Pricing Insurance Products

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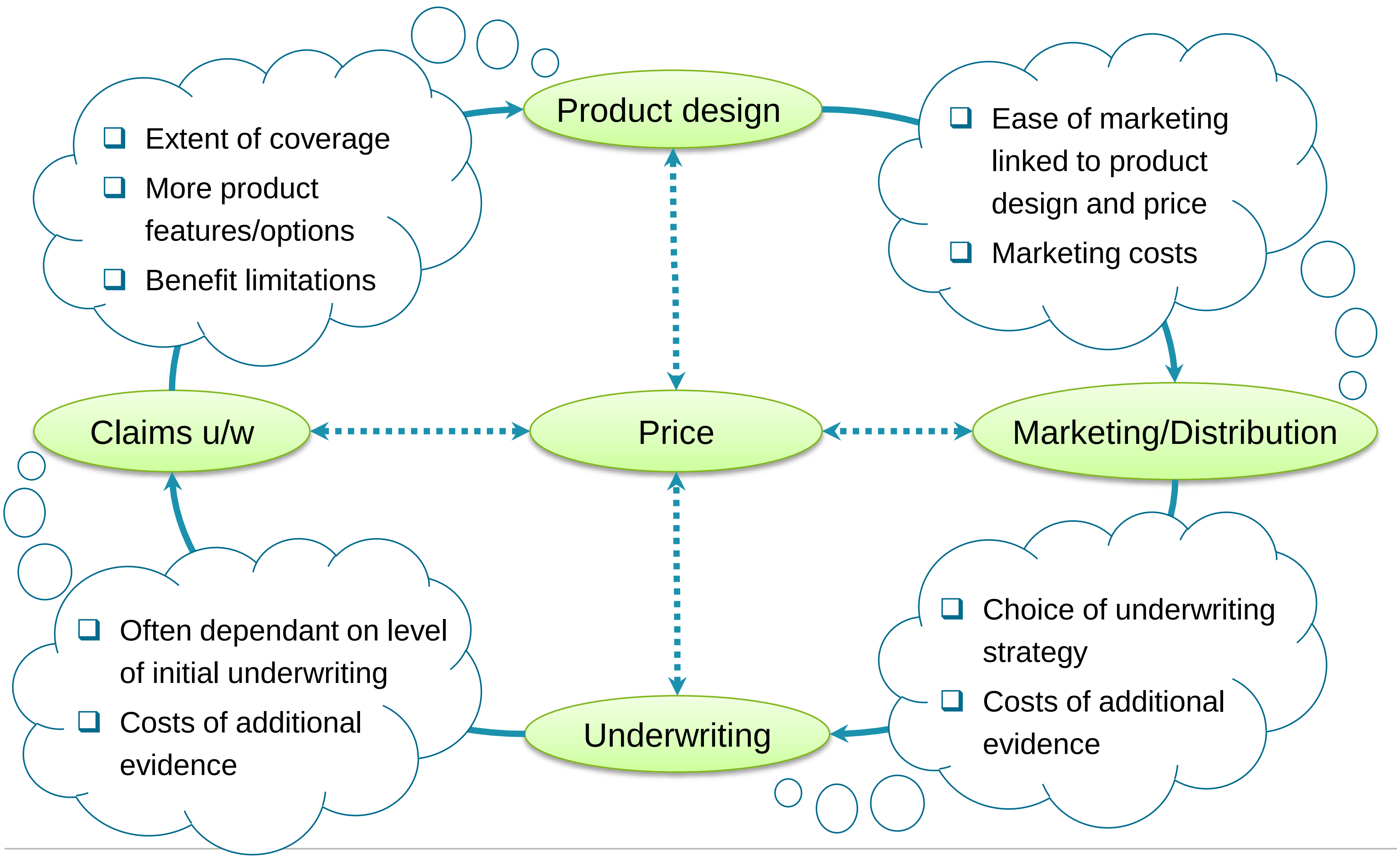
SCOR The Art & Science of Risk | Life

Agenda

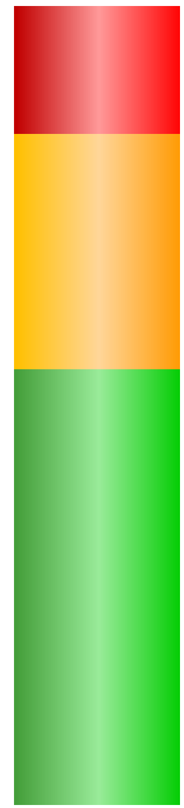
- Product Development Process Overview
- Premium components
- Risk controls

Product Development Process



Pricing Overview - Easy as…..

- Premium = 1 + 2 + 3
- How big is each element?
- Any chance they might vary a bit?
- How can we keep them under control?



3) Profit

2) Expenses

1) Cost of Providing Benefits

1) Estimate the Cost of Claims

- Very simply…

Expected claims: expected claim amount * probability of claim

1) Estimate the Cost of Claims

- Available data
  - Source: claims experience, population, industry, reinsurer, etc…
  - Accurate/credible/relevant
- What adjustments are needed to reflect best estimate of future claims?
  - Product Features
  - Underwriting
  - Claims
  - Distribution
  - Trends
  - Lapses
- One price for all or will you differentiate the premiums by different rating factors?

1) Estimate the Cost of Claims – Risk Factors

- Risk Factors – What characteristics of the customer might lead to a higher risk of claiming?
- Rating Factors – What factors can we use to differentiate the premium?
- Protection example:

Risk Factors	**Rating Factors**
Age/Smoker Status	Age/Smoker Status
Socioeconomic group	Sum Assured/Postcode
Current Level of Health	Medical History
Known Genetic Risks	Family history
Other non-standard risks	Alcohol consumption, dangerous hobbies etc…

2) Expenses

- What are the expenses?
  - Initial expenses, renewal expenses, termination expenses, overheads
  - Combination of fixed and variable

- Consider how expenses are charged to the premium

- Expense margin in premium needs to be sufficient to cover variable expenses and make a contribution to fixed expenses

- This contribution may vary depending on volumes/product lines

3) Profit and the Cost of Capital

- Investors provide capital to insurers and want a return on the investment – (Opportunity) Cost of Capital

- The level required should be reflective of the risk undertaken – CAPM approach of risk free rate plus risk margin

- What are the risks?
  - Reflective of the risk of the underlying insurer
  - Business risk, market risk, credit risk, liquidity risk, operational risk

- Solvency II – 6% risk margin

3) Profit and the Cost of Capital

- May be able to build in additional margin in the market allows – in reality this is often driven down by competitive pressures

- How do you measure profit?
  - 2 common approaches:
    - PVFP (PV (Premium) – PV (Claims) – PV (Expenses))
    - Combined Ratio (Claims + Expenses)/Premium

Risks

- Typical risks within the pricing process include
  - Underlying R&D risks
    - Base table
    - Trends
    - Lapses
  - Data risks
  - Model risks (coding)
  - Miss-interpretation of EA
  - Miss-pricing of new policy conditions
  - Output transposition risk

Controls – Claim cost

- Monitor Experience
- Premium structure – long term/short-term, guaranteed/reviewable
- Reinsurance – reduce amount/volatility
- Maintain quality underwriting/claims teams (intervention for IP)
- Robust policy wording (future proof)

Conclusions

- Price is linked to all parts of the product development process
- Careful thought needs to be given to how to adjust data/experience to best predict expected future claims
- Many ways in which to manage claims risk

Questions?