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99.5 Percent Value at Risk Measure over a One-Year Time Horizon

Presentation to the
National Association of Insurance Commissioners
ComFrame Development and Analysis (G) Working Group

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Presenter

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Objective

- Discuss the practical implications of employing a defined capital standard based on a 99.5 percent confidence interval (i.e., value at risk (VaR)) over a one-year period in the context of the International Association of Insurance Supervisors' (IAIS) proposed insurance capital standard (ICS)

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Agenda

- Definition of VaR
- Current VaR Practices
- Benefits and Limitations of VaR
- Basis for 99.5 Percent
- Basis for a One-Year Horizon
- 99.5 Percent VaR/One-Year Under the ICS Market-Adjusted Methodology

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Definition of VaR

- VaR measures the amount of potential loss over a given time period
  - 99.5 percent VaR applied to a company means that it wants to be 99.5 percent certain that it has enough assets to pay its obligations over a set time horizon
  - VaR is a model-based approach and is generally developed from a combination of historical data and expert judgment
- The VaR measure can be used on individual risks or on multiple risks in aggregate

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Current VaR Practices

- VaR is commonly used in the non-insurance financial services industry, typically for short time horizons (i.e., days, not years)
  - Banks, trading desks, hedge funds use VaR on a daily basis to manage risk exposures
- Some insurers establish internal economic risk and/or capital measures based on VaR principles
- Used by some insurance regulatory solvency frameworks outside of North America
  - Includes the multi-jurisdictional Solvency II framework, which will be effective throughout the European Union in 2016

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Current VaR Practices

- Not all U.S. capital requirements are based on VaR measures, although some risks are calibrated using confidence intervals (percentiles)
- Depending on the objective, companies use multiple metrics for management purposes

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Benefits and Limitations of VaR

- Benefits of VaR (compared to Tail-VaR and other related metrics)
  - Easy to understand and communicate
  - Not reliant on estimates of the far tail
  - Need to calculate only one point in the tail
- Limitations of VaR
  - Sufficient data about severe extreme events may not exist
  - VaR treats some very different risks as being “the same”
    - Poor measure for “fat tail” risks where remote events have large impacts (i.e., does not provide the size of the bet)

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Basis for 99.5 Percent

- CEIOPS (Committee of European Insurance and Occupational Pensions) initially recommended this 99.5 percent confidence level, as it was believed to "roughly correspond to a secure financial strength ("BBB")"

  Source: Consultation Paper on Regulatory Capital Requirements and Overarching Accounting/Valuation Issues for the Solvency Modernization Initiative, NAIC, 2009

- S&P's capital framework incorporates higher percentiles for corporate bonds rated AA and higher:

99.9 Percent for AAA	99.4 Percent for A
99.7 Percent for AA	97.2 Percent for BBB

- Setting VaR at 99.5 percent, or any other level, is the regulators' decision, based on judgment

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Basis for One-Year Horizon

- Basic assumptions—insurer should:
  - Have sufficient assets for at least one year of operations
  - Be able to transfer assets and liabilities after one year
- Consistent with:
  - Financial reporting and solvency surveillance cycle
  - Insurer's ongoing ability to manage capital and risk

Source: Risk Horizon and the Measurement of Economic Capital for General Insurers, Towers Watson, 2011

- Misperceptions:
  - Does not mean that whatever happens beyond the one-year horizon is irrelevant
    - When determining impacts, all future years are taken into account by deciding transfer values for assets and liabilities
    - Transfer values are problematic for long-duration liabilities and obligations with no transfer or exit potential

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99.5 Percent VaR/One Year Under the ICS Market-Adjusted Methodology

- Underlying concepts
  - 99.5 percent VaR means that, after one year of adverse experience (at the 99.5 percent level), assets are sufficient to cover liabilities, allowing for transfer to another insurer at market-adjusted value
  - One-year horizon (if applied to all elements) assumes that companies can:
    - Liquidate assets and liabilities at year-end; and
    - Source and distribute capital each year

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Questions?

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