



A Global Framework for Insurer Solvency Assessment

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Agenda

- Introduction
 - Global trends affecting insurers
 - International supervisory trends
 - Role of capital
- Developments in insurer solvency assessment
- Implications
- Time for discussion



Introduction

Global trends affecting insurers

- Governance - impact of various recent corporate scandals
- Risk management - ERM expected by Boards and supervisors
- Financial sector convergence - integrated sector supervisors
- International harmonization of supervisory approaches - IAIS, BIS
- International standards for insurance accounting - IASB, IAA
- Consolidation and globalization - common meaningful reporting
- Increased market discipline and disclosure



Introduction

International supervisory trends

- More risk sensitivity testing; less rules-based regulation
- Strengthening of supervisory oversight & capacity
- Increased reliance on market discipline (i.e., changes in the insurer/supervisor relationship)
- Integrated supervision
- More international supervisory cooperation
- System stability viewed from both macro (system-wide) and micro (insurer) perspectives
- Increased focus on insurer capital requirements and the need for changes in approach (e.g. IAIS, EC, UK FSA, Dutch PKV, Malaysian Bank Negara, Canadian OSFI, US NAIC etc.)



Introduction

Role of capital

- Capital is central to the operation of insurers
 - Needed to finance future growth
 - Protection against earnings volatility
 - Important element of shareholder value
 - Return on capital an important performance measure
 - Protection against uncertainty in liability provisions, catastrophes
 - Policyholder protection against insolvency
- Each of these need adequate understanding and analysis of risks



Introduction

Role of capital



Introduction

- IAA Insurer Solvency Assessment Working Party formed spring of 2002
- Terms of reference:
 - describe principles & methods to quantify total funds needed for solvency
 - foundation for global risk-based solvency capital system for consideration by IAIS
 - identify best ways to measure the exposure to loss from risk & any risk dependencies
 - focus on practical risk measures & internal models



Introduction

Working Party Members:

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Introduction

- Assessment of progress:
 - Principles well defined and well received by audiences to whom we have presented (including IAIS)
 - Report has been completed and is going through IAA due process; public release expected spring 2004
 - Report includes several appendices
 - 3 appendices include case studies for life, non-life and health insurance
 - 2 other appendices discuss insurer specific issues related to credit risk, market risk
 - WP hopes that Report will be a useful guide to insurance supervisors in designing solvency assessment processes



Future Structure for Solvency Assessment

Key principles

- Multi-pillar approach to supervision
- All types of risks to be included
- Principles based approach preferred to rules based approach
- Total balance sheet approach
- Use appropriate risk measures
- Select an appropriate time horizon & degree of protection
- Allow for risk management
- Standardized approaches proposed
- Advanced or company specific approaches proposed



Future Structure for Solvency Assessment

Multi-pillar approach to supervision

- A set of target capital requirements is necessary for solvency assessment but is not sufficient by itself (Pillar 1)
 - Provide a snap-shot of financial position of insurer
 - No information about impact of various adverse circumstances
 - Factor-based requirements may not even help to understand an insurer's actual risks or their management of them
- Supervisory review of insurer is therefore also needed (Pillar 2)
 - To better understand the risks faced by the insurer and the way they are managed
 - To consider multi-period and multi-scenario modelling of the risks
- Market disclosure measures (Pillar 3)
 - To disclose insurer risks & methods to manage & provide for them



Future Structure for Solvency Assessment

All types of risk to be included

- All types of risks to be considered within the 3 Pillars
- Within Pillar 1, capital requirements should provide for
 - Underwriting risk
 - Credit risk
 - Market risk
 - Operational risk
- Any risks not covered within Pillar 1 (e.g., strategic risk and liquidity risk) should be examined within Pillar 2 as part of supervisory review



Future Structure for Solvency Assessment

Principles or rules-based approach?

- “Principles-based” approach focuses on “doing the right thing” but requires reliance and risk-based supervision
- “Rules-based” approach is objective & simple but may not capture an insurer’s risks appropriately - encourages “gaming the system”
- Growing preference for “principles-based” approach to drive insurer solvency assessment
- Recognition that companion “rules-based” approach is also needed to complement “principles-based” approach,
 - where possible complexity of P-B approach is not warranted
 - to provide a conservative safe harbour approach
 - to provide an objective supervisory threshold



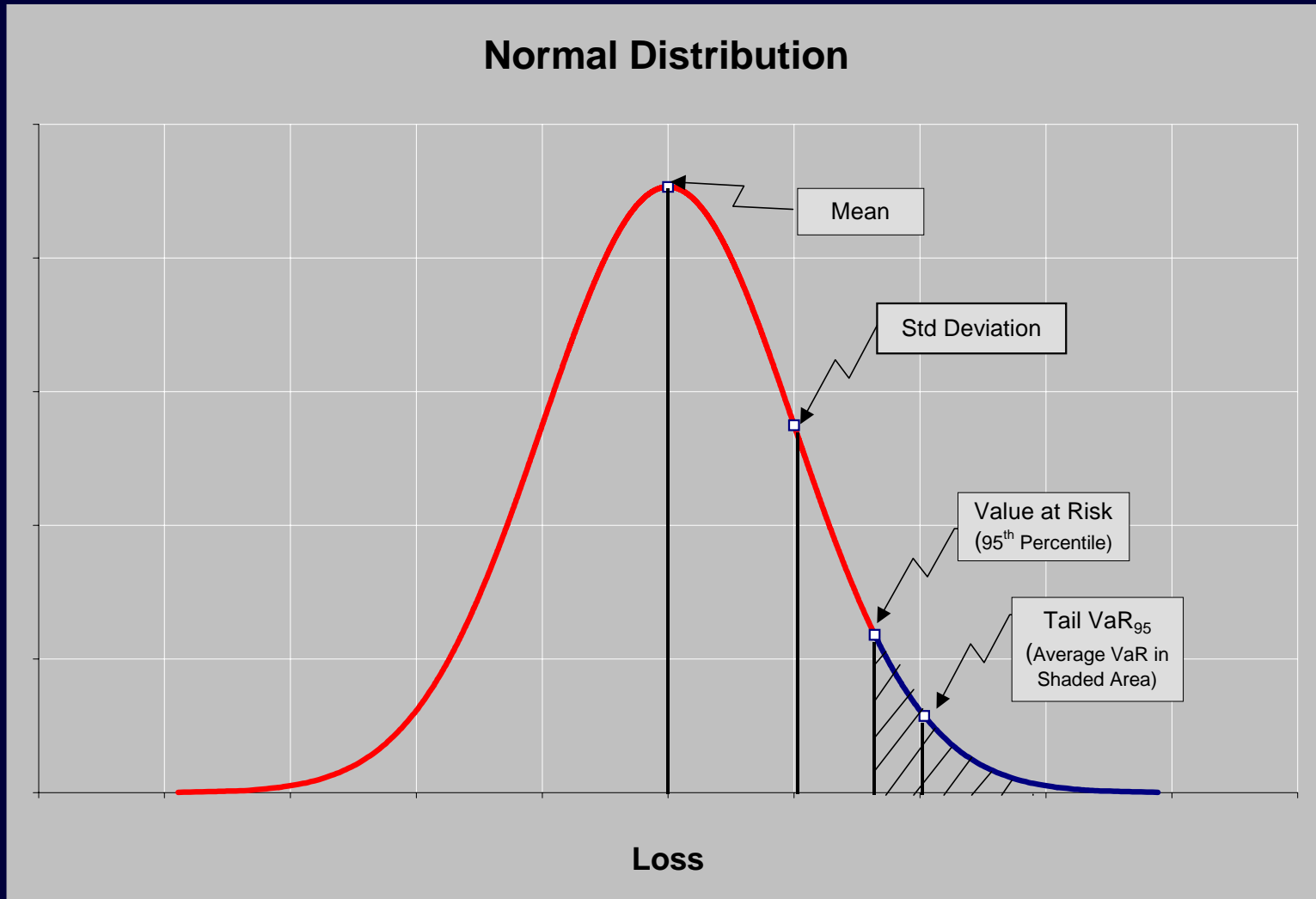
Future Structure for Solvency Assessment

Total balance sheet approach

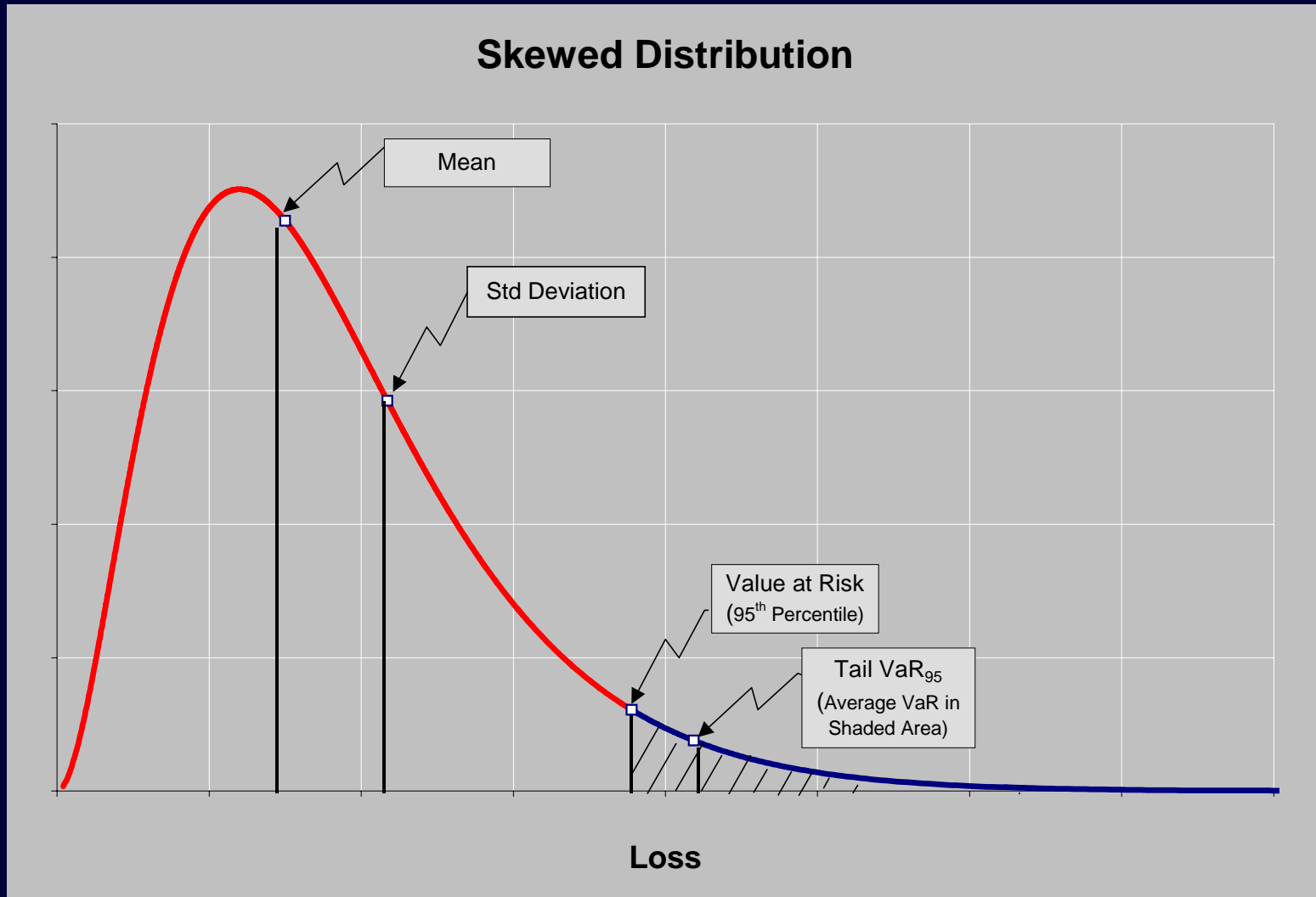
- Solvency should be determined on an economic basis as measured by difference between the best estimate (fair?) value of insurer's assets and present value amount of insurer's obligations when valued at a high confidence level (e.g., 95% TVaR)
- This total capital margin (TCM) amount subject to typical Tier 1, 2 adjustments
- Only assets with expected cash flow would be included
- Avoids different levels of conservatism inherent in varying financial reporting regimes



Appropriate Risk Measures



Appropriate Risk Measures



Future Structure for Solvency Assessment

Appropriate time horizon & confidence level

- WP proposes two tests:
 - One is short term, determined for all risks at a very high confidence level (say 99%) to meet all obligations for the time horizon as well as the present value at the end of the time horizon of the remaining future obligations (e.g., best estimate value with moderate level of confidence such as 75%).
 - The other is long term, valuing the risks for their lifetime using a series of consecutive one year tests with a very high level of confidence (say 99%) and reflecting management and policyholder behaviour (but no new business). Alternatively, this test can be conducted with a single equivalent, but lower (say 90% or 95%), level of confidence for the entire assessment time horizon.

Standardized Approaches

- Ideally, a company should be able to build an “internal model” capturing all aspects of risk and their interactions.
- In practice, regulator will want relatively simple methods;
 - An exposure measure
 - A factor to apply to each exposure measure
 - A formula to combine all the products
- Sample formula $c = \mu kv$
 - μ represents expected losses, an “exposure” measure unique to the company and must be calculated by the company;
 - k is specific to the LOB and not the company, and can be prescribed by the regulator; and
 - v (Coeff of Var) depends on LOB & size of LOB for company.



Case Study Results - General Insurance

Sample calculations demonstrate the difficulties inherent in assessing impact of reinsurance using factor-based approach

Relative Capital Charges by Reinsurance Strategy

	<u>Factor-Based</u>		<u>Internal Risk Mgt</u>	
	<u>ABC</u>	<u>XYZ</u>	<u>ABC</u>	<u>XYZ</u>
No Re	1.000	1.000	1.000	1.000
Cat Re	0.799	0.971	0.939	0.839
Full Re	0.756	0.922	0.800	0.500

ABC is similar, but 10X the size of XYZ



Standardized Approaches

- The WP is proposing the use of a set of uniform methods to determine risk factors in various jurisdictions.
- Each jurisdiction would apply these methods while taking into account its own:
 - Legal system
 - Accounting system
 - Business practices
 - Actuarial practices
 - Insurance experience
- Capital requirements for the same business done in two different jurisdictions will not necessarily be identical but will be consistent.



Structure for Solvency Assessment

All types of risk to be included

- All types of risks to be considered within the 3 Pillars.
- Within Pillar 1, capital requirements should provide for
 - Underwriting risk,
 - Credit risk,
 - Market risk, and
 - Operational risk.
- Recognize risk management and relationships between different risks.
- Any risks not covered within Pillar 1 (e.g. strategic risk and liquidity risk) should be examined within Pillar 2 as part of supervisory review.



Advanced Approaches

- An advanced approach is one that involves or makes use of company-specific measures of risk.
- Advanced approaches recognize company's plans, operations, risk management
- Advanced approaches are usually expected to produce lower capital requirements than standard approaches.
- Companies will generally need specific permission and required to meet stronger conditions to be able to use advanced approaches.



Advanced Approaches

- Advanced approaches may range from modifications of standard calculations to the use of internal models.
- Examples:
 - Basel II advanced (internal ratings based – IRB) approaches;
 - MCCSR: models for segregated fund guarantees
 - Basel I market risk for the trading block
 - MCCSR component for equity-linked risk pass-through products
 - Australia: internal models for general insurance



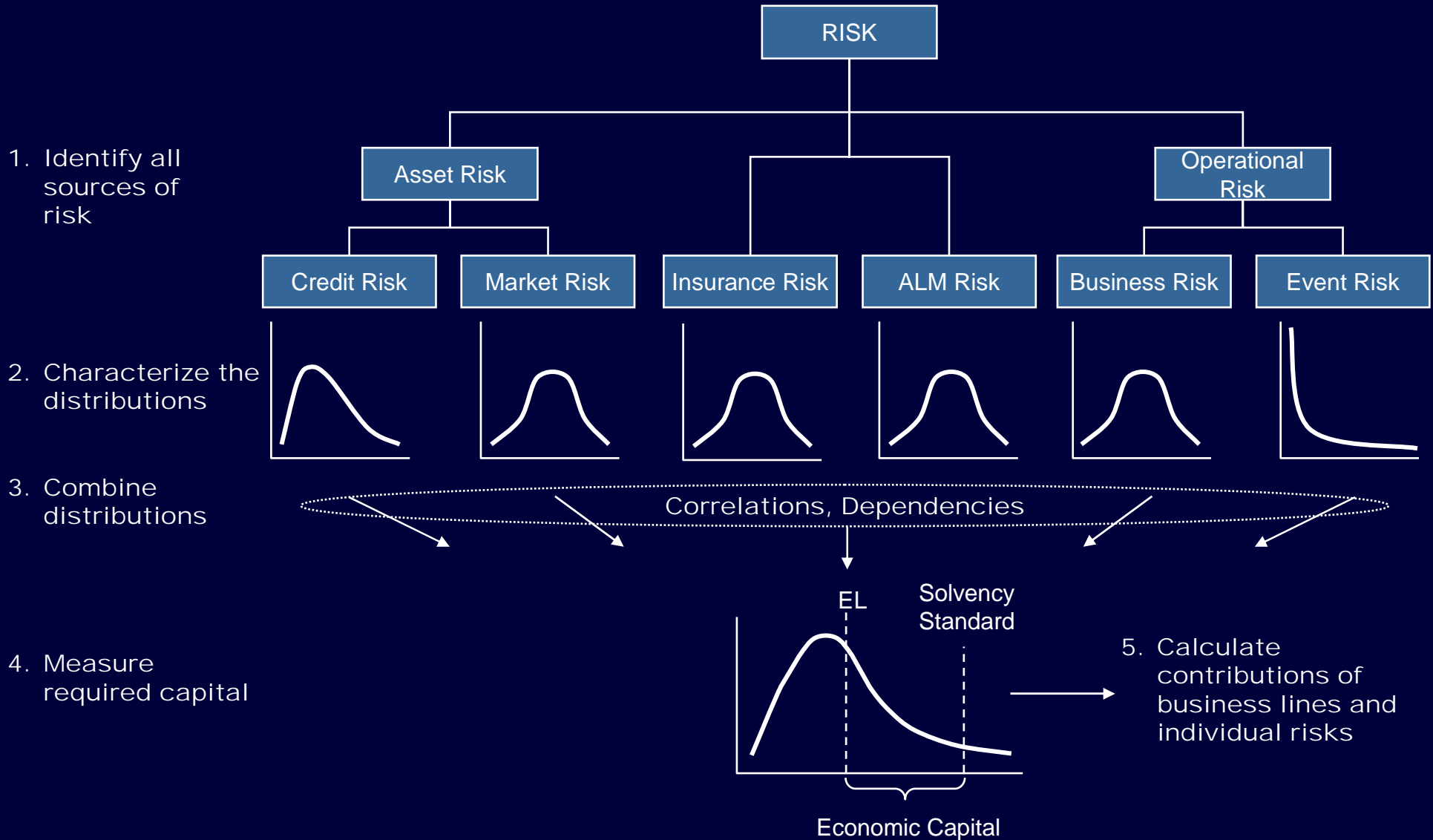
Advanced Approaches

In approving the use of advanced approaches, supervisors will look to:

- Quality of company's risk management procedures
- Quality and experience of company's personnel
- Data integrity
- Quality of models
- Controls



Risk Aggregation



Implications of WP Report

- Provides a global template for building or revising solvency assessment processes for consideration by insurance supervisors
- Provides insurers with valuable information on the assessment of risk (useful for economic capital determination as well)
- Focuses on principles so that variations in circumstances by jurisdiction can be accommodated
- Allows for recognition of all key insurer risks, their dependencies and impact of risk mitigation (e.g., reinsurance) techniques.

