



Society of Actuaries in Ireland

Operational Risk – Something New

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Agenda

- Why is Operational Risk important
- Influence of Solvency II
- Traditional methods of calculating Operational Risk Capital
- Risk event data
- Best estimate cost of operational risk
- Summary / Questions



Why is OP Risk Important

- Easy answer – Solvency II says it is and companies should hold capital
- But it is more than that, OP Risk costs real money
- “Catastrophic” losses
 - Regulator fines
 - Total break down of systems
 - Class actions
 - Major fraud events



Why is OP Risk Important

MetLife to Pay
\$500 Million to
Settle Death-
Benefit Probe

A £20 billion
pension mis-selling
scandal

Thousands hit
by Ulster Bank
Glitch

HSBC to pay
\$1.92 billion

Alico gets third
largest ever fine
from CBI

UBS fined \$1.5
billion over Libor
rigging

FSA fines Scottish
Equitable £2.8m
plus £60m redress



Why is OP Risk Important

- Easy answer – Solvency II says it is and companies should hold capital
- But it is more than that, OP Risk costs real money
- “Catastrophic” losses
 - Regulator fines
 - Total break down of systems
 - Class actions
 - Major fraud events
- “Drip Drip” losses
 - Claims leakage
 - Ex gratia payments
 - Admin errors / calculation errors
 - Not collecting charges and fees due
 - Small fraud
- Do we really allow for this cost when pricing products



Influence of Solvency II

- Companies have always been exposed to Operational Risk
- Solvency II has made Operational Risk more visible
- Dedicated operational risk teams exist in many insurance companies
- Operational risk is monitored on a regular basis by these teams
- Simple factor based methodology to calculate operational risk capital, but companies can use more sophisticated methods



Operational Risk Capital

- Simple factor based approach
 - Standard formula
- Implied Capital Model
- Income Volatility Model
- Advanced methods
 - Statistical model
 - Scenario analysis



Op Risk Capital – Scenario Analysis

- Problems
 - Quasi scientific
 - Relies upon a lot of subjective assumptions and expert judgement
 - How useful is it
- Identifying Risks
 - The exercise does make people think about risks, especially the “big” risks
 - Those involved should be imaginative “What if”, the “Black Swan” etc.
- Potential Loss
 - Forget about probability
 - What is the max loss, not always relevant but can work in many cases
 - Follow the worst case scenario, chain of events leading to large losses
 - Consider lower level losses, look at the company’s actual experience
- Probability
 - This is very subjective
 - Important for risk manager to provide oversight and consistency
 - Attempt to create an approximate loss distribution, what does it look like, is it reasonable



Scenario Analysis – Adding Value

- Obvious Benefits
 - The exercise should increase awareness of risk
 - The exercise should be used to identify new and emerging risks
- Really adding value
 - Identify controls that if they were in place would
 - Reduce the potential loss and / or
 - Reduce the likelihood of the loss event occurring
 - Document the controls and convert them into management actions
 - Assign clear responsibility for actions, the more senior the responsibility the better
 - Include the actions into objectives for remuneration purposes
 - At the next scenario analysis exercise review progress against actions and update calculations
- But
 - This is still a 1 in 200 view
 - What about a best estimate view



Risk Event Data

- Information Captured in your Loss Database
 - Date event reported
 - Date event started
 - Date event closed
 - Potential loss (with and without recovery)
 - Actual loss (with and without recovery)
 - Operational risk type / category
- Does this data look familiar
 - Non – life claims data

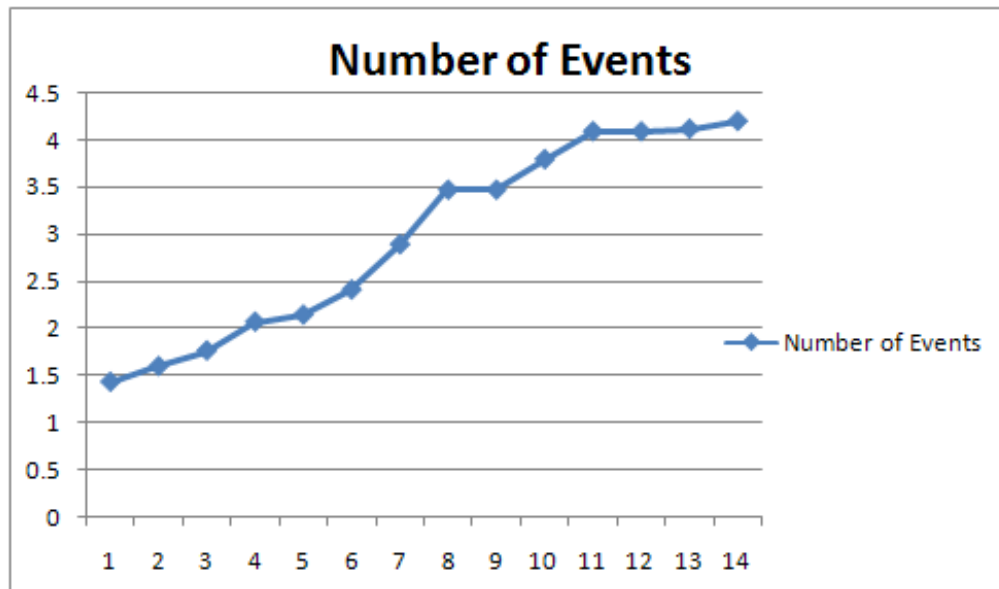


Risk Event Data

- Issues with Risk Event Data
 - Homogeneity of data
 - How to treat large, infrequent losses
 - How to treat nil cost events
 - How to treat events that end up with a positive result
- Changes to risk event reporting process
 - Identification of events
 - Speed of reporting
 - Loss estimation
- Do these issues look familiar
 - Non – life claims data
- Insufficient data is a big problem



Applying Non – Life Run Off Methods

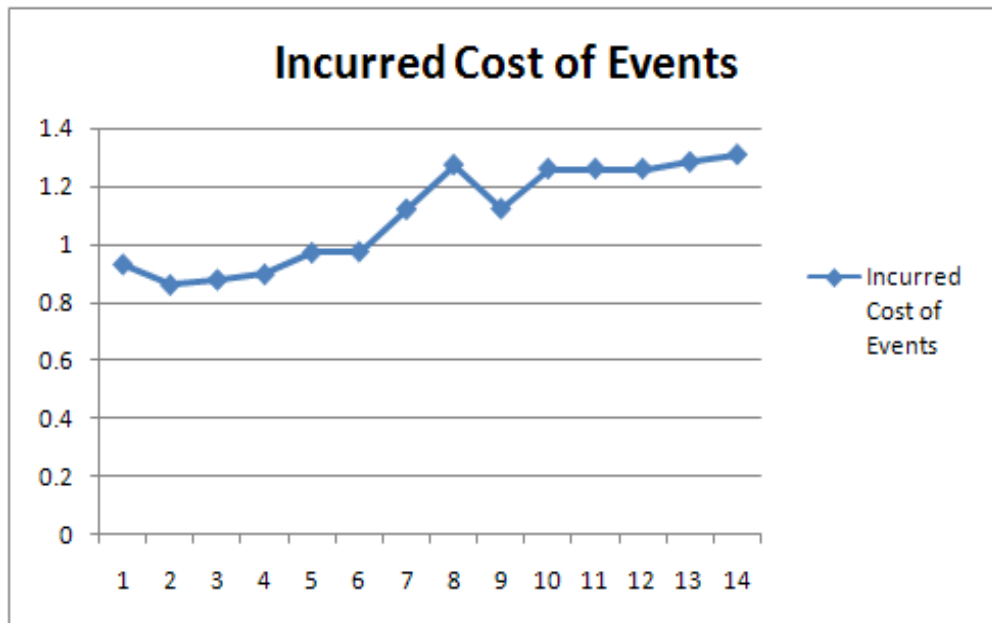


“Number of Events”

- There is strong evidence of a development pattern
- From period 1 to ultimate a factor of 4 times was estimated from the data
- There is a definite tail, there are examples of events not identified and reported until 7 years after they occurred



Applying Non – Life Run Off Methods

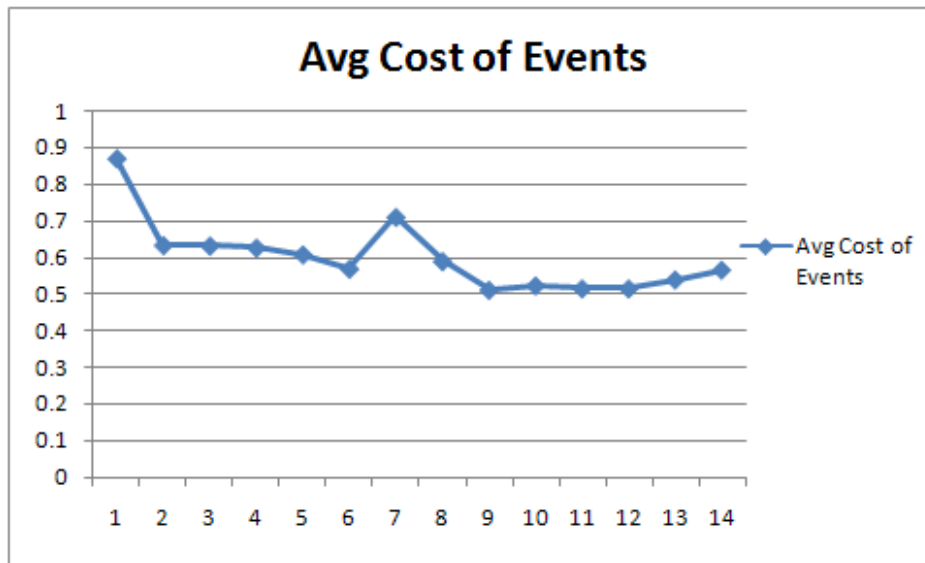


“Incurred Cost”

- Again there is strong evidence of a development pattern
- From period 1 to ultimate a factor of 1.3 times was estimated from the data
- Initial estimates appear prudent
- Events that take longer to identify and report appear to have a higher cost



Applying Non – Life Run Off Methods



“Average Cost”

- Strong initial estimate of losses
- The higher the frequency of events reported the lower the average loss



Applying Non – Life Run Off Methods

Summary of Results

- The best estimate cost was estimated using
 - Incurred method
 - Paid method
 - Average cost method
- Ultimate loss up to Q2 2013
 - 114% of the incurred losses
 - 209% of the paid / settled losses
 - Ultimate numbers 194% of reported numbers