



Insurance Enterprise Risk Management: Selected Topics

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Presenter's information



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Yuriy has seventeen years of experience working in general insurance industry and has delivered a number of strategic risk and capital projects. His current duties at PwC involve providing consulting services to the Lloyd's market and London company market in enterprise risk management including Risk and Capital Modelling, Model Validation, Advanced Risk Analytics and Reporting, Capital Model Use and Solvency II / ORSA.

Prior to joining PwC, Yuriy worked at Insurance Australia Group (IAG) in Sydney as a DFA and Capital Modelling manager responsible for providing actuarial consulting services to the Group and its subsidiaries.

He holds PhD in Mathematics from Kiev University and PhD in Actuarial Science from the University of New South Wales (Sydney). Author of several scientific publications, Yuriy is a frequent speaker at actuarial and mathematical conferences. He is also active in international actuarial research and is currently serving on the ASTIN Committee of the International Actuarial Association.

Abstract

Since ancient times, insurance has been playing an important societal role of hedging away uncertainty associated with ‘insurable risk’. Without it many socio-economic activities would be deemed too risky and impossible to undertake. Those receiving insurance cover (insureds) rely solely on insurer’s ability to honour insurance claims when they occur. On the other hand, whilst satisfying minimum solvency requirements imposed by regulators over a one year period to protect policyholders and maintain stability of the insurance market, insurers also have natural incentives to strategise their risk taking and apply active risk management over a time horizon well beyond one year to ensure their business is sustainable in the long run and such that adds value to investors (shareholders) that provide vital paid-in capital.

These additional risk management incentives are mainly due to the following differences between insurance entities and conventional financial organisations:

1. Unlike typical financial organisations, insurers leverage themselves via issuing ‘risky debt’ in the form of insurance policies – here additional riskiness is associated with uncertainty around occurrence time and severity of insurance event; and
2. Insurance risks are more skewed towards downside and heavier in the tail when compared to financial risks.

This talk covers the following selected topics of Enterprise Risk Management (ERM) in insurance and discusses how insurers could efficiently use their ERM tools, internal models and related processes to navigate towards the optimal use of capital resources and enhanced shareholders value:

- A. Identifying entity’s ‘Enterprise Risk’ and defining ‘Risk Appetite’ and related risk levers / controls of capital optimisation.
- B. Leapfrogging the traditional ‘CoV paradigm’ of measuring riskiness of insurance results – applying alternative efficient risk measures to excessively skewed / heavy-tailed insurance risk profiles.
- C. Multi-period dynamic optimisation of insurance risk taking and capital resources – use of numerical techniques of dynamic programming along with computational power of computers .
- D. Managing model risk or ‘knowing your unknowns’ (Knightian uncertainty) – use of quantitative methods of robust decision control under ambiguity averseness.