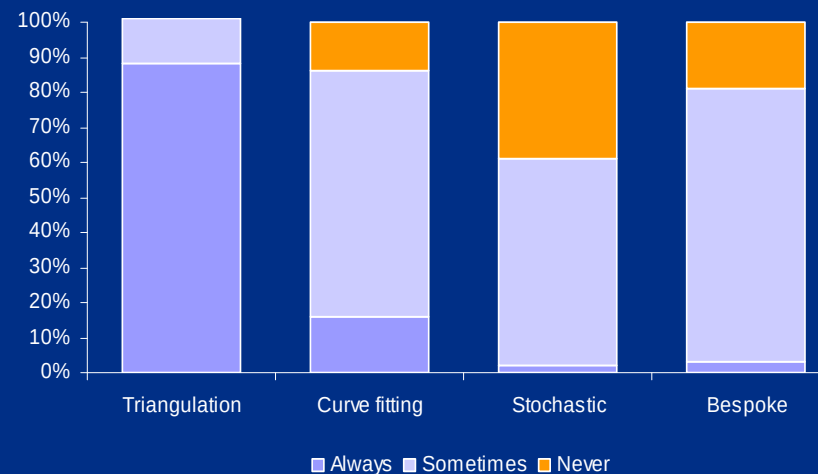
US



Australia



UK



Reserving Practice

Central Estimate Reserving



			
Central Estimate	<p>Dominant use in traditional methods</p> <p>Adopted methods have not changed materially over the past 5 years.</p> <p>Stochastic modelling not widespread.</p> <p>Used primarily for booking of reserves.</p>	<p>Variety of different reserving methods used.</p> <ul style="list-style-type: none"> • Traditional methods • Average claim size with exposure • Other methods <ul style="list-style-type: none"> – PPCF, PPCI, PCE – IBNR: Os Ratio – Credibility method – Individual claims GLM reserving – Review of case estimates. 	<p>Widespread use of traditional approaches to projecting best estimates.</p> <p>Increasing appetite for non-traditional and/or experimental methods.</p>

Reserving Practice

Uncertainty



			
Uncertainty	<p>Approximately 60% of respondents quantify uncertainty.</p> <p>Approximately 37% of the respondents indicate assessing uncertainty remained unchanged from 5 years ago.</p>	<p>Measuring uncertainty is a requirement of statutory and accounting requirement.</p> <p>Prescribed minimum probability of adequacy</p> <p>A variety of methods adopted.</p> <p>Continual technical development, more reliance on subjective factors. IAA Risk Margin Taskforce recently issued a discussion paper, providing a framework for measuring uncertainty.</p>	<p>Professional guidance “quantified where practicable, but otherwise should normally be reported using an appropriate descriptive summary.”</p>

Reserving Practice

Uncertainty



	US	UK
Run various methods to determine a range	68%	
Vary key assumptions in selected methods to stress test results	48%	34%
Simulation models	51%	49%
Judgment	50%	40%
Use statistics from link ratio models (Mach models, etc.)	41%	14%

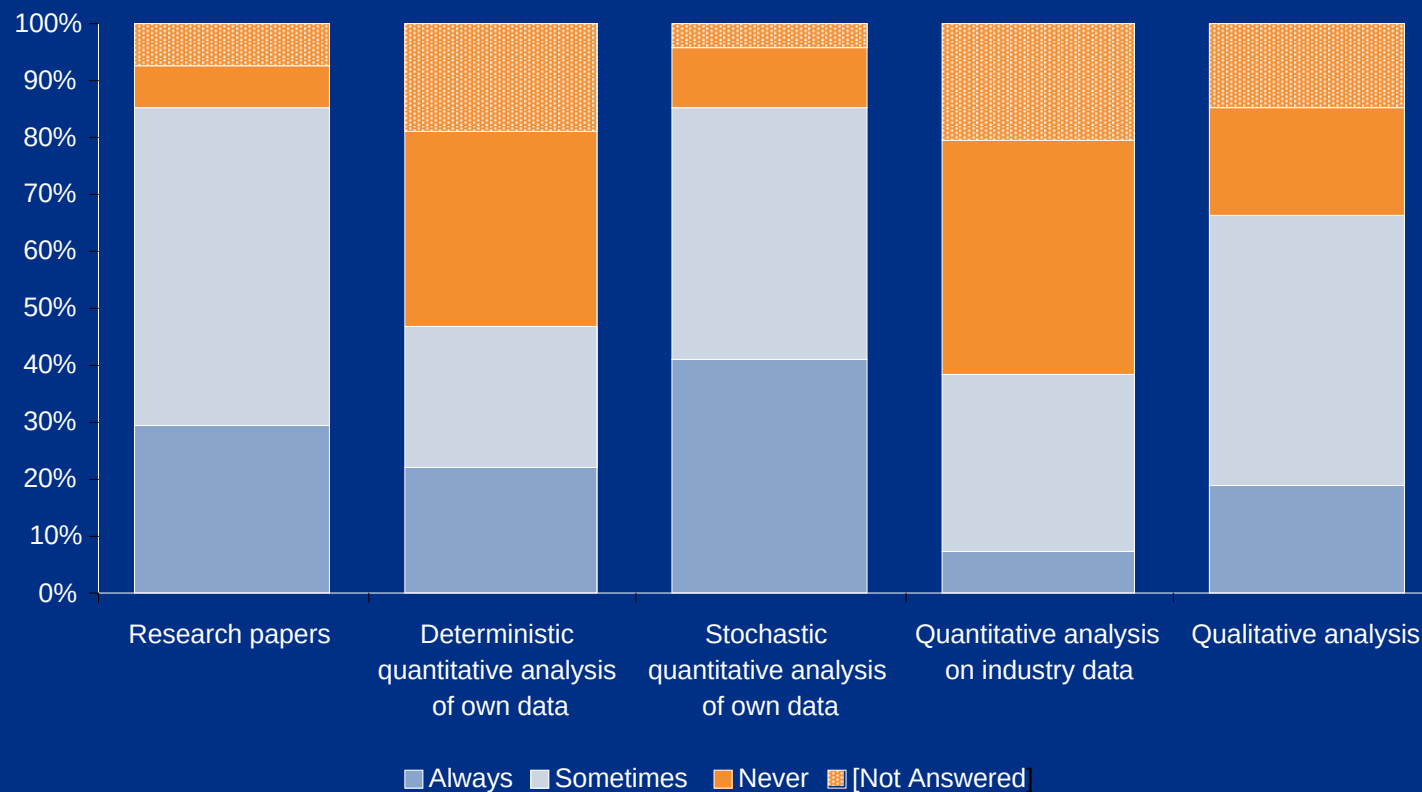
Reserving Practice - Australia

Uncertainty



- The graph shows the results for only the 75% of respondents involved in risk margins derivation

Derivation of risk margins



Reserving Practice - Australia

Uncertainty



- **Other risk margins derivation methods**

- Historical loss ratio volatility
- Hindsight reserve adequacy analysis
- Andrew Houltram's method
- Framework described in O'Dowd, Smith, Hardy (2005) paper ie. Both qualitative and quantitative framework
- Compare other results to range in central estimate results from different methods
- General reasoning / common sense
- Scenario testing, sensitivity analysis

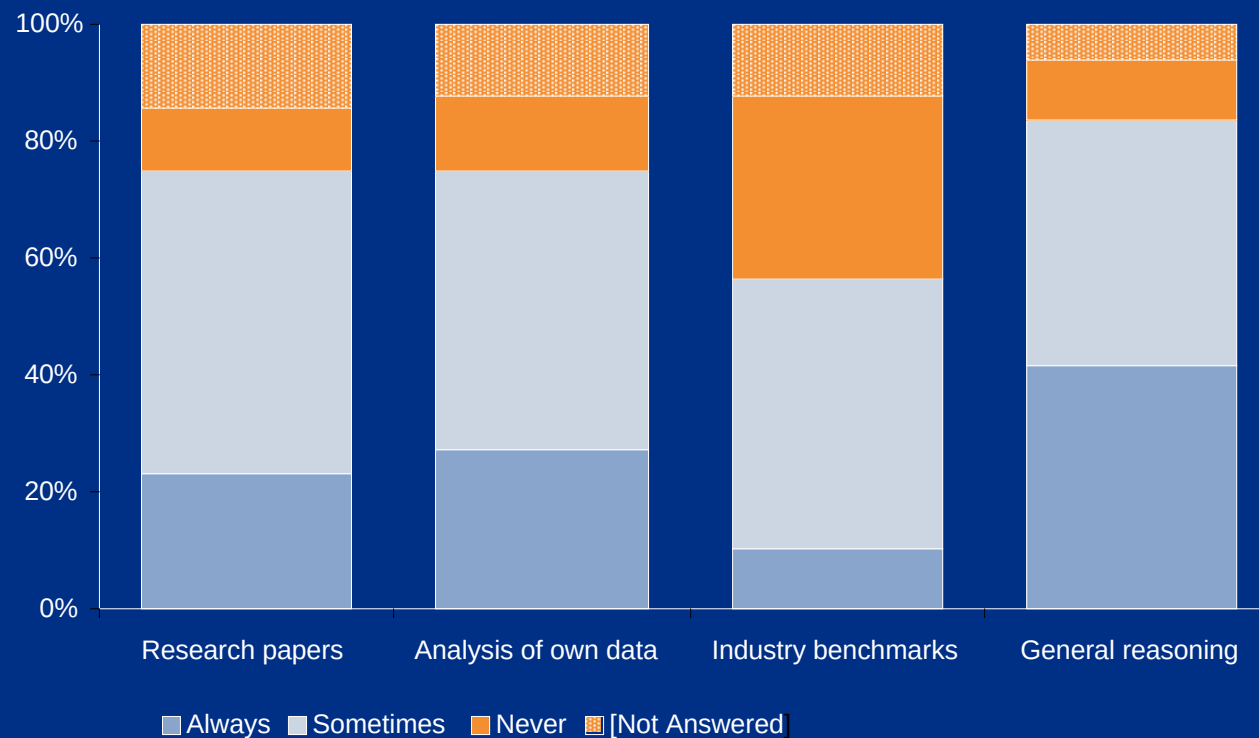
Reserving Practice - Australia

Uncertainty



- The graph shows the results for only the 54% of respondents involved in diversification benefits derivation

Derivation of diversification benefits



Reserving Practice - Australia

Uncertainty



- **Some other comments on risk margin?**
 - No consistency in calculating risk margins leading to discrepancies in reported results
 - Not enough guidance on risk margins
 - A more conservative number is not necessarily a better number for shareholders
 - Risk margins may be an area of reputation risk
 - Should focus on getting central estimates as accurate as possible, risk margins are a distraction. The level of capital resources is a far more significant issue.
 - We would be better off if APRA mandated a schedule of margins to use as a function of class of business and size of liability

Reserving Practice - Australia

Uncertainty: New Framework



- **IAA Risk Margin Taskforce Discussion Paper “A Framework for Assessing Risk Margins”**
 - Focus on framework for APRA risk margins
 - Principles equally valid for high probabilities of adequacy
 - Not a paper on stochastic reserving
 - Framework designed to integrate central estimate analysis with risk margin analysis
 - Moving away from *bolt on* approach that is largely independent of central estimate analysis

Reserving Practice - Australia

Uncertainty: New Framework



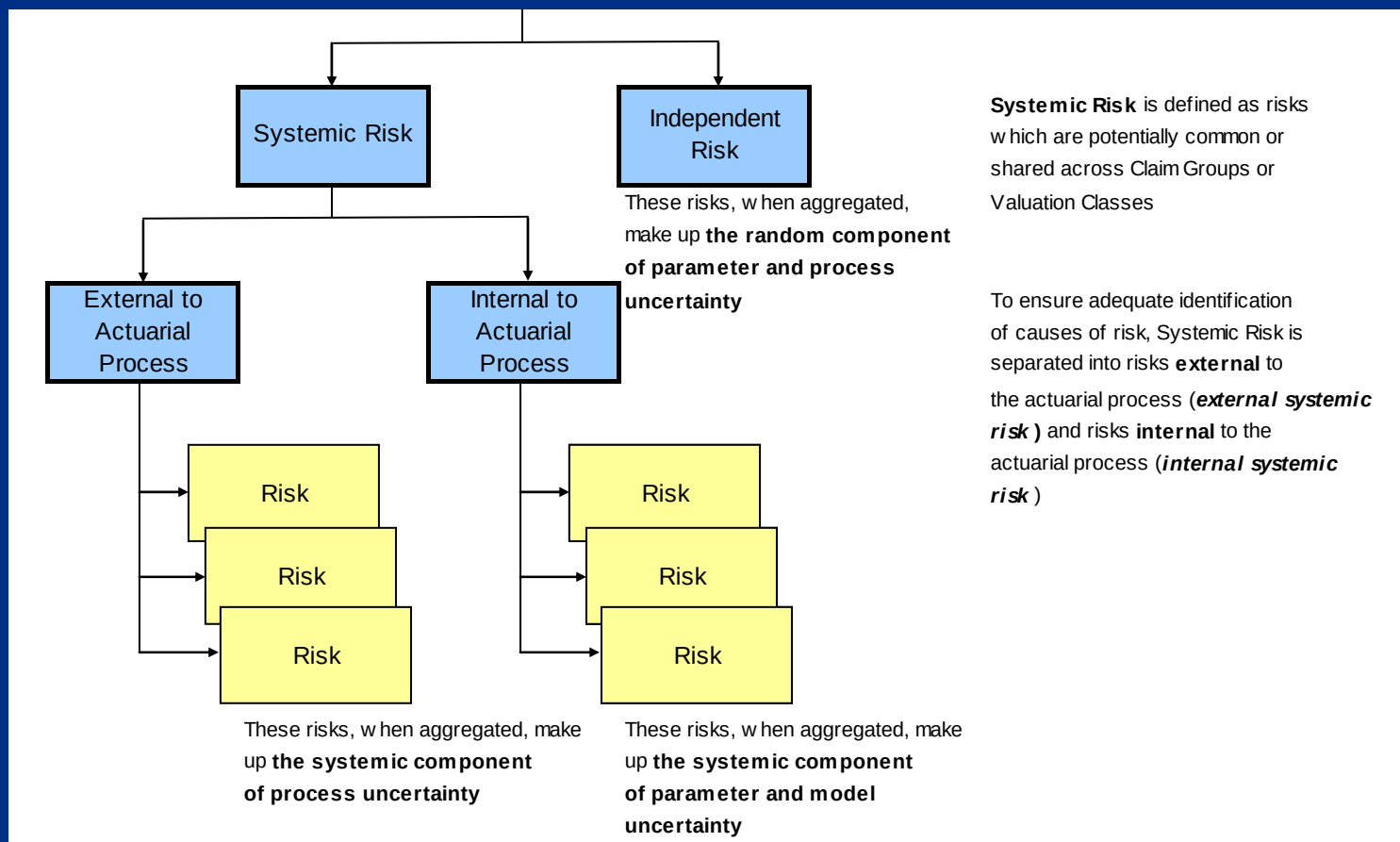
Step	Framework component	Description	Section of paper
1	Portfolio preparation	Determine valuation portfolios, claim groups and techniques to deploy for each claim group	Section 2.3
2	Independent risk analysis	Conduct quantitative analysis, conduct benchmarking where appropriate, conduct retrospective analysis for stable periods	Sections 2.4 and 3
3	Internal systemic risk analysis	Apply balanced scorecard approach to objectively score central estimate valuation methodologies. Conduct analysis to determine appropriate CoVs to map to scores.	Sections 2.5 and 4
4	External systemic risk analysis	Identify, categorise and quantify potential future external sources of systemic risk	Sections 2.5 and 4
5	Analysis of correlation effects	Select correlation coefficients between valuation classes and between outstanding claim and premium liabilities for internal systemic risk and for each external systemic risk category.	Sections 2.5
6	Consolidation of analysis	Consolidate CoVs and correlation coefficients. Independence assumed between three sources of uncertainty.	Section 2.6
7	Additional analysis	Conduct sensitivity testing, scenario testing, internal and external benchmarking and hindsight analysis.	Section 2.7
8	Documentation	Document the analysis and judgement relating to each step of the framework	Section 2.8
9	Review	Conduct annual reviews of key assumptions in the context of emerging experience. Full deployment of the framework at least every three years, including active interactions with business unit management.	Section 2.8

Reserving Practice - Australia

Uncertainty: New Framework



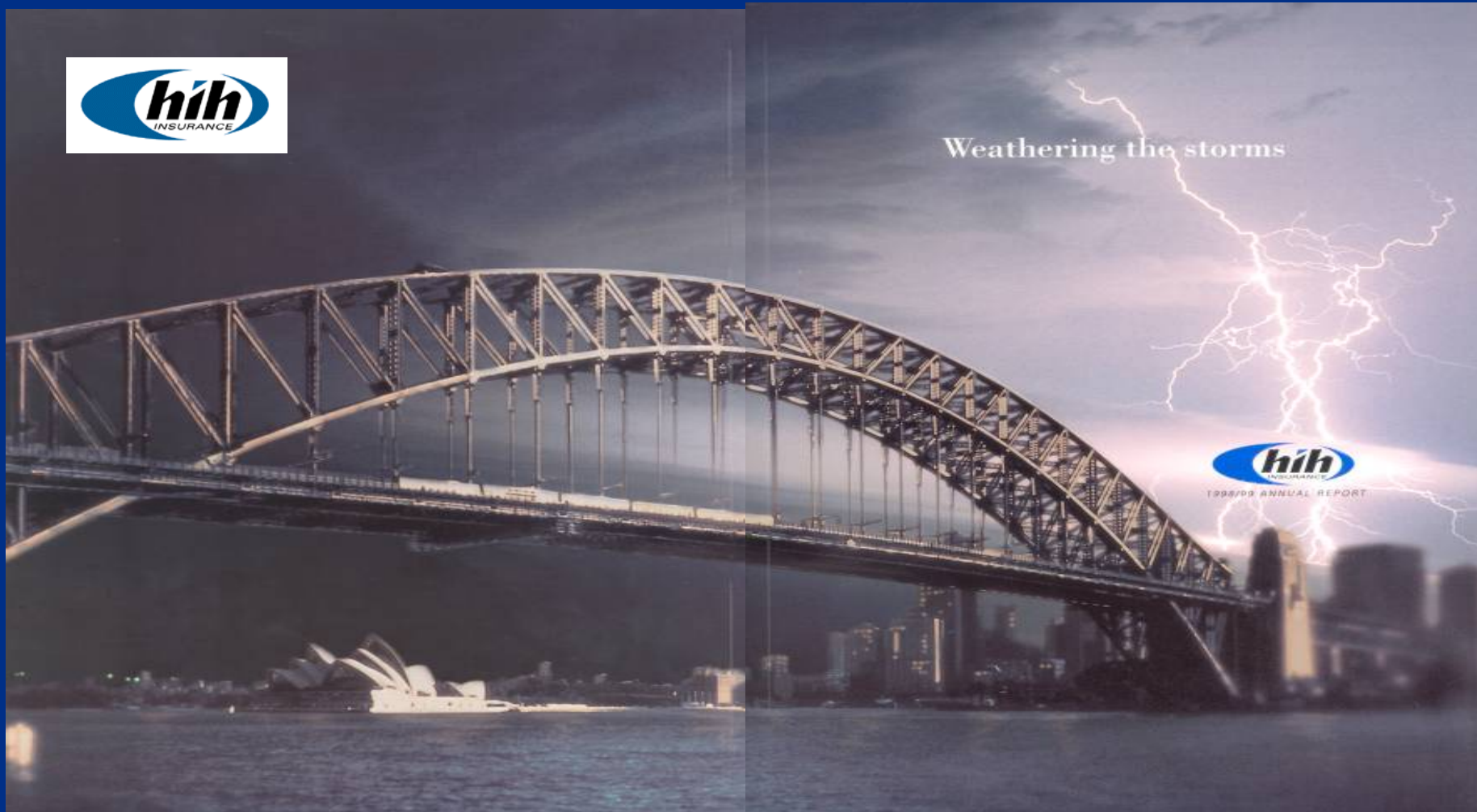
Sources of uncertainty





A Response to Collapse – The Big Collapses

HIH (The Australia's Biggest Corporate Collapse)



A Response to Collapse – The Big Collapses

The Drivers – what's went wrong?



Worldwide exposure

- New Zealand
- UK
- US and South America
- Far east

Type of business written

- Strong emphasis on Liability Business
- Australian Domestic Corporate and Compulsory Classes (*CTP, Builders Warranty...*)
- Lloyd's – Cotesworth Syndicates
- UK London Market – UK Branches
- Workers Compensation (US)
- Marine – World Wide

A Response to Collapse – The Big Collapses

The Drivers – what's went wrong?



- **Under pricing and under reserving**
- **Under-capitalized**
- Rapid expansion overseas
- Inadequate procedures in place on take over of FAI and WMG
- Reliance on professional advisors
- Very unfavorable legal environment
- Significant down cycle in world wide market (especially in reinsurance and Lloyds)
- **Poor financial control systems**
- **Poor management & Dominant senior management**
- Extravagant spending
- Abuse of financial reinsurance and accounting
- **Audit Issue – Underestimated the liabilities (Technical Provision / Financial reinsurance) and overstated the assets**

A Response to Collapse – The Big Collapses

The Impacts – who is affected?



Shareholders

- Loss of investment

Policyholders

- Lost of insurance cover
 - Personal and Domestic Insurance → Allianz
 - Workers Compensation → NRMA (Currently IAG)
 - Small Business, Rural and Commercial Insurance → Allianz
 - Travel Insurance → QBE
 - Builder Warranty → Royal & Sun Alliance Australia (Temporary Cover)
- Government rescue → From “First” resort to “**Last**” Resort
- Escalate premium

Claimants

- Lost of compensation and income (eg: disability claimants)

Building Industry / Professional Indemnity

- Government Rescue

A Response to Collapse – The Big Collapses

The Responses : HIH Royal Commission

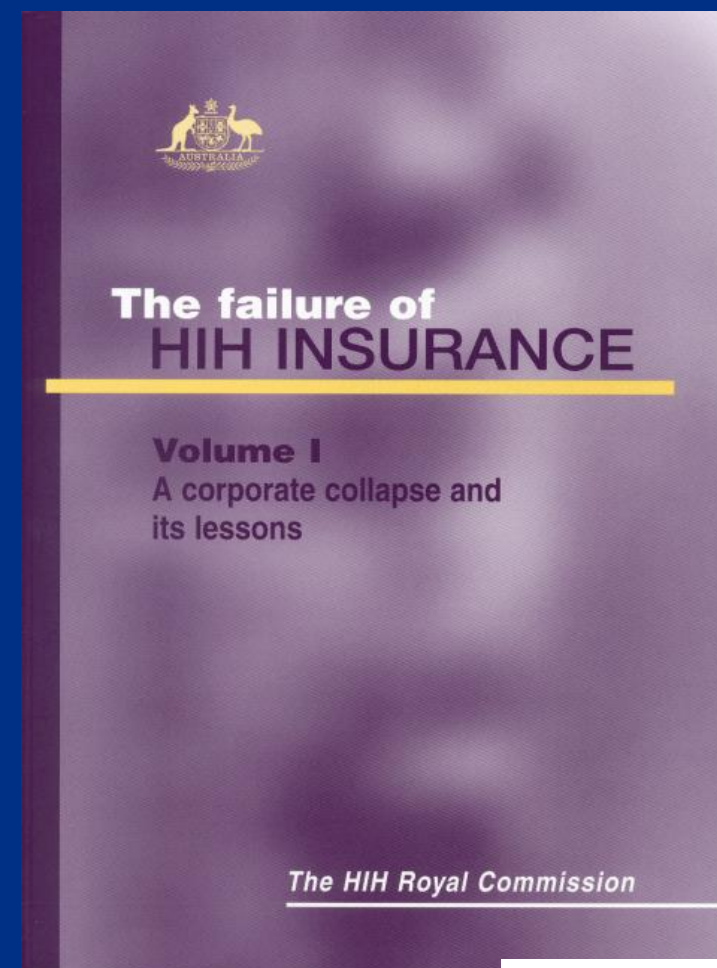


18 Months hearing

Report released : April 2003

Recommendation on APRA

- Urgent structure review
- Develop a more sceptical questioning approach to its supervision of insurers
- Improve staff training
- Establish an advisory board



A Response to Collapse – The Big Collapses

The Responses



Tort Reform

Civil Liability Act 2002 (NSW)

Personal Injuries Proceeding Act 2002 (QLD)

Statutes Amendment (Liability for Personal Injury) Act 2002

Civil Law (Wrongs) Act 2002

Dust Diseases reforms

Dust Diseases Tribunal Act

Dust Diseases Bill 2005 (SA)

Dust Diseases Act 2005 No.78 (SA)

Ongoing Litigation

- Breach of Corporations Act
- Criminal Charges
- Financial Reinsurance
 - Gen Re, FAI, New Cap Re, Zurich Australia

Regulatory Reform – More to Come!



PM Calls HIH Royal Commission
22 May 2001
Australian Financial Review

HIH boss 'punishes himself' over collapse
March 18, 2005 - 2:20PM
Sydney Morning Herald

ASIC Sues Three HIH Directors
25 May 2001
Australian Financial Review

HIH founder released from prison
Herald Sun
Source: Sydney Morning Herald 21 Sept 2008
14 Jan 2008





Regulation

The World Leader or Tyrant

APRA



Australian Prudential Regulation Authority : APRA

Established on 1 July 1998

The Australian Prudential Regulation Authority (APRA) is the prudential regulator of the Australian financial services industry. It oversees banks, credit unions, building societies, general insurance and reinsurance companies, life insurance, friendly societies, and most members of the superannuation industry.

APRA Regulates across all States – Insurers governed and regulated by federal Law; subject to State based insurance taxes and underwriting regimes for Workers Compensation and Motor Injury

Australian Securities & Investments Commission : ASIC

Restructured from Australian Securities Commission (ASC) on 1 July 1998

The Australian Securities & Investments Commission (ASIC) is an independent Australian government body that acts as Australia's corporate regulator. ASIC's role is to enforce and regulate company and financial services laws to protect Australian consumers, investors and creditors.

Regulation

The World Leader or Tyrant

Regulatory Reform : General Insurance Reform Act 2001



Effective 1 July 2002

- General insurers had to reapply for authorisation
- Maintenance of adequate risk management procedures
- Introduction of:
 - Approved Actuary and Approved Auditor
 - Increased capital requirement : Minimum capital increased from \$2m to \$5m
 - Minimal Capital Charge (MCR) = Insurance Risk Charge + Investment Risk Charge + Concentration Risk Charge
 - Capital loading on different types of assets (similar approach is used in the supervision of banks)
 - Risk based Based Capital Model

Regulation

The World Leader or Tyrant

APRA Reform 2008



APRA – General Insurance Prudential Standards and Guidance Notes [Revised July 2008]

GPS 001 Definitions

GPS 110 Capital Adequacy

- GPS 112 Capital Adequacy: Measurement of Capital
- GPS 114 Capital Adequacy: Investment Risk Capital Charge
- GPS 115 Capital Adequacy: Insurance Risk Capital Charge
- GPS 116 Capital Adequacy: Concentration Risk Capital Charge

GPS 120 Assets in Australia

GPS 220 Risk Management

GPS 230 Reinsurance Management

GPS 310 Audit and Actuarial Reporting and Valuation

- Inflated and Discounted Insurance Liabilities
- Risk Margin
- Mandatory External Peer Review (EPR) and Financial Condition Report (FCR)

Regulation

The World Leader or Tyrant

Regulatory Reform : General Insurance Reform Act 2001



List of APRA General Insurance Prudential Standards and Guidance Notes

- GPS001 Definitions
- GPS110 and GPS111 Capital Adequacy for General Insurers and Level 2 Group
- GPS120 Assets in Australia for General Insurers
- GPS210 Liability Valuation for General Insurers
- GGN210.1 Actuarial Opinions and Reports on General Insurance Liabilities
- GPS220 and GPS221 Risk Management for General Insurers and Level 2 Group
- GPS222 Business Continuity Management
- GPS230 Reinsurance Arrangements for General Insurers
- GPS310 and GPS 311 Audit and Actuarial Valuation for General Insurers and Level 2 Group
- GPS510 Governance
- GPS520 Fit and Proper
- GPG240 Insurance Risk
- GPG510 Governance
- GPG520 Fit and Proper

Regulation

The World Leader or Tyrant

Regulatory Reform : More



- **Medical Indemnity (Prudential Supervision and Product Standards) Act 2003**
- **Financial Services Reform Act 2001**
- Tort reforms
- Dust Diseases reforms
- **Fit and Proper person requirements – all officers and Directors including the Approved Actuary and Auditor**
- **New Reporting Requirements**
 - Mandatory External Peer Review
 - Mandatory Financial Condition Reports
- **Any More...**



The Role of the Actuary

Approved Actuary Role: ILVR



- Statutory role to assess liabilities for Regulator (APRA) returns
 - Insurance Liability Valuation Report (ILVR)
 - Outstanding Claims
 - Premium Liabilities
 - Discounted
 - Explicit Risk Margins to a 75% POA
 - Governed by
 - GPS 310 Audit and Actuarial Valuation
 - Professional Standard 300
- Note: ASIC & Tax Financial Statements may differ but all would seek the input of the AA
- Similar to MAS requirements on the valuation of insurance liabilities requirements, but.....
 - More prescriptive requirements on the treatment of unclosed business, retrospective premiums and bound but not incepted business
 - More prescriptive requirements on items to be investigated during the valuation process and ILVR disclosure requirements from Professional Standard 300
 - Post balance date adjustments

The Role of the Actuary

External Peer Review



- Also a recommendation of the HII Commission
- Mandatory from 30 June 2006 year ends
- GPS 310 Audit and Actuarial Valuation
- Professional Standard 100
 - External Peer Review for General Insurance and Life Insurance
- Purpose
 - To review and provide a conclusion on the reasonableness of the Primary Actuary's Actuarial Advice. There must be consideration of the investigations undertaken, as well as Specified Valuation results obtained, by the Primary Actuary. Additionally, the Reviewing Actuary must consider whether key risks and uncertainties have been identified by the Primary Actuary
- Difference from Actuarial Audit
 - Process focus

Professional Standard 100: Scope

Requires consideration of:

- Scope, Limitations, Restrictions & Reliances
- Data: appropriateness, sufficiency, checking, reconciliations & reliability
- Valuation methods: appropriateness, support for selection & application
- Assumptions: process, monitoring of experience, reasonableness & application
- Assumptions: Impact of catastrophe, risk margins, sensitivity of results
- Controls: adequacy of internal control process
- Specified results
- Compliance with standards, Legislation and Regulations

The Role of the Actuary

Financial Condition Report



- Introduced at a later stage: 30 June 2006
- Professional Standard 305
 - Financial Condition Reports for General Insurance
- Purpose
 - The FCR is intended to provide an impartial assessment of an Entity's financial condition and, for a general insurer authorised by APRA, in the context of its current APRA authorisation

FCR must cover:

- Business overview
- Recent experience
- Insurance Liability Valuation
- Adequacy of past estimates for insurance liabilities
- Profitability, including premium adequacy
- Asset and liability management
- Capital management and capital adequacy
- Reinsurance arrangements
- Risk management, and
- Additional issue(s) identified by the AA as material

The Role of the Actuary

Stakeholder Consultation: 2008



- Surveyed both AA, RA and Users (Management, Board and APRA)
- Key observations:
 - Actuaries (AA and RA): coping OK with the requirements even with the FCR
 - Users: find all reports (ILVR, EPR and FCR) useful and helpful but
 - Could be improved
 - Some differing views on FCR
- Would comments be different under adverse economic conditions?
- Best practice:
 - Draw out key observations in reports
 - Think of reports from the users view points
 - The best reports are those where the actuary is “fearless”



Recap and Conclusions



- **Overview**

- A major and developed market

- **Regulation**

The World Leader or Tyrant

- Heavy Regulatory change post HIH
- Regulatory Reforms introduce/ incorporate Actuarial role

- **Actuarial role extensive**

- ILVR
- FCR
- EPR

- **Reserving practice**

- Driven by regime
- Consistent central estimate reserving practice
- Measuring of uncertainties varies dependent on regulatory regime and professional guidelines

- **Thank you for your time**