



The Actuarial Profession

making financial sense of the future

Ratemaking and Professionalism Abroad: UK Pricing Issues Taskforce "GRIP"

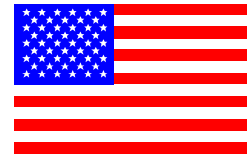
Duncan Anderson

Chairman of GRIP

UK / US dictionary



- General Insurance
- Motor
- Household
- CPD
- "Profession"



P&C

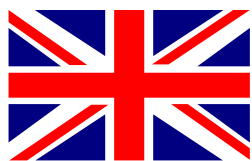
Auto

Homeowners

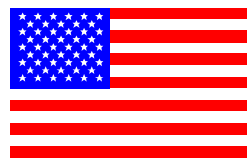
Continuing Professional
Development

Faculty & Institute
of Actuaries in the UK

UK / US dictionary



- We (something positive)
- We (something negative)
- We (something controversial)



The global actuarial community

Me, the four other Brits in the room, and the entire UK actuarial community

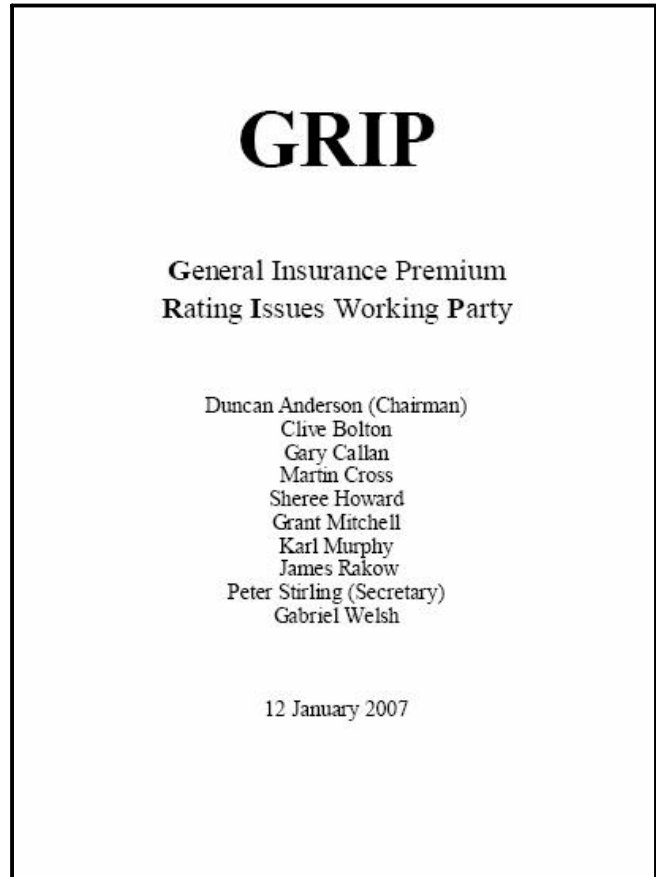
The members of the GRIP taskforce alone!

History

- General Insurance Board of the Faculty & Institute of Actuaries ("GI Board")
- GRIT
 - **G**eneral insurance **R**eserving **I**ssues **T**askforce
 - Review role of UK Profession in P&C reserving
 - 2004 - 2006
- GRIP
 - **G**eneral insurance premium **R**ating **I**ssues working **P**arty
 - Review role of UK Profession in P&C ratemaking
 - 2005 - 2007

Timing

- Started second half 2005
- Draft consultation report
September 2006
- Final report January 2007
 - www.actuaries.org.uk/grip
 - www.casact.org search for "GRIP"
- GI Board meeting March 22
to discuss implementation
- Sessional paper May 2007



GRIP - Membership

- Duncan Anderson
- Clive Bolton
- Gary Callan
- Martin Cross
- Sheree Howard
- Grant Mitchell
- Karl Murphy
- James Rakow
- Peter Stirling
- Gabriel Welsh

With some help from...

- ActEd
- Clive Allison
- Anju Bell
- David Bennett
- Dan Bishop
- Martin Cairns
- Chris Carlson
- Alex Foord
- Will Forster
- Paul Hewett
- Neil Hilary
- Don Johnstone
- Tom Jowett
- Dermot Marron
- David O'Connor
- Estelle Pearson
- John Pedrick
- David Sanders
- Dawn Wakefield
- Ryan Warren
- Jeremy Waite
- Tom Wright

Terms of reference / workstreams

- Role of Pricing Actuary
- Methods
- Communication
- Education
- CPD
- Professional Guidance
- Treating Customers Fairly
- Issues of relevance to Institute and Faculty members involved in pricing direct insurance (individual and account level products) and reinsurance

Consultation

- The UK Profession
 - Workstream subgroups
 - GIRO 2005
 - Consultation draft
 - GIRO 2006
- CAS
- Institute of Actuaries in Australia
- Society of Actuaries in Ireland
- "Stakeholders" (users of our advice)

Stakeholder Interviews

- Key themes emerging

- Positive view of contribution of actuaries
 - "It's hard to imagine pricing now without actuarial input"
- Communication skills
 - 14/17 felt this was an issue
 - related to this are persuasion / management skills
- Need to improve understanding of the market & the product / risks
- Need to work more closely with other parts of the business

Terms of reference / workstreams

- **Role of Pricing Actuary**
- Methods
- Communication
- Education
- CPD
- Professional Guidance
- Treating Customers Fairly
- To review the areas in which UK actuaries are currently involved within the overall premium rating process, and to identify any areas where actuaries might be able to improve their contribution and/or add further value

Role - Background

- Believe role of pricing actuaries has changed
- Developed models of actuarial pricing role using UK auto history as an initial case study
- Identified actuarial role in each phase as it appears in today's market
- Used this as a basis for assessing:
 - The "general health" of actuarial involvement in pricing
 - Potential future roles for actuaries
 - Skills and capabilities required
 - How the business models evolve

Pricing & Underwriting Models

Model	Description	Actuarial Role
Tariff	<ul style="list-style-type: none">• The Regulator has significant influence over the rates• Key objective is to ensure no customer groups are discriminated against	<ul style="list-style-type: none">• Provides supporting analysis• Negotiates with (or be!) the Regulator• Seen as professional and objective
Underwriting	<ul style="list-style-type: none">• "Correct" pricing cannot be determined purely by numbers• Data may be incomplete or not exist• Subjective factors play a significant role	<ul style="list-style-type: none">• Works closely with the underwriter• Blends science with the underwriters art• Manager with actuarial skills rather than motivated by craft
Cost Plus	<ul style="list-style-type: none">• Statically based analysis• Complexity dependent on the data• Driven by expected cost of claims plus expense• Single distribution channel	<ul style="list-style-type: none">• Data sourcing & extraction• Statistical skills eg GLM• Interpretation of operational costs

Pricing & Underwriting Models

Model	Description	Actuarial Role
Distribution	<ul style="list-style-type: none">• Distinction between cost & price• Loss cost as Cost + but also considers price elasticity• Managing pricing strategies for similar products over multiple distribution channels	<ul style="list-style-type: none">• Still has the responsibilities from the Cost + model• Additional involvement around elasticity assessment• Interaction with more stakeholders eg marketing & corporate partners
Industrial	<ul style="list-style-type: none">• Very large companies• Multiple brands, countries, channels• Machine orientated approach• Focus on operating efficiency and economies of scale	<ul style="list-style-type: none">• Balance between research & maintenance of systems• Data handling and system efficiency• Loss cost model process productised & done by others

Class of Business	Category	Tariff	Qualttv UW	Cost Plus	Distribution	Industrial
UK Personal Auto	1960s	↔				
	1970s	↔				
	1980s	↔				
	1990s	↔				
	Now	↔				
Indian Auto Market - Now		↔				
UK Domestic Household		↔				
Pet		↔				
Travel		↔				
Creditor		↔				
Motor Vehicle Breakdown		↔				
Home Response		↔				
Commercial Motor	Small Vans	↔				
	Small Fleet	↔				
	Large Fleet	↔				
Commercial Property	SME	↔				
	Other	↔				
Pecuniary Loss	SME	↔				
	Other	↔				
General Liability	SME	↔				
	Other	↔				
Professional Indemnity	SME	↔				
	Other	↔				
D&O		↔				
Marine		↔				
Aviation		↔				
Medical Malpractice		↔				
Facultative Reinsurance		↔				
Treaty Reinsurance		↔				
Commercial Crime		↔				
Bankers Blanket Bond		↔				

Future challenges?

- Tariff
 - Understanding cross-subsidies, influencing regulators
- Qualitative Underwriting
 - Governance vs management
- Cost Plus
 - Statistical and business training
- Distribution
 - Additional business and non-technical skills
- Industrial
 - Operational experience

Role - Issues arising

- Governance vs business advice
 - UK's new mandatory "GN12" guidance note
- Actuarial skills no longer seen as a prerequisite to career in P&C pricing management
- Wider understanding of business process needed
- Actuaries better at introducing new techniques rather than managing them once implemented?
- Recent personal lines innovations coming from outside the Profession
- Does our highest value come from innovation and bridging disciplines?

Role - Recommendations

- Education and CPD - see later...
- GI Board debate the desired role the Profession should play in evolution of GI pricing
- The Profession should debate and agree how to balance need for strong governance with desire for actuaries to hold management positions in value-adding pricing functions

Terms of reference / workstreams

- Role of Pricing Actuary
 - **Methods**
 - Communication
 - Education
 - CPD
 - Professional Guidance
 - Treating Customers Fairly
- To summarise, in broad terms, current methods used by actuaries in P&C ratemaking
 - To identify areas where types of methods and approaches could potentially be improved and to identify areas where existing methods could be used more appropriately
 - To suggest potential areas for further research

Summary of methods used

- Contents page for a future definitive Premium Rating Manual outlining best practice
 - references to existing papers explaining methods
- Very different methods in use in the London/ reinsurance markets compared to personal lines, with commercial lines falling somewhere in between
- Sub-groups established to focus on London Market and personal lines, with commentary on commercial lines differences
- Brief discussion of capital allocation methods
- Results set out in 100 pages of appendices...

Personal lines - topics discussed

- Relativity analyses
 - GLMs
 - GAMs
 - GNLMs
 - CART et al
- Classification
 - spatial smoothing
 - clustering methods
 - non-geographical classification
 - external factors
- Technical base rates
 - expenses
 - bottom-up vs top-down
 - link with reserving
 - inflation / trends
 - event/large claim/reinsurance loads
 - exposure changes
 - No Claims Discount
- Implementation issues

London Market - topics discussed

- Experience rating
- Exposure rating
- Estimating the loss cost
- Pricing excess of loss
- Stochastic and other methods
- Exposure measures
- Data issues
- Increased Limit Factors
- Attachment of cover
- Contract structure
- Other contract complications
- Large claims and latent claims
- Other pricing factors
- Catastrophe models in pricing
- Developing models for underwriters
- Rate monitoring

Methods - Recommendations

- Areas for research and development
 - Integration with "ICA" DFA models
 - Expense loadings
 - Variable capital loads
 - Catastrophe models
 - Implementation
 - Market prices of insurance liabilities
 - Link with reserving
 - Effect of climate change
 - Pricing for latent claims
 - Industry benchmarks / market information
 - Game theory
 - Demand modeling
 - Price optimization

Methods - Recommendations

- Premium Rating Manual
- Appendices C, D, E hopefully help
- Recommend the Profession sets up a "Wiki"
 - on-line editable document, eg
 - www.wikipedia.com
 - <http://toolkit.pbwiki.com>

Wiki - issues

- Board of editors
 - who?
 - gatekeeper or reviewer?
- Contributors
 - CAS / IAA / ASTIN ?
 - only?
- Resolution of disputes?

Terms of reference / workstreams

- Role of Pricing Actuary
 - Methods
 - **Communication**
 - Education
 - CPD
 - Professional Guidance
 - Treating Customers Fairly
- To consider whether and how improvements could be made to the way GI pricing actuaries communicate

Communication

- Stakeholder feedback was clear
 - exposition of technical matters
 - persuasion skills
 - listening skills
 - turning numbers into recommendations
- Consistent with GRIT feedback, Nick Dumbreck's presidential address, and wider feedback within Profession

Communication

- Pricing actuaries communicate in a range of capacities...
 - analyst, portfolio management, senior management...
- ...with a wide range of people...
 - internal actuaries, external actuaries, underwriters, sales, CEOs, finance departments, the public, the press, shareholders, regulators, IT departments, operational departments...
- ...with a range of types of communication
 - oral, written, graphical, visual, listening...

Communication - Conclusions

- Significant issue which is bigger than GRIP
- Awareness
- Education / CPD - see soon...
- Underwriting cycle
- "Factual" pricing issues
 - list of common pitfalls
 - glossary

Terms of reference / workstreams

- Role of Pricing Actuary
- Methods
- Communication
- **Education**
- **CPD**
- Professional Guidance
- Treating Customers Fairly
- Consider whether the content of the (UK) exam syllabus is adequate to prepare actuaries to work in the pricing area
- Consider whether more should be done to provide CPD in this area, and if so what

Education

- Review of current syllabuses relevant to P&C
 - themes from Methods, Roles and Communication workstreams and stakeholder feedback
 - comparison with CAS and Australian syllabuses
 - review as practitioners
- Considered in context of other Faculty/Institute education developments
 - in particular proposed second specialist P&C exam

Education

- CAS
 - unsurprisingly, more depth on pricing issues
 - eg general rating principles, GLMs, individual risk rating, excess and deductible rating, ILFs, reinsurance pricing
 - more detailed reading material
 - rate-filing / ISO / NCCI
- IAA
 - review confirmed conclusions from CAS review...

Education - Recommendations

- P&C element of UK examination syllabus be enhanced to provide more detail on:
 - pricing basics
 - policy terminology
 - insurance products (CII?)
 - exposure measures
 - experience rating
 - trends
 - profit, expense, risk and catastrophe loads
 - GLMs (example syllabus item provided)
 - demand modeling, price elasticity, price optimization
 - understanding rating factors
 - individual risk rating
 - excess and deductible rating
 - reinsurance rating
 - catastrophe modeling
 - medical malpractice and professional liability
 - use of ISO / NCCI information

Education - Recommendations

- Profession should consider using CAS, IAA syllabuses and exam question style as part of basis for such a review
- Overseas topics of relevance also be included
- Some communication pitfalls should be covered
- At the same time, ensure that syllabus changes to not detract from goal of developing well rounded professionals who can think for themselves

CPD

- Current options for UK pricing actuaries
 - GIRO
 - Current Issues in General Insurance seminar
 - ASTIN
 - Lighthill Risk Network
 - CAS Seminar on Ratemaking
 - CAS Seminar on Predictive Modeling

CPD - Recommendations

- Introduce one day annual UK pricing seminar from 2008
 - in or near London
 - February or November
 - include introductory sessions
 - ease the strain on GIRO
 - give an alternative "main" CPD option
- Are we where the CAS was ~20 years ago?

CPD - Recommendations

- Premium rating manual / Wiki
- Improve content and search facility of Faculty/Institute website
 - (see, eg the CAS website!)

CPD - Non-technical skills

- There was a debate over whether it is for Profession to train in this area
- Noted with interest
 - CAS workshop approach
 - IAA Commercial Actuarial Practice course
- Market/working/end-to-end knowledge
 - too many exams an impediment?

CPD - Recommendations

- Profession to consider partnering with a third party training company to develop training material relating to communication and management skills
- Bear in mind stakeholder plea for greater understanding of products and markets when designing CPD

Terms of reference / workstreams

- Role of Pricing Actuary
 - Methods
 - Communication
 - Education
 - CPD
 - **Professional Guidance**
 - Treating Customers Fairly
- To consider whether existing (UK) professional guidance should be modified / clarified to make its application to premium rating clearer
 - To consider whether there is a need for more detailed best practice guidance that would be issued by the Profession setting minimum standards for a direct business pricing assignment

UK Guidance - a changing landscape

- During lifetime of GRIP
 - responsibility for technical standards for actuarial work moved from Faculty/Institute to the Financial Reporting Council and the Board for Actuarial Standards ("BAS")
 - main P&C Guidance Note ("GN12") changed and became mandatory
- UK guidance now
 - PCS: Professional Conduct Standards
 - GN50: General Insurance Principles and Practice
 - GN12 v4.0: General Insurance: Actuarial Reports

PCS / GN50 / GN12

- PCS / GN50 - no major issues re pricing
- New GN12
 - GRIP had significant concerns with initial draft (too onerous, reserving bias)
 - revised draft substantially addressed these concerns
 - conflicting guidance re communication of GN50?
 - some points hard to interpret in ratemaking context
- Clearer stance on guidance is welcomed but if guidance is too onerous this will be a barrier to what our stakeholders want - actuaries getting closer the business

Overseas Professional Guidance

- Reviewed equivalent guidance issued by
 - CAS
 - Institute of Actuaries of Australia
 - Royal Statistical Society
 - Institute of Chartered Accountants
- CAS
 - Statement of Principles Regarding P&C Ratemaking
 - 10 ASOPs
 - Many ASOPs created to address US regulatory issues
 - Many issues ASOPs covered by GN50 and GN12
 - ASOPs rather closer to "Advisory Note"

Overseas Professional Guidance

- Institute of Actuaries of Australia - pricing
 - Only one specific pricing note, relating to New South Wales Motor Accidents Scheme
- Royal Statistical Society
 - General Code of Conduct
 - No guidance comparable with UK Profession's guidance notes

"Two hats"

- Institute of Actuaries of Australia - Code of Professional Conduct
 - **Actuarial Advice** (statutory role, within scope of Professional Standards, or advice given in accordance with professional requirements regarding impartiality, expertise and formal reporting)
 - **Professional Services** (everything else)
 - Different levels of guidance apply
- Institute of Chartered Accountants - Code of Ethics
 - Distinction made between accountants in business and accountants in public practice

Professional Guidance - Recommendations

- Given stakeholder feedback, and given comparison with CAS, IAA and RSS, GRIP believes that further formal professional guidance is not required
 - improving standards and value of actuarial work best done via education and CPD
 - *Information and Assistance Notes* (IANs) should be issued to help pricing actuaries interpret GN12 and GN50
 - GI Board to consider technical advisory notes along lines of US ASOPs, perhaps using elements of the forthcoming Premium Rating Manual

Professional Guidance - Recommendations

- GRIP feels that the IAA "two hat" approach has a number of significant attractions to pricing actuaries
- GRIP recommends that the Profession debates with BAS the merits of adopting the IAA approach
- In addition there may be merit in making a distinction between actuaries in business and actuaries in public practice

Terms of reference / workstreams

- Role of Pricing Actuary
 - Methods
 - Communication
 - Education
 - CPD
 - Professional Guidance
 - **Treating Customers Fairly**
- To consider trends in the area of the Treating Customers Fairly ("TCF") and to consider what the profession might need to consider in preparation for issues arising in this area

TCF - Background

- UK regulator - Financial Services Authority (FSA)
- Key strand of the FSA's objective of consumer protection
- Principles based approach
- *"A firm must pay due regard to the interests of its customers and treat them fairly"*
- Affects many aspects of what a company does, including product design, disclosure, sales processes, claims handling, systems and controls
- Senior management's responsibility rather than simply another compliance requirement

TCF - Background re pricing

- *"TCF does not indicate that we intend to become an economic regulator. It is not our role to determine firms' pricing policies"*

FSA Paper "Treating customers fairly - building on progress" July 2005

- *"TCF does not mean customers are no longer expected to take decisions or to take responsibility for them"*

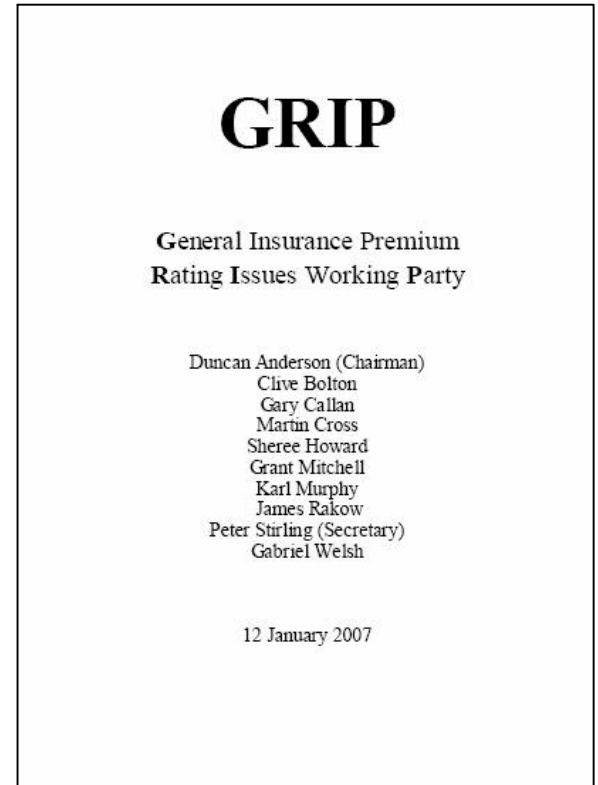
FSA Paper "Treating customers fairly - progress and next steps" July 2004

TCF - GRIP's view

- Pooling / granularity of risk
 - GRIP believes this is not within remit of TCF
- Utility pricing / price optimization
 - GRIP believes this is not within remit of TCF
 - Recommend awareness be maintained in this area
- Premium discounts
 - GRIP believes there may be potential issues around implied future discounts
 - Not purely a pricing issue
- Creditor
 - Potential issue, could be develop in a number of ways
 - GRIP recommends actuaries keep abreast of issues in this area

GRIP

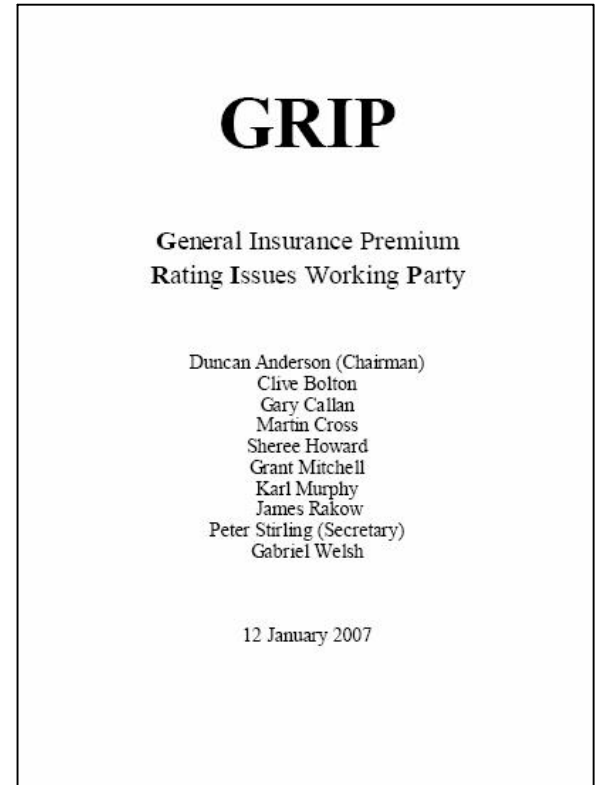
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Where now?

- Report now published
- Group disbanded
- GI Board meeting March 22
- Sessional paper May 21

- Of interest to CAS?
- Feedback welcome!





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