

Insurance regulation
in a changing financial environment

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Regulation

Changes to insurance regulation spring from

1. changes in the insurance sector
 - (a) changes in the treatment of risk
 - (b) new risks assumed
2. trend to common regulatory framework for financial regulation
 - (a) banks
 - (b) insurers
 - (c) securities companies
3. Basel 2

Regulatory trends

prescriptive regulation → cooperative supervision

1. supervisors to validate
 - (a) modelling
 - (b) calibration
 - (c) risk management processes
2. models
 - (a) internal
 - (b) prescribed, fitting own parameters

Aims

1. safeguard interest of depositors/policyholders
 - (a) direct
 - (b) indirect
 - i. deposit insurance
 - ii. guarantee funds
2. guard against systemic risk
 - (a) industry
 - (b) finance sector
 - insurance risk borne by capital markets
3. early warning system

4. Basel 1, Basel 2

- (a) level playing field
 - i. internationally
 - ii. big/small
- (b) enhancing risk management practice
- (c) no further capital to be held, despite additional risks covered
- (d) align regulatory and economic capital

common framework?

1. security companies
 - (a) protect consumer
 - (b) operational risk
2. banks
 - (a) protect consumer
 - (b) systemic risk
 - (c) credit risk, asset side
 - relatively homogeneous
 - many competing models available
 - (d) operational risk, market risk

3. insurers

(a) underwriting risk, liability side

- heterogeneous
- no common model

(b) credit risk assumed recently in capital markets

(c) operational risk, market risk

Principles of Basel 2

1. mapping internal ratings to external ratings
 - (a) tap into much larger data experience
 - (b) verification of mapping
 - years needed for statistical verification
 - i. need long term stability of business
 - ii. systems to be set up with this in mind
 - very wide windows of theoretical vs actual PD allowed
 - (c) many obligations unrated

2. Value at risk

- (a) Theoretical problems with VAR
- (b) translates poorly from market risk
- (c) underlying density function of losses uncertain
 - i. especially for operational losses
 - ii. especially in the tail

but

- (e) ties in well with probability of ruin in actuarial science

General insurance ladder

1. short-tail, sensible exposure to risk measure
 - automobile (not liability), household
2. short-tail, but no sensible exposure to risk measure
 - commercial property
3. long tail, highly uncertain claims development
 - liability classes
4. natural catastrophe classes
 - modelling by large simulations
 - relative risk may be well modelled
 - absolute risk not so
5. terrorism

Cooperative reinsurance

Cooperation

1. (a) supervisor
(b) supervisee
2. (a) reinsurer
(b) primary writer
 - i. multi year policies
 - ii. smoothing claims payments

Chains of risk transfer

1. the chain of transfers of risk in the capital markets is hard to track
2. with each transfer, risk is less understood
3. entities are less regulated as one moves along the chain

Conclusion

different parts of insurance business need to be regulated separately

1. general insurance
 - a basic simulation on a going concern basis as an early warning system to supplement current risk based capital system.
2. insurance risk passed to the capital sector.
 - Price these securities by modelling the underwriting risk.
3. insurance companies acting as intermediaries in the capital markets.
 - Regulation as for banks and other players engaging in this market.