

## Solvency II

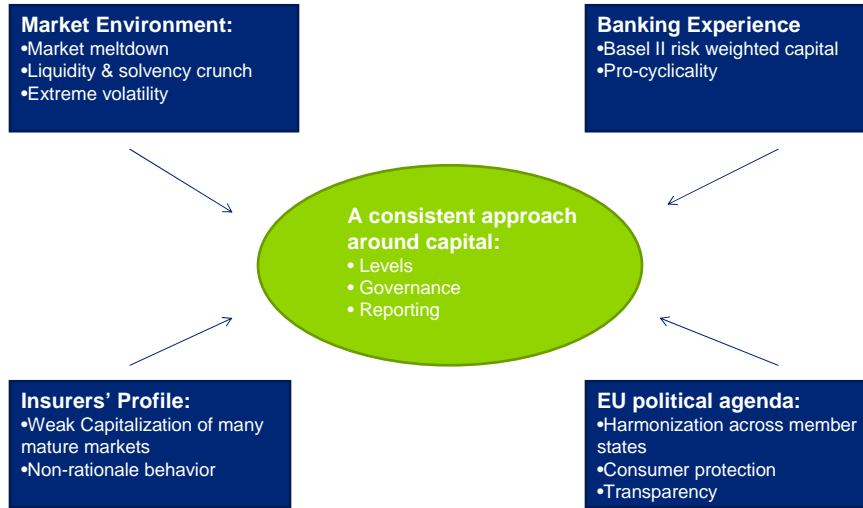


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- Overview of Solvency II
- Implications, Challenges & Benefits
- Impact on the US Insurance Market
- Internal Models

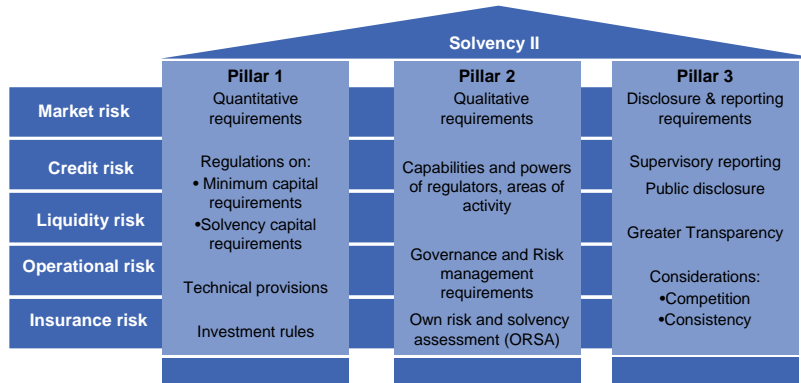
# Overview

- A risk based capital assessment of a company thus encouraging and rewarding demonstrated good integrated risk management.
- Similar to Basel II, which was implemented for the banking industry several years ago
- Will help put banks and insurers on a "level playing field"
- Uses market consistent valuation methods for all insurers, with set risk parameters calibrated with industry experience - more like economic capital than US RBC.
- Stresses equivalent to a 1 in 200 year event are applied to that base capital position and correlated via a correlation matrix.
- Approach extended to both assets and liabilities, defining quality and market benchmarks as part of capital.
- Principles rather than rules based.
- Approach to determining minimum required capital levels for European regulators
- Organizations invited to choose to use standard formula, internal models or partial internal models (subject to approval from regulators)
- Explicit requirement to have an actuarial, risk management compliance and internal audit function.
- Requires an annual report on solvency and financial conditions with a predefined content through identifying specific risks.
- Original intent was to have consistency with IFRS requirements, but that is no longer the case.
- Implementation aimed for January 2013 for EU Insurers and up to 5 years thereafter for third country equivalence.

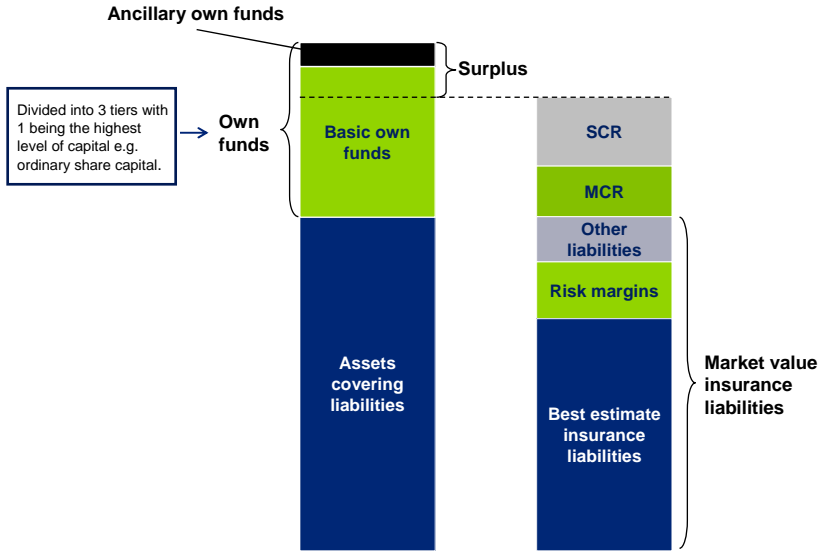


Solvency II is based on **three guiding principles (pillars)** which cut across market, credit, liquidity, operational and insurance risk:

- Three pillar structure from Basel II has been adopted for the insurance industry.
- The new system offers insurance companies incentives to measure and better manage their risk situation.
- The new solvency system includes both quantitative and qualitative aspects of risk, each pillar focusing on a different regulatory component—minimum capital requirements, risk measurement, risk management and disclosure.

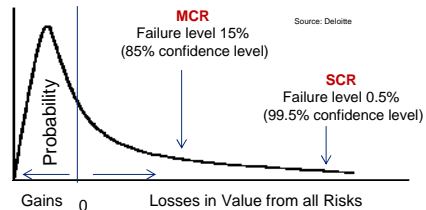


Solvency II Balance Sheet



Pillar 1—Quantification

- Pillar 1 deals with quantitative requirements including technical provisions and capital requirements.
- Solvency II outlines two levels of capital requirements:
  - **Minimum Capital Requirements (MCR):**
    - Threshold that could trigger ultimate supervisory action if breached
    - Calibrated at 85% confidence level
    - Unacceptable risk to policyholder
  - **Solvency Capital Requirements (SCR):**
    - The level of capital that results in no more than a **0.5%** chance of failure over a **one-year** time horizon, where failure is defined as losing **100%** of **market value based** capital.
    - Gives reasonable assurance to policyholders and beneficiaries
    - Can use standard formula or, partial or full Internal Model
  - **Own funds:**
    - Own funds need to be greater than the SCR
    - Quality of assets are rated in a tier system, with minimum requirements applying to both MCR and SCR



## Deloitte. Pillar 2—Risk Management, Governance, and Review

Pillar 2 deals with the qualitative elements, defining both the principles of risk management systems and governance as well as the supervisory review:

- Encourages insurers to develop and implement **internal risk management processes**.
- It includes specific requirement for formal **risk management, actuarial and internal audit functions**.
- The ORSA (Own Risk Solvency Assessment) requirements challenge the standard capital requirements under Pillar I — to enable a clear understanding of an insurers risk profile and to determine their own capital requirement against which they manage the business.
- ORSA ensures that risks taken within all the activities of the insurance company do not result in required capital exceeding the available capital.
- Unlike many processes that focus on control, ORSA focuses on future potential risks. This means that ORSA will form part of an insurance company's middle-term business plan.
- Clear documentation of all the activities of risk identification, risk measurement and assessment, risk mitigation actions, etc. within the ORSA context is extremely important.
- ORSA plays a key role in the communication between an insurance company and regulator. It is important that possible problems with an insurance company's capital adequacy are identified and reported where necessary.



## Deloitte. Pillar 3—Reporting and Disclosure

*Pillar 3 deals with the reporting and disclosure requirements, which aim to provide greater transparency to the stakeholders and information necessary for the purpose of supervision. Pillar 3 requires the following:*

- Disclosure to the public, on an annual basis, a report on the insurer's Solvency and Financial Condition Report (SFCR)
- Submission of a Regulatory Supervisor Report (RSR), to the supervisory authorities, on an annual basis.
- Information may be required both at a group, as well as individual company level.

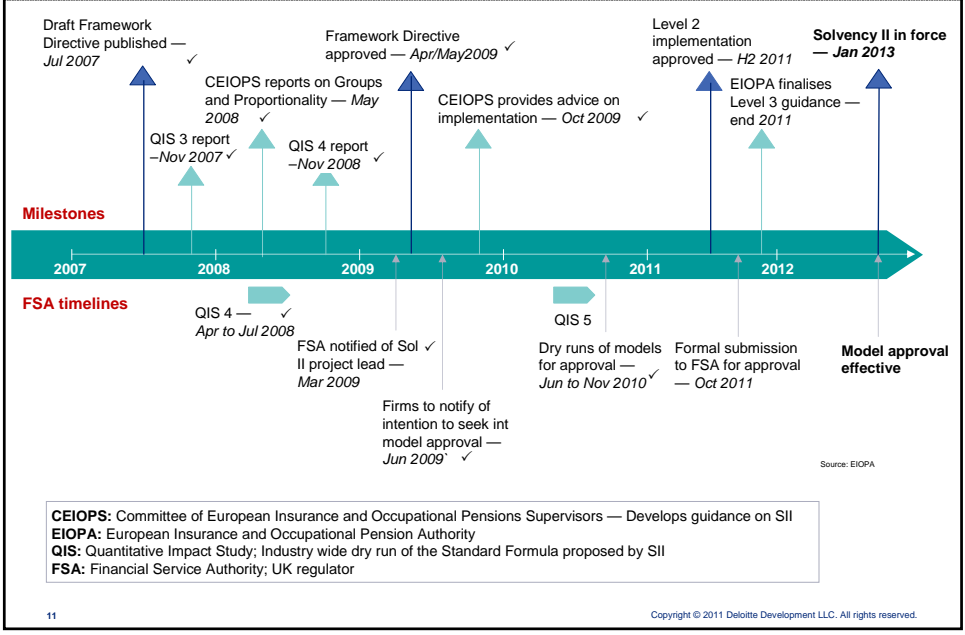
**Both the public and private reports are similar in structure, as shown below, but differ in the detail of information required:**

- Executive summary
- Business and performance
- System of governance
- Risk profile
- Regulatory balance sheet
- Capital management
- Approved internal model (if applicable)
- Annex – Quantitative reporting templates

**Information should be:**

- Relevant, accessible, meaningful, reliable, and readily understandable.
- Reflect the nature, scale, and complexity of the business (proportionality principle).
- Utilize assumptions and figures based on economic principles; be comparable and consistent over time.





## Implications, Challenges & Benefits

**General Challenges**

- More frequent analysis and reporting
- Enhanced communication required to explain calculation results to other functions
- Technical training in new models and methods
- Detailed cross business oversight (Group) – increased business unit responsibilities and cooperation
- Technological changes.
- Understanding market-consistent results, particularly for spread based products.

**Pillar 1**

- Potential Internal model build
- Enhancing data environments to support capital models and assumptions.
- New reporting on cash flows, MCR, SCR on more rapid hard close basis.
- Enhanced capital modelling skills to understand capital aggregation and diversification and complex stress /scenario testing
- Optimization of capital use across competing priorities (SII vs. NAIC)

**Pillar 2**

- Use of ORSA outputs to review performance against risk appetite; use of new risk-adjusted metrics and MI to provide analysis, calculate diversification benefit using aggregated BU data and inform decision-making
- More detailed, complex analysis in pricing and assessment of risk and capital impacts in new product production and development and marketing investments
- Enhancing the approach to assessing the diversification benefit across products and business units

**Pillar 3**

- Designing reports for disclosure to the regulator, analysts, rating agencies and shareholders
- Developing processes and systems to produce the appropriate risk in the required timeframes
- Changing skill set for finance, actuarial and risk management and extensive communication between departments

**General Potential Benefits**

- Enhanced capabilities to aggregate, analyse and respond to risk exposure and capital projection interpretation
- Sophisticated risk management processes are comprehended in rating agency models and will lead to improved ratings driving down capital costs.
- Allow groups to compare risk adjusted returns of different business and investments that would be hard to compare otherwise e.g across countries and types of business

**Pillar 1**

- Improved Capital allocation between business units
- Gain a better understanding of current risk and capital exposures and requirements.
- Potential reduction in capital requirements for some products.

**Pillar 2**

- Adoption of a sophisticated risk management approach will be rewarded through lower regulatory capital requirements
- A fully integrated and standardized risk process and methodology across the organization
- Transparency and comfort for the Board that risks are actively managed
- Increased consistency between internal views and decisions on risk and regulatory risk requirements

**Pillar 3**

- Increased market disclosure of risk management practices to both investors and analysts
- Build brand and external stakeholder confidence through reliable, defined and informative capital and risk management disclosure
- Increased understanding of key sensitivities on capital results
- Improve efficiency and accuracy and reduced risk of capital add ons
- Take advantage of potential synergies with other market developments. E.g. IFRS4 Phase II, Market Consistent Embedded Value

# Impact on the US Insurance Market

In order to be considered equivalent, the following 6 principles must be met:

Principle	Current Status
Powers and responsibilities of the supervisory authority	G
Authorization requirements	G
System of governance	R
Business change assessment	G
Solvency assessment	R
Supervisory cooperation, exchange of information and professional secrecy	R

- Up to 5 year transitional period may be granted

The NAIC's Solvency Modernization Initiative (SMI) is a major regulatory undertaking to critically examine the U.S Solvency Framework along with a simultaneous review of international developments in solvency regulations, with a view to improve the U.S. Solvency Framework.

The SMI Task Force is currently focused on the following eight key areas:

- Capital Requirements (Risk-Based Capital)
- Financial Surveillance – (financial analysis and examination processes and tools)
- Group Solvency Issues (including potential Group Capital Assessment and international Supervisory Colleges)
- Corporate Governance
- Risk management (and Enterprise Risk Management)
- Reinsurance
- Insurance Valuation (Principle-Based Reserving)

While these changes increase the likelihood of equivalence, the question of whether the US will be deemed equivalent at implementation remains uncertain.

### EU Domiciled with US Subsidiaries

#### *Impact will depend on whether Equivalence is granted.*

##### **If Equivalence is Granted:**

- U.S. capital measures (RBC or Principles Based Approach) could be used as the basis for meeting the Pillar 1 SII requirements.

##### **If Equivalence is not Granted:**

- The subsidiary will need to meet SII requirements, in addition to local regulatory requirements including the incorporation of risk management processes and governance and disclosures.
- This could potentially have the following implications:
  - Capital requirements are likely to be inconsistent with U.S. PBA capital formulas or NAIC risk-based formulas and the extent may differ by product.
  - Potential greater capital requirements for certain products impacting profitability of such products e.g annuities, rich guarantees and spread business.
  - Competitive disadvantage for U.S. subsidiaries for certain products.
  - Increased focus on product diversification and divesting of products with high capital requirements.
  - organization-wide changes required to enhance current risk strategy and risk management framework.
  - Potential updates to the underlying technical architecture to enable timely availability of risk analysis results.
  - Development of a ORSA requirements in which quantitative risk measures drive strategic business decisions.
  - Potential lower capital requirements for companies with an effective risk-management strategy and internal controls.

**US Domiciled  
with EU  
subsidiaries**

- Solvency II calculations required for the EU subsidiary.
- Potential corporate restructuring to establish European Holding Companies for all their EU operations which would be regulated by an EU Supervisor.
- May result in a higher global capital requirement.
- Likely to see secondary implications due to rating agency.

**US Reinsurers**

- There may be increased use of Reinsurance arrangements to reduce capital requirements for companies who are required to report on a Solvency II basis.

**Other US  
Insurers**

- Potential competitive advantage in certain products where capital requirements for European companies and subsidiaries are likely to be much higher than local capital requirements.
- The most significant impact though, is likely to be due to the shift in the way solvency is being perceived and regulated at a global level. Increasing focus on ERM and the development of Economic Capital models will eventually impact U.S. Insurers as they adopt international leading practices to stay competitive and through changes in international and local regulations.

**Internal Models**

## Deloitte. Model Choices: Standard Formula or Internal Model

Organizations can apply either the European Standard Formula ("Standard Formula"), internal model (subject to supervisory approval) or a combination of the two to calculate their solvency capital requirements. Internal and Partial internal models will be subject to "The Six Tests"

### Standard formula

The standard formula approach calculates the capital requirements of an insurer by determining the capital charges for various risks using prescribed formula, categorization and stress parameters and then aggregates them using prescribed correlation matrices.

... or ...

### Internal model

The internal model is "a risk management system developed by an insurer to analyse the overall risk position, to quantify risks and determine the economic capital required to meet those risks" (CEA definition). Using an internal model gives the firm the opportunity to alter the categorization and parameters to their specific risks.

... or ...

### Partial internal model

A combination of the above where the firm specific stress parameters or categorisations are used for some of the risks that are not dealt with appropriately under the standard formula.

The Six Tests Apply

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## Deloitte. The Six Tests Part 1: Use Test

The Use Test is mandatory for Internal Model Approval. It demands that management can demonstrate that the internal model is used to inform key decision making. The Use test consist of several principals:

**Foundation principle: the undertaking's use of the internal model shall be sufficiently material to result in pressure to improve the quality of the internal model.**

- **Principle 1. Senior management**, including the administrative or management body, shall be able to **demonstrate understanding** of the internal model.
- **Principle 2.** The internal model shall **fit the business** model.
- **Principle 3.** The internal model shall cover sufficient risks to make it useful for **risk management and decision-making**.
- **Principle 4.** The internal model shall be widely **integrated** with the **risk-management** system
- **Principle 5.** The integration into the **risk-management system** shall be on a **consistent** basis for all uses
- **Principle 6.** The internal model shall be used to support and verify **decision-making** in the undertaking.
- **Principle 7.** The SCR shall be calculated **at least** annually from a full run of the internal model, and also when there is a **significant change** to the undertaking's risk profile, assumptions underlying the model and / or the methodology arising from decisions or business model changes, and whenever a recalculation is necessary to provide up-to-date information for decision making or any other use of the model, or to fulfil supervisory reporting requirements.
- **Principle 8.** The internal model shall be used to improve the undertaking's **risk-management** system.
- **Principle 9.** Undertakings should design the internal model in such a way that it facilitates analysis of **business decisions**.

The Use test presents the following challenges:

- **People** - Senior Management must understand the output from Capital Models; they have the responsibility for ensuring it is fit for purpose and at the heart of decision making.
- **Processes** - The Risk Framework must be embedded within the organisation and drive strategy, it is no longer just the preserve of a Risk & Compliance team.
- **Systems** - The Use Test will demand better information and faster data processing.

Statistical quality standards

- Data quality essential.
- Latest development and knowledge of internal models, with methodology should be scrutinized at least annually.
- Models should be capable of "risk ranking"
- Minimum requirements should be set to determine that diversification benefits are met.

Calibration standards

- Firms not using the one year VaR risk metric must demonstrate, at least annually, that their approach provides an equivalent level of protection.
- Supervisors may require firms to run their models on benchmark portfolios to review the calibration of internal models and adequacy of its specifications.

Profit and loss attribution

- Analysis should be performed on internal definitions of profit and losses as used by firms to assess performance.
- The profit and loss attribution process should follow the risk categorization used in the internal model for specific risks.

Validation standards

- Board Ultimately responsible
- Firms need a comprehensive validation policy.

- Should cover:**
- Data
  - Methods
  - Assumptions
  - Expert Judgment
  - Documentation
  - Systems/IT
  - Model Governance
  - Use Test

- Possible validation techniques :
- Internal model vs. experience
  - Sensitivity/Scenario testing
  - Benchmarking
  - Analysis of Change

Documentation standards

- Should enable a knowledgeable third party to build the model in an independent platform.
- Should be timely and up to date and tailored to different users.
- Areas that should be covered:
  - Historical development of the model
  - Data management
  - Changes and their impact
  - Theory and assumptions
  - How the requirements in the six test have been taken into account.

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