



HOW DO YOU MONITOR DATA QUALITY? (... AND WHY SHOULD YOU?)

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Polling Questions



How would you rate data quality within your organization?

Is this driven internally or externally?

How much data does your organization produce daily?

Why should we care about data quality?



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- Despite progress, the quality of the data remains problematic as the amount of data continues to grow.
 - Every day, we create 2.5 quintillion bytes of data [1 Exabyte or 10^{18} bytes]
 - There is significant variability in the quality of exposure data from account to account and from portfolio to portfolio both within companies and across the industry.
 - Data quality is difficult to measure in a systematic way, making it challenging to establish goals, manage to desired outcomes, and incorporate metrics into business decisions.
 - There are no established standard measures of quality in terms of model results - those metrics that are used are inadequate.

Solvency II: Ambitious objectives and contrasting views*



➤ “Solvency II will introduce economic risk-based solvency requirements across all EU (European Union) Member States for the first time. These new solvency requirements will be more risk-sensitive and more sophisticated than in the past, thus enabling a better coverage of the real risks run by any particular insurer.”

*• European Commission website
November 2011*

➤ “Solvency II currently exists on paper only, it has yet to be implemented or tested in the real world, and in that respect it is at best a work in progress. We don’t know what unintended consequences may develop, or whether it will ultimately achieve the best intentions of its authors.”

*• Commissioner Thomas Leonardi,
Connecticut Insurance Department,
speaking on a PwC webcast in August 2011*

What is Solvency II trying to achieve?*



Main objectives:

- Deepen integration of the EU insurance market
- Improve competitiveness of EU insurers and reinsurers
- To rationalize, harmonize and modernize insurance regulation in the EU
- Strengthen policyholder protection
- Guard against excessive risk taking

Solvency II is scheduled to be implemented in 2014, but delays to this timetable appear likely (2015?)

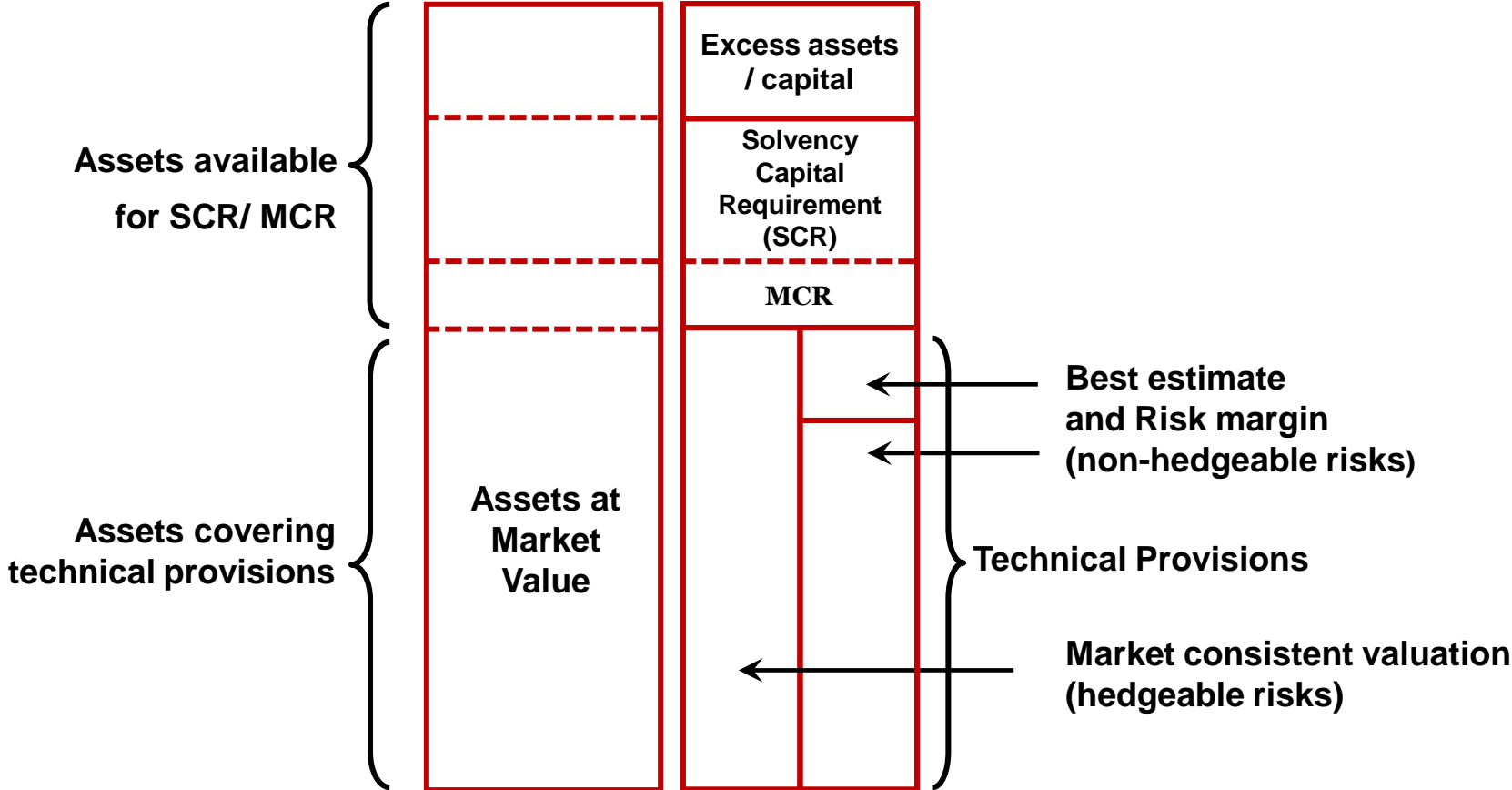


Solvency II is based around a 3 pillar structure*



Pillar 1 Quantitative requirements	Pillar 2 Supervisory review	Pillar 3 Disclosure
<ul style="list-style-type: none">• Assets and Liabilities – total balance sheet economic approach• Solvency Capital Requirement (SCR):<ul style="list-style-type: none">• Standard Formula; or• Internal Model• Minimum Capital Requirement (MCR)• Own Funds	<ul style="list-style-type: none">• System of governance and risk management system• Own risk and solvency assessment (ORSA)• Supervisory review process• Supervisory intervention including capital add-on	<ul style="list-style-type: none">• Public Disclosure – annual solvency & financial condition report• Information to be provided for supervisory purposes
Requirements under all 3 pillars apply at both solo and group level		

The proposed framework for Solvency II's Pillar 1*





- **Why it matters**

- Better understanding of CAT exposures
- Reduce uncertainty in modeled outputs
- Avoiding “private catastrophes”
- Underwriting guidelines
- Credit rating
- Reinsurance pricing

- **What reinsurers say****

- 67% are very concerned and 25% somewhat concerned about data quality of US large commercial exposure
- 90% of reinsurers say they apply surcharges for poor data quality
- 70% of these would include a 20% to 25% surcharge
- 70% would consider extending additional capacity to a cedant who could demonstrate strong controls and policies through an independent report

**From Ernst & Young 2008 catastrophe exposure data quality survey of major reinsurers

Missing / Incorrect Location Attributes***



#	Occupancy Description	Construction Description	Num Stories	Year Built	%Diff to GU AAL
1	Professional, Technical & Business Services	Masonry	105	1931	465%
2	General Commercial	Masonry	1	Unknown	225%
3	Permanent Dwelling (single family housing)	Reinforced Concrete	Unknown	Unknown	35%
4	Professional, Technical & Business Services	Reinforced Concrete	102	Unknown	-23%
5	General Commercial	Unknown	1	1996	102%
6	Telephone & Telegraph	Unknown	Unknown	1931	132%
7	Entertainment & Recreation	Unknown	1	Unknown	124%
8	Unknown	Unknown	Unknown	Unknown	76%
9	General Commercial	Unknown	102	1931	8%

- Actual:**
- **General Commercial**
 - **Steel Frame**
 - **102 stories**
 - **Built 1931**

Missing / Incorrect Location Attributes***

Empire State building



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