German Private Health Insurance – the insurance, political and financial risks

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Contents

- Survey of German private health insurance
- The main insurance, political and financial risks, and the correlations between these risks
- How can these risks be quantified and managed
German long-term private health insurance is characterised by:

- Insurance cover for whole life
- No lifetime limits and only a few limitations for special treatments (e.g. psychotherapy)
- Cautious actuarial basis for premium calculation
  - leads to an implicit profitability and policyholder has a right to participate in the surplus
- Constant premium (but no allowance for medical inflation)
- Can only be bought by people with a salary higher than a special limit
Survey of German Private Health Insurance

Individual health risk is determined by:

- contracted benefits
- gender
- age at start of the insurance policy

- Constant net premium leads to a requirement to set aside mathematical reserves
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Actuarial assumptions for the calculation:

- Mortality tables
- Lapse tables
- Technical interest rate
- Claims per capita tables for each risk
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Mortality assumption

- General mortality assumption (for insured lives)

Lapse assumption

- Company-specific assumptions
- Existing reserves are forfeited in favour of the insured collective in the case of lapse
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Technical interest rate

- Currently cannot exceed 3.5% (set by the BaFin)

Claims per capita

- Usually described as a sex-dependent average claim per capita and an age- and sex-dependent profile
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Net Premium
- Allows for lapses

Gross Premium
- Acquisition expenses
- Administration expenses
- Safety loading
- Special loadings for pool-products of the German health insurance industry
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Premium adjustments

- Insurer ordinarily has no right to cancel the policy
- Insurer has a right to adjust premiums to compensate for medical inflation
- This is only possible if incurred claims differ from the actuarial assumption
- Premium adjustment with a time-lag of one to three years
- Existing reserves are included in the calculation of the revised premium
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Mathematical reserves

- Normal reserve to allow for increasing claims with age
- Further reserves to reduce the level of premium increases for older insured
  - “10%-loading” - reserve
  - Reserve according to §12a of the insurance supervisory law
Provision for premium refunds (RfB)

- Shown as a liability in the balance sheet
- Not allocated to individual policyholders – belongs to insured collective
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Provision for premium refunds or direct profit sharing

≥ 80% gross surplus less §12a VAG
≥ 90% §12a (3) VAG (interest surplus)

Reduction of premium adjustments
Direct premium rebates
The main insurance, political and financial risks, and the correlations between these risks
Overview of the different risks

- Insurance risk (underwriting risk)
- Political risk
- Financial (ALM) risk
  - Liquidity
  - Market
  - Credit
- Operational risk – *(not considered further in this presentation)*
Insurance risk

- **Short term:**
  - **Claims volatility:**
    Risk of random deviations in frequency or severity of claims
    - “diversifiable”: volatility declines as the number of insured risks increases
  - **Model and/or parameter uncertainty:**
    Risk that the model used to estimate the claims is incorrect or that the parameters within the model are incorrect
Insurance risk

- Short term (continued):
  - Extreme events:
    Risk of the occurrence of events which have a low frequency, but cause high claims (e.g. epidemic, terrorism)
Insurance risk

- **Long term:**
  - Medical inflation
    - Price inflation
    - Wage inflation in medical sector
    - New developments in medical technology
      - New detection technologies
      - New treatments
Insurance risk

- **Long term (continued):**
  - Medical underwriting risk

High premiums compared to competitors → Reduction in new business → Policyholders with high claims in the in force → High premium increases → Weak underwriting process
Insurance risk

- **Long term (continued):**
  - Development of mortality rates
    - Longevity
  - Development of lapse rates
    - Deviations from the assumed lapse rates
Insurance risk

Lapse rates Other Insured Persons, male

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Political risk

- Legislative changes on a regular basis
- Recent legislative changes that have impacted the private health insurance market:
  - Introduction of the “standard tariff” - premiums are limited to the maximum premium in state health insurance
  - 10% additional premium reserved for premium reductions at age 65+
  - High increase in the minimum level of income necessary to have option to buy substitutive health insurance
Political risk

- Increasing health expenditure due to the ageing population is already a problem in German state health insurance
  - The Government is currently discussing different models for financing health care
  - This could lead to a complete change in the private health insurance market
Political risk

- The transfer of reserves in case of lapse is a current hot topic
  - First step: Transfer of the 10% premium loading reserved for premium reductions at age 65+
  - A transfer of reserves is likely to lead to anti-selection
Financial risk

- Calculated interest rate (premiums, reserves):
  - Currently 3.5% for most of the health insurance companies
  - Can be reduced as a part of premium adjustment process, but only if the premium adjustment is justified by medical inflation
  - Decreasing interest rate leads to (significantly) higher premiums initially but also higher profit sharing
Financial risk

- **Liquidity risk**
  - Definition: Liquidity risk is the exposure to loss due to the event that insufficient liquid assets are available to meet the claims
  - Currently premiums can be used to cover benefits and expenses
  - This might change with an ageing population (decreasing reserves)
  - New liquidity requirements in case of transfer of reserves due to lapses
Financial risk

- Liquidity risk (continued)
  - Planning of liquidity
    - Best estimate projections necessary
    - Allowance for a margin for short term risks

Advantage of a planning of liquidity: increase investment return whilst allowing for risk constraints
Financial risk

- Market risk
  - Definition: Risk arising from the level and volatility of market prices of assets
    - Equity values, interest rates, exchange rates, ...
  - Acceptance of market risk is necessary to achieve higher investment returns
Financial risk

- Market risk (continued)
  - The chance of high investment returns is directly correlated to the possibility of reducing future premium increases
    - Most of the profits due to investment returns on policyholders' reserves have to be used to reduce premium increases for ages over 65
    - High premium increases have an adverse effect on new business: negative reports in newspapers and magazines
Financial risk

- **Credit risk**
  - Definition: Risk of change in value due to default or expected default of issuers of securities
  - The credit rating of the issuers of securities should be monitored on a regular basis
Correlations between these risks

- **Political risk**
  - Uncertain political conditions can lead to poor investment returns

- **Insurance risk**
  - High premiums / premium increases can lead to regulations

- **Financial risk**
  - Poor investment returns can lead to high premiums, especially for the elderly
Further Correlations – Investment returns and inflation

Swap rates and inflation (CPI) Germany
How can these risks be quantified and managed?
How can these risks be quantified and managed?

- Capital is required for covering the risks (Solvency II)
- Profitability is required to ensure the long term viability of the business
- Planning is required to quantify and manage the risks
  - deterministic
  - stochastic
Why plan?

- How are premiums (particularly for ageing populations) likely to develop?
- Political repercussion in case of high premium adjustments
- Ability to adjust premiums reduces the risk based capital, but does not eliminate the requirement to plan
- Improve positioning in the market
Why plan?

Important elements

- The provision for premium refunds (RfB)
- The premium and insurance portfolio development
- The asset returns
- The volatility of available risk capital
Conclusions

- Planning creates scope to act and not just react
  - Recognise and quantify risks
  - Input to decide level of risk tolerance
  - Nil risk is probably not consistent with requirements for affordable premium rates => health insurers have to take calculated risks
Thank you for your attention

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