American Academy of Actuaries Webinar:
The Practice of ERM in the Insurance Industry

Enterprise Risk Management Committee

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AMERICAN ACADEMY of ACTUARIES

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Agenda

Definition of ERM	• Two primary goals • Iterative nature of ERM • Risk culture and governance • Risk governance structures • ERM policies and procedures
ERM practice note (The Basics of ERM)	• Risk identification and evaluation • Models and tools (including economic capital) • Monitoring and mitigating risks • Trends for the future
ERM Standard/Regulations	• US ORSA - summary report • Process implementation • Solvency II • Regulatory comparisons on ORSA
Q and A	

ERM: Two Primary Goals

Identify, assess, and quantify risks

and their correlations and dependencies from all sources across an organization

Ensure implementation of risk treatment strategies

That leverage risk knowledge to achieve appropriate risk and return tradeoffs in line with organization's values and goals

Iterative Nature of ERM

Risk Culture

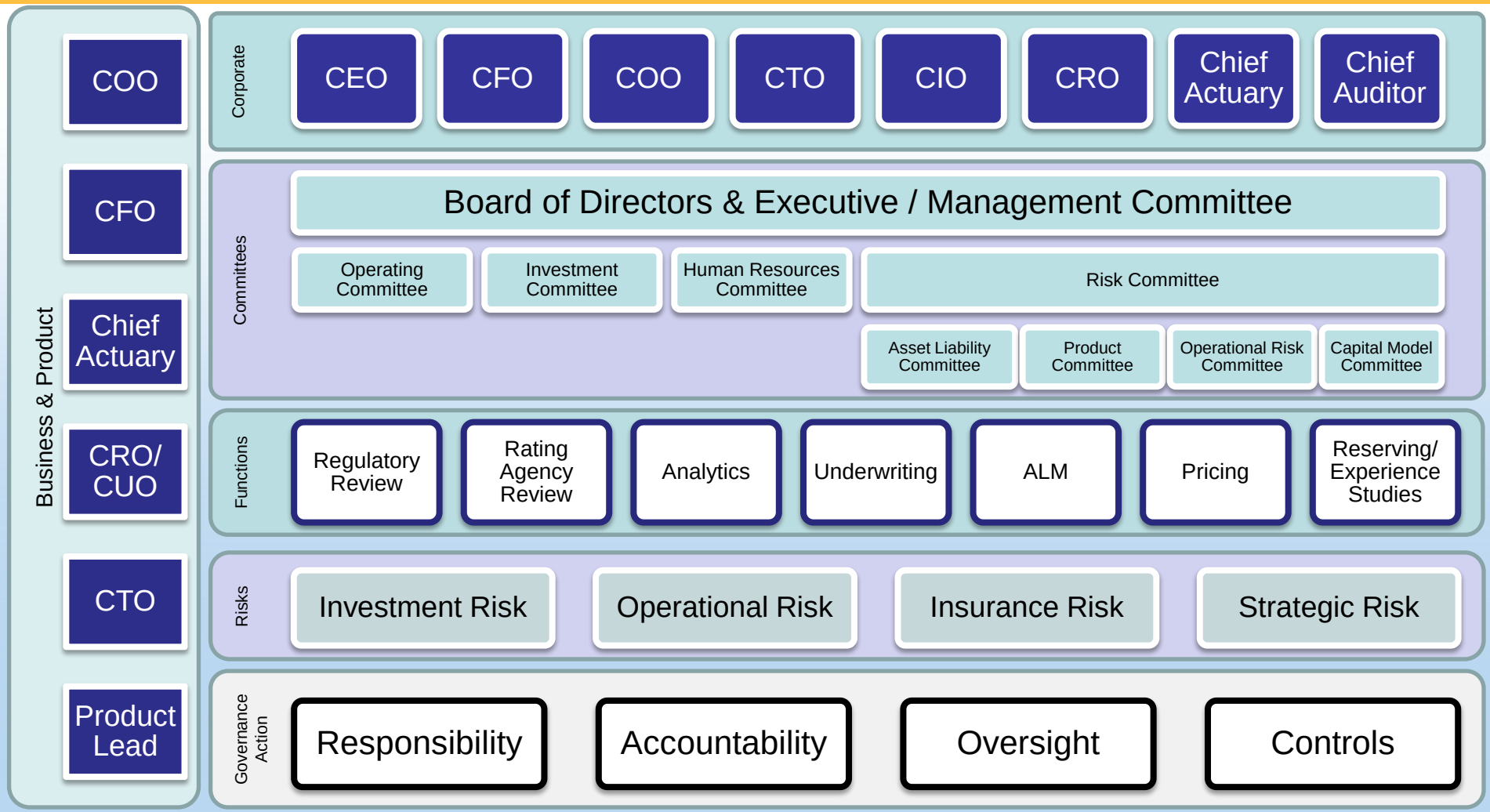
- Supports risk-based decision making
- Broad risk management competency – everyone's responsibility
- Informed board
- Clearly defined risk roles and responsibilities
- CRO and/or ERM team
- Risk management leaders undertaking coordinated efforts
- Common risk language

Governance & Policies/Procedures

Effective risk governance should consider:

- Well-defined risk appetite, tolerances, and limits
- Escalation procedures when limits are approached or breached
- Portfolio assessment of assets and liabilities
- Effective assessment of results and feedback
- Management communication of risk metrics and responses
- Risk mitigation supported by cost benefit analysis
- Business continuity for extreme events
- Efficient and effective use of capital in reinsurance and capital markets
- Performance measurements based on risk adjusted returns

Risk Governance Structures



ERM Basics

To Manage Risk, You Must First Identify It

- Define the concept of risks for an organization and establish the risk assessment environment
- Not driven solely by recent experience or external (rating agency or regulator) considerations
- How various risks interrelate under range of different conditions (economic, financial, marketplace) is key
- Identify risk categories to be used and associated sub-risks in order to manage risks at granular level

Characteristics of Effective Risk Identification Process

- Comprehensive
- Inclusive
- Efficient
- Consistent
- Focused

Risk assessments are done on both a regularly scheduled basis as well as whenever material changes to organization occur.

Common Risk Categories

Efficiency, ease of communication, and development of a consistent risk language are established through the use of standard risk categories. These generally include:

Holistic & Flexible Approach Required

- For ERM to be effective, risks cannot be examined solely on standalone bases
- Need to review impact of activities on the full portfolio of the organization
- Requires well-defined risk metrics and methodologies
- Must recognize both internal and external drivers of risk as well as changes to the organization's risk profile
- View of risk needs to evolve over time as the organizational ability to absorb and manage risks change

Emerging Risk Process

- Beyond a regular process to identify and manage ongoing risks, organizations must uncover and assess potential emerging risks in real time
- Requires a strong internal communication network and self-reflection
- Environmental scans also required for changes to external environment
  - Industry conferences, journals, committee service
  - Periodic interface with industry experts
  - Review of general demographic and sociographic trends

Next Step Requires Proper Tools

- Once risks have been identified, you need tools to evaluate the potential impact to the organization
- Can be done on both qualitative and quantitative basis
- Quantitative methods used include:
  - Stress tests and reverse stress tests
  - Stochastic models
  - Reference to standard measures
- Qualitative reviews vary by organization and risk

Fit for Purpose Risk Models

- Reproducible and adaptable to new risks
- Proper trade-off between precision and simplicity
- Complexity proportionate to materiality
- Understanding of data input limitations
- Dependencies and interactions among risks properly captured
- Independently validated for integrity, particularly when subjective assumptions required

Control Strategies for Risk Models

- Data reconciliation
- Peer reviews
- Reasonability checks
- Affirmations
- Supporting documentation
- Independent validation
- Controls over IT environment and systems used

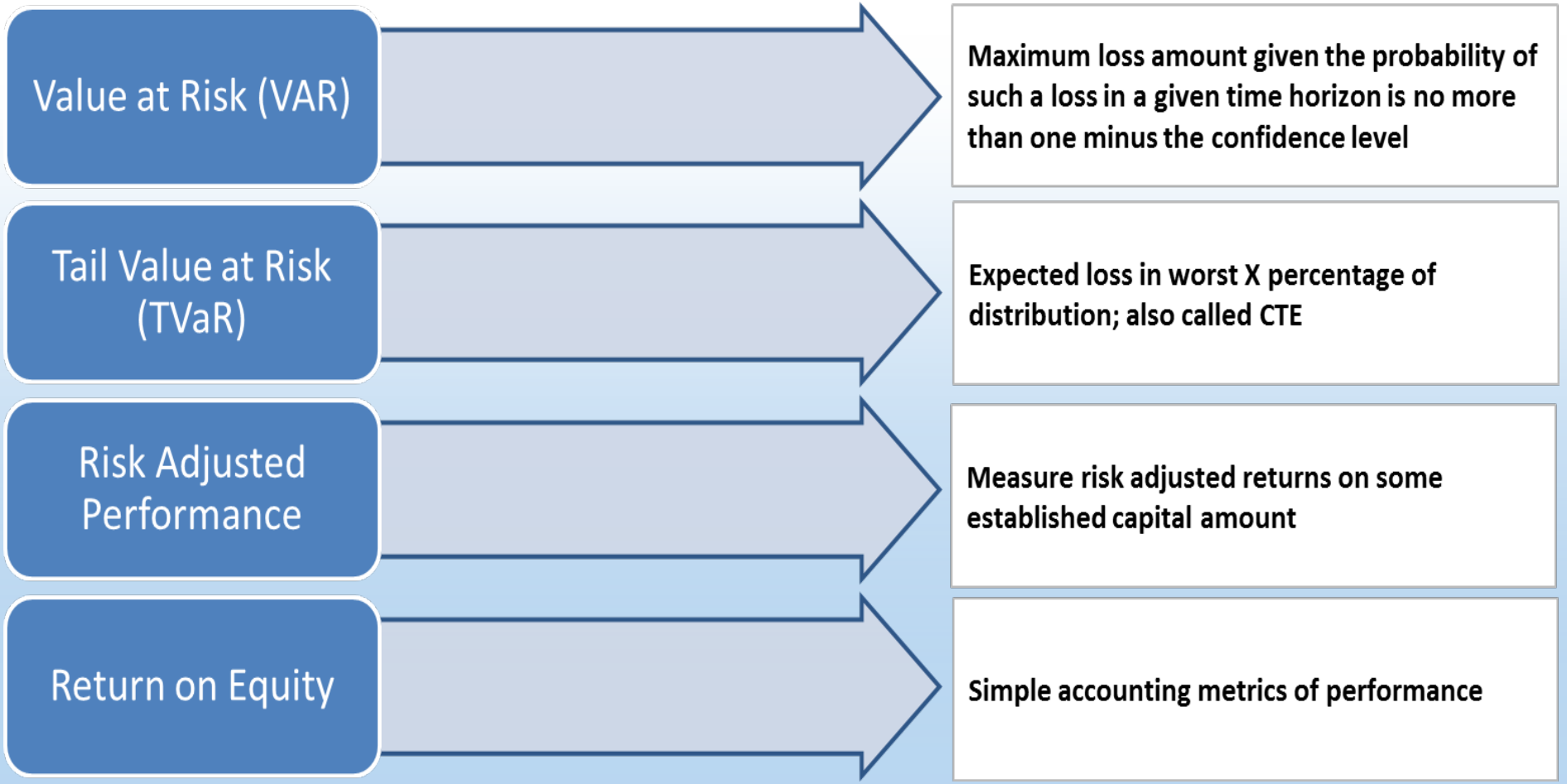
Economic Capital Models

- One of primary tools used in assessing risk to an organization is an economic capital (EC) model
- EC is a measure of the capital an organization requires to survive or meet a business objective over a given timeframe at a selected confidence level
- Aligns with, and helps flesh out, the risk profile of the organization
- Scope, complexity, and use of such models varies widely
- A strong model provides key metrics for capital and risk decisions across the organization

Uses of EC Models

- Assessing capital adequacy
- Determining appropriate risk treatment strategies
- Analyzing financial performance
- Pricing
- Developing business strategies
- Determining relative risk and reward

Key Risk Metrics



Risk Mitigation

- Insurance / reinsurance
- Hedging
- Capital market products
- Awareness campaigns, educational programs, loss control measures
- Change in governance or process controls
- Change in business mix or target markets
- Exiting products or markets or reducing exposure

Trends and Improvements

- Improved linkage to overall strategies and decision making
- Increased cascading of risk to individual business units
- Increased use of multiple risk lenses and metrics
- Increased consistency across insurance industry
- Separation of duties into “three lines of defense”
- Improved infrastructure and documentation
- Increased regulatory scrutiny

ERM Standard and Regulations

ORSA Summary Report

Section 1 Description of the Insurer's Risk Management Framework	• Risk culture and governance • Risk identification and prioritization • Risk appetite, tolerance, and limits • Risk management and controls • Risk reporting and communication
Section 2 Insurer's Assessment of Risk Exposure	• Primary Risk Assessment in normal and stressed environments • Risks exposures measured in quantitative and qualitative method • Impact of risks on financial statements and cash flows • Stress impact on risk capital and available capital • Model validation and model calibration factors for risk assessments
Section 3 Group Risk Capital and Prospective Solvency Assessment	• Definition of solvency and accounting or valuation regime • Business included and aggregation and diversification • Time horizon • Risks modeled and quantification method • Risk capital metric • Defined security standard

Roles and Responsibilities In ORSA Process Implementation

Actuarial

- Develop actuarial models and methodologies, maintain and update assumptions,
- Perform risk assessment calculations and long-term projections

Risk Management

- Assist with the development of the ERM framework, risk appetite, risk tolerance, and risk limits
- Analyze the risk profile of the insurer, and cooperate with all the other areas to oversee the risk management processes and controls

Underwriting

- Have ownership in underwriting risk management and provide underwriting risk input into ORSA process and report
- Assess future underwriting decisions

Finance

- Produce external financial reports
- Incorporate projections of the future capital management information within the business plan
- Coordinate with other areas to consolidate financial data

Internal Audit

- Provide an independent oversight of the ORSA process

Information Technology

- Enhance systems to efficiently produce accurate information.
- Assist in the development and file of the ORSA Summary Report

Compliance

- Provide a mechanism to identify changing regulations and evolve ORSA guidance
- Manage ORSA compliance risks

Investment

- Provide investment data and projections
- Manage ALM under both normal and stress conditions
- Develop risk mitigation strategies

What are companies doing now in response to the NAIC ORSA?

- Review the effectiveness of the current corporate ERM program, including risk governance
- Identify gaps between the current company practice and the ORSA requirements
- Analyze the materiality of the identified risks, prioritize key risks, and evaluate aggregate risk across the group
- Develop and enhance aggregate group level capital model and stress/scenario testing framework
- Develop process to perform forward looking assessments of risk and solvency over the planning horizon
- Integrate ERM into the group strategic planning process
- Develop a mock ORSA Summary Report
  - http://www.naic.org/documents/committees_e_orsa_wg_related_orsa_pilot_feedback_industry.pdf

Solvency II

- Solvency II is an EU legislative program to be implemented in all 27 Member States, including the UK. It introduces a new, harmonized EU-wide insurance regulatory regime. The legislation replaces 13 existing EU insurance directives.
- Solvency II is scheduled be effective on January 1, 2016 with a transitional period. EU Council and European Parliament agreed upon the contents of Omnibus II directive on November 13, 2013.
- Tight implementation timeframe led many European insurers to make a significant advance in building/enhancing risk management framework and developing internal models.

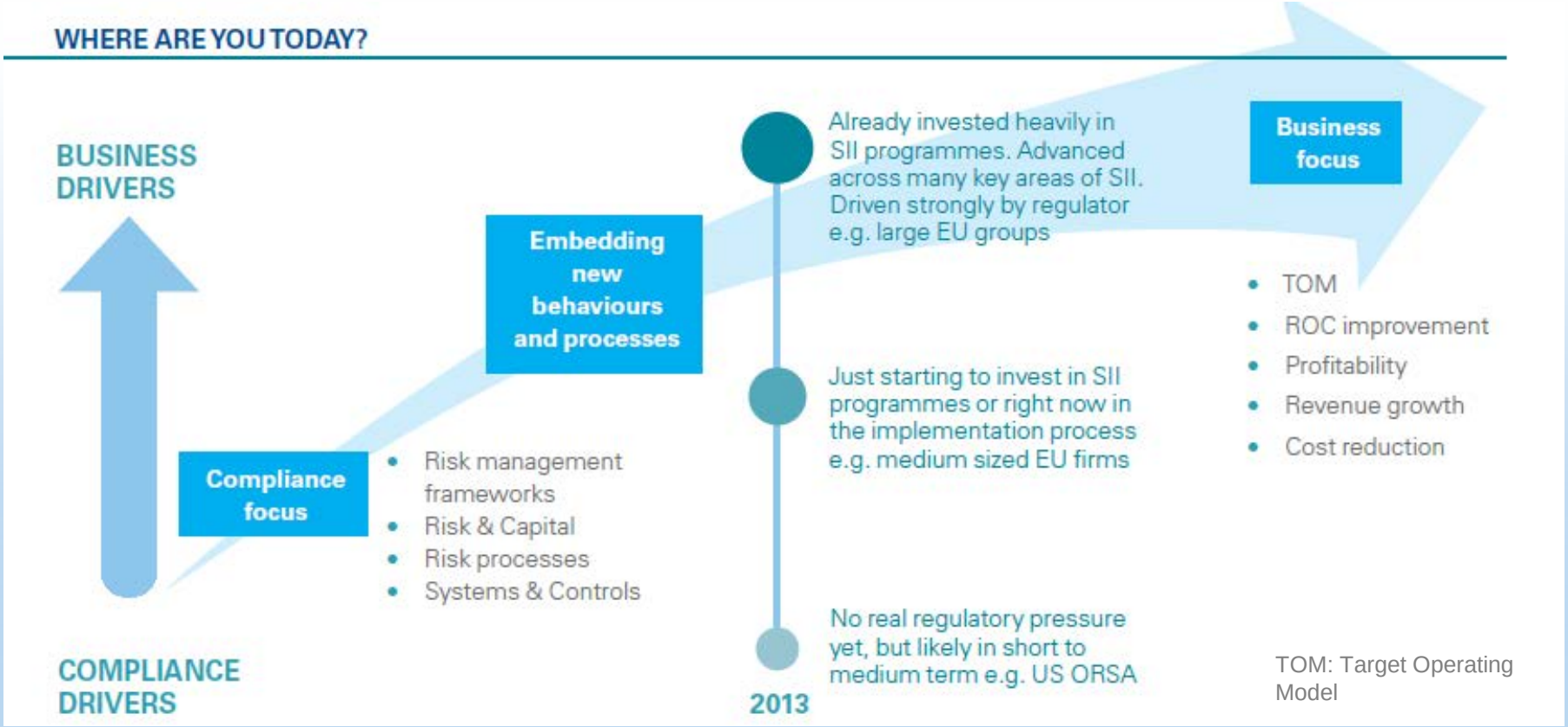
Preparation for Solvency II Implementation

- Evaluate the efficiency of governance and enterprise-wide risk management systems
- Ensure the governance structures and consistent interactions and implementations between group and subsidiaries
- Enhance ORSA policy and implement key risk forward looking assessment processes. Develop an ORSA report framework
- Ensure that the capital calculations processes are established
- Improve the existing internal model documents. Understand the gap between the current internal model capability and the requirements in the reporting and make a remediation
- Review if all guidelines are followed and processes and controls are in place in the model validation report

Summary ORSA Comparison – European SII versus US ORSA

	US ORSA	European ORSA
Basis	Group Basis	Group/Solo Entity
Document	Risk Management Framework and Governance Structure	Detailed Risk Management Framework, Governance, and Process
Key Risks	Formal risk appetite with risk tolerance and limit * links to the group solvency needs	Risk appetite, tolerance, and limit * including assessment of emerging risks
Capital	• Own view of capital at group level • Qualitative and quantitative risk assessment. • Stress testing or complex stochastic analysis • No specific prescription of group capital calculation or selection of capital baseline • Business plan capital projection - own view of capital over the current and longer term business planning cycle	• Aligned with the company's risk profile, risk appetite, and business strategy • Stress testing and scenario testing (with reverse stress testing) • Capital calculation for ORSA should be consistent with the Pillar I calculations • Capital based on the business planning cycle and linked to financial statement projection • Compare the Solvency Capital Requirement (SCR) and projected own funds
Controls	Implicit USE test - the insurer's general model validation process	Internal Model USE Test (Pillar I) and internal control requirements
Reporting	Annual reporting to state regulators, or more frequently if requested	Minimum Annual reporting requirement

ERM and Relevant Regulations



From Solvency ll - From building ERM frameworks to empowering risk management by DR. Peter Ott, KPMG Global Head of Solvency II

Relevant ASOPs

- No. 46, Risk Evaluation in Enterprise Risk Management
- No. 47, Risk Treatment in Enterprise Risk Management

Questions?