About Economic Capital Modeling

RISK SOLUTIONS | PRODUCT SHEET

A well-structured Economic Capital Model ("ECM") not only helps an insurance organization satisfy National Association of Insurance Commissioners ("NAIC") Own Risk and Solvency Assessment ("ORSA")[1] requirements, but also goes beyond, providing output and analytics that help management make better decisions related to risk management, capital adequacy and risk tolerance in support of their business objectives.

The NAIC Risk-Based Capital ("RBC")[1] method has been, and continues to be, a widely accepted, foundational way to measure the minimum amount of capital that is appropriate for a given organization to support its underlying business operations. More recently, insurance companies have been working to interpret and understand the NAIC Risk Management and ORSA Model Act and the requirements for the annual submission of an ORSA Summary Report.

ECM vs. RBC as a Risk Management Tool

While Risk-Based Capital is still relevant, not to mention legally required from a regulatory perspective, there are several major limitations when using it as a risk management tool.

» **Point-in-time Estimate Only.** RBC tells something about a company's solvency as of right now, but for risk management purposes and for ORSA compliance, companies need to measure where they will stand one, two or more years into the future.

» **Factors and Formula Too Generic.** The RBC results do not represent the real, unique risks and the resulting management actions required to mitigate these risks for any specific business segment or company.

» **Operational or Strategic Risks Not Addressed.** Risk exposures such as implementing new technology and systems, managing the impact of changing market forces, compliance audits, and cyber-security breaches continue to increase in importance as unfavorable outcomes that can have serious implications and financial impacts.

» **Non-insurance Operations Not Addressed.** As insurers continue to seek ways to add value and diversify their revenue streams, non-insurance operations can become significant. These risks require capital and may either add risk or provide diversification relative to insurance operations.

On the other hand, a well-structured ECM not only supports the NAIC ORSA requirements but offers real, actionable value and insights to senior management that go far beyond mere compliance.

Learn More

A Conning white paper addresses the benefits of a robust economic capital model for assessing risk capital and prospective solvency. Using a case study, the paper explores why the NAIC RBC factor–based approach is not sufficient as a risk management tool.

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A Good ECM Should:

- **Have robust risk models on both sides of the balance sheet** to capture a realistic representation of plausible tail risk events.
- **Accurately model underlying economic and capital market scenarios** that are appropriately calibrated to reflect all the volatility of the 20th and 21st centuries.
- **Support both stochastic and stress testing capabilities** within the same model to promote consistency and efficiency.
- **Be a unified, integrated model of all assets and liabilities.** The ECM should capture all the right dependencies between risk factors and business segments, as well as model management actions that mitigate potential risks and even leverage potential opportunities.
- **Be transparent and realistic enough to be used by management.** The key is to model business logic that is understood, and has been validated, by the relevant members of the management team.

A good ECM overcomes the limitations of an RBC model approach and offers a more realistic picture of where true risk lies. A well-structured ECM goes beyond RBC and produces output that facilitates a deeper examination of the causes and effects of unfavorable financial scenarios and can which be more easily understood by management than the simple application of factors to various risk elements.

An ECM, implemented properly, can provide the realism, transparency and insights necessary to support management's need for a more robust risk modeling platform.

The Spirit of NAIC ORSA

An ECM, implemented properly, can provide the realism, transparency and insights necessary to support management's need for a more robust risk modeling platform. A well-structured ECM is the basis from which various capital adequacy, capital allocation and other risk analyses can be efficiently and effectively performed. The insights and advantages of this approach not only satisfy and support prescribed NAIC ORSA requirements, but also go a long way in helping management preserve the financial strength of the company, which ultimately benefits its employees, policyholders and stakeholders. This is the true underlying spirit of the NAIC ORSA. Those companies who choose to make the extra effort now will ultimately lead their markets and set the standard for their peers.

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About Conning

Conning (www.conning.com) is a leading global investment management firm with a long history of serving the insurance industry. Conning supports institutional investors, including pension plans, with investment solutions and asset management offerings, award-winning[2] risk modeling software, and industry research. Founded in 1912, Conning has investment centers in Asia, Europe and North America. Conning's software and advisory services support insurance and pension risk modeling needs, providing insights for decision making, regulatory and rating agency compliance, strategic asset allocation and capital management. Conning's risk management software platform includes the award-winning[2] GEMS® Economic Scenario Generator, FIRM® Portfolio Analyzer and ADVISE® Enterprise Risk Modeler.

 1. Note: "RBC" means the National Association of Insurance Commissioners (NAIC) Risk-Based Capital method of measuring the minimum amount of capital appropriate for a reporting entity to support its overall business operations in consideration of its size and risk profile. "ORSA" means the NAIC requirements for U.S. Own Risk and Solvency Assessment. 2. InsuranceRisk Best Economic Scenario Generator Software, 2011, 2013 & 2014; Asia Asset Management Magazine Best Risk Management Technology 2014; Risk.net ESG Buy-Side Award 2016; Insurance ERM Best Stress Testing & Scenario Solution, 2017. C#:7128569