

Reserving for Guarantees in Income Protection and Critical Illness

Garth Lane
Adrian Pinington
Warwick 2005 April

What this session is not!

- $R = \sum \hat{i}'' v^t \times (1 + \text{trend})^t + \varepsilon$
- \hat{i}'' = claim incidence with allowance for mis-pricing risk
- v^t = discount factor with prudence margin
- trend = prudent trend assumption
- ε = allowance for shock event
- Stochastic modelling of parameters
- But of course

Time to smell the coffee...

- Formula \neq "The answer"
 - No matter how sophisticated your tools
- Kid ourselves to believe we can identify
 - Incidence distributions
 - Trend distribution
- 99.5% confidence ... nonsense

Unknown Quantum of Capital

- Contrast mortality and morbidity
 - Catastrophe aside mortality is relatively stable
 - Mortality has exhibited stable improvement patterns
 - Morbidity deterioration is unknown in the longer term
 - It is unlikely that this will ever be modelled satisfactorily as a stochastic process

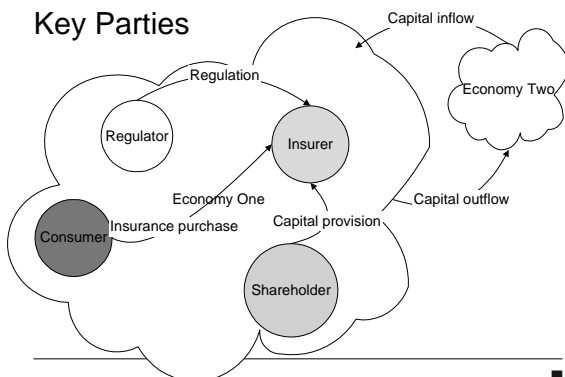
The Actuarial Profession
making financial sense of the future

What do we hope to achieve today?

- Review some qualitative factors
 - Interaction of regulation and reserving
 - Effects of the above on consumers
 - Capital Efficiency vs Macroeconomic performance
 - Prudence vs price (capital loadings)
- Stimulate debate in a wider context!

The Actuarial Profession
making financial sense of the future

Key Parties



The Actuarial Profession
making financial sense of the future

Insurance Purchasers' Aims

- CI and IP policy purchasers
 - Before purchase: – price is king
 - After purchase: – low claim hurdle + high security
- Share purchasers
 - Protection from corporate fraud
 - Loss mitigation
 - Stable/constrained capital exposure

Consumer

Shareholder

The Actuarial Profession
making financial sense of the future

How Safe Is Safe Enough?

- Regulator - Investor
- Regulator - Policyholder
- Regulator - Mediation

Consumer

Regulator

Shareholder

The Actuarial Profession
making financial sense of the future

Capital Flight – Sunnier Shores

- Gold plated regulation favours the consumer protection interest too greatly
- Not too mention the special interests of employees of the regulator!
- Macroeconomic and Regulatory jurisdiction
- Sunnier shores do not always provide the best degree of protection

Regulator

The Actuarial Profession
making financial sense of the future

Relevant Theory

- Asymmetry of information
 - Market for lemons :- Quality and uncertainty and the market mechanism – George A Akerlof (1970)*
- Investor confidence and capital provision
 - Fear and social capitalism :- The law and macroeconomics of investor confidence – Steven A Ramirez (2002)

*Nobel Prize 2001

The Actuarial Profession
making financial sense of the future

What Are the Lemons?

- Car Owners have more information than Purchasers
- Immediate post purchase reduction in price
- Reduction in average quality and market size
- Most cars traded will be the lemons and good cars may not be traded at all.

The Actuarial Profession
making financial sense of the future

Market for Lemons

- Asymmetry of information on quality of goods
- Leads to ...Flight of quality (anti-selection)
- Also ...an application of Von Neumann-Morgenstern maximum utility theory

The Actuarial Profession
making financial sense of the future

Insurance Lemons

- An example is the provision of CI and IP cover for lives over 65
 - Price does not rise to match the risk
 - Huge anti-selection
 - If sales do take place the experience is very poor

The Actuarial Profession
making financial sense of the future

A Social Good - Good for Business?

- It is possible that every individual would be prepared to pay the expected cost of his cover
- Morbidity products not as much a social good as is healthcare cover
- Balance between Product availability and affordability soured by Lemons

The Actuarial Profession
making financial sense of the future

Reserving Lemons

- Asymmetry between future and present
- Asymmetry between buyers and sellers
- Consequent over prudent reserving and higher prices
- Leading to increased adverse selection and market contraction (reinsurance capacity)

The Actuarial Profession
making financial sense of the future

Final Lemons Quote

"In these markets social and private returns differ
so in some cases government intervention may
increase the welfare of all parties"

Which leads us to ...

The Actuarial Profession
making financial sense of the future

Fear and Social Capitalism

- 'Animal Spirits' – the Core instincts that move markets*
- Contraction when markets gripped by Fear
- Fear recognised and controlled through rational regulation
- Social Capitalism when public interests served

*John Maynard Keynes

The Actuarial Profession
making financial sense of the future

Fear

The Actuarial Profession
making financial sense of the future

Fear...

Lessons From Abroad



- Private Securities Litigation Reform Act
- Securities Litigation Uniform Standards Act
- Sarbanes-Oxley Act of 2002

Closer to Home



- Centre for Policy Studies – Letter to John Tiner
“The industry also feels that the FSA is vulnerable to political direction and influence. The FSA is seen as being unable to defend the industry it is intended to support against political or public criticism. This has created a sense of insecurity about future regulation. The ability of the industry to plan and to innovate is severely undermined.”

Close to the Bone



■ Centre for Policy Studies – Letter to John Tiner

“Its lack of accountability has nurtured a sense of disengagement and growing disillusionment within the financial services industry.”

“The industry fears that the FSA is an increasingly defensive and risk-averse organisation. This has contributed to a culture of prescriptive and increasingly complex regulation. ... Innovation is at risk of dwindling, competitiveness falling and consumer choice declining.”

The Actuarial Profession
making financial sense of the future

Regulation and Reserving

- ICA has created an opening
- We need sensible levels of reserves
- We need a culture of individual accountability
- We need to retain risk in the system and the awareness of risk

The Actuarial Profession
making financial sense of the future

Conclusion

- Core mathematical model understood and not complex
- Asymmetry of information undermines market
- Requirement for too much capital exposure undermines investor confidence leading to expensive product or non-availability
- It is imperative we get balance right if we don't we alienate one or both types of insurance purchaser – our future depends on it

The Actuarial Profession
making financial sense of the future

Discussion

The Actuarial Profession
making financial sense of the future
