

MERCER OLIVER WYMAN

Insurer Solvency Assessment Towards a Global Framework & Strategic Issues in the European Life Sector

Financial Risks Seminar
London, March 23, 2004

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Agenda

Towards a Global Framework for Insurer Solvency Assessment

- Introduction
 - Global trends affecting insurers
 - International supervisory trends
- Developments in insurer solvency assessment

Strategic Issues in the European Life Sector

- Executive summary
- Seeds of the capital crisis
- Impact on life insurer balance sheets
- Improving capital productivity & management

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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

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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.)

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Introduction

- IAA Insurer Solvency Assessment Working Party (WP) 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

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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

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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

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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

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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

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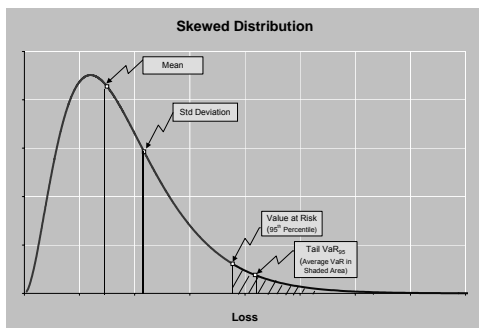
Future Structure for Solvency Assessment Total balance sheet approach

- 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

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Appropriate Risk Measures



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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.

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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 (line of business) and not the company, and can be prescribed by the regulator; and
 - v (Coeff of Var) depends on LOB & size of LOB for company.

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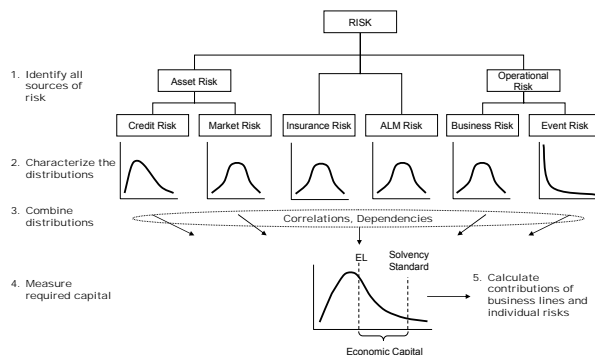
Advanced Approaches

- 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.

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Risk Aggregation



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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.

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Strategic Issues In the European life sector

- Mercer Oliver Wyman recently released a report*
 - To provide high-level quantification and discussion of main effects of current capital crisis on the economics of the European life insurance sector
 - To assess the strategic implications for insurers that find themselves capital constrained
 - To outline the broader effects of the capital crisis on the European life sector and of the introduction of Solvency II and International Financial Reporting Standards (IFRS)

*Life at the End of the Tunnel? The Capital Crisis in the European Life Sector, February 2004

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Executive Summary

- Aggregate capital shortfall in European life insurance sector €100 billion (estimated to be €60 billion at end of '03 due to equity value increases)
- Greatest shortfall in Germany, Switzerland and to lesser extent Sweden and UK - shortfall concentrated (roughly) in one third of companies
- Inconsistencies across countries in statutory balance sheets & lack of link between current regulatory solvency capital & risk mean much of shortfall is disguised – statutory solvency ratios in the sector still appear healthy
- It is hoped Solvency II will remove much of this inconsistency
 - balance sheet consistency of assets and liabilities using economic or market-based principles
 - target capital based on consistent quantification of risks faced by insurer
 - use life company internal models where appropriate

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Executive Summary

- Consequences for the European life insurance sector:
 - Improved transparency of current economic solvency position
 - Acceleration of existing industry restructuring
 - Significant improvements in risk and capital management capabilities
- Turbulence and uncertainty in the near term
- In medium term successful insurers will stand out as transparency increases and capital allocated in an economically rational manner
 - Solvency II (and IFRS) will reinforce market trends leading to more focused businesses
 - Investment guarantees will remain but with careful design & pricing
 - Successful product manufacturers will take greater liquidity risk on the asset side (to match that already present in the liabilities) and out-source the management of non-traditional asset classes

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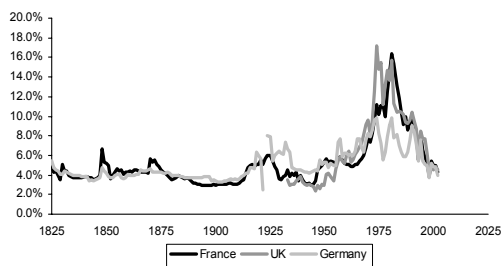
Seeds of the Capital Crisis

- Life insurance products have transitioned over many years from pure protection to having a substantial investment component
- Long term investment guarantees and tax advantages are unique features of life insurance products
- Why have capital concerns only arisen in recent times?
 - The Great Inflation
 - The Great Equity Illusion

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Government Bond Yields 1815 - 2003



Source: Global Financial Data; National Bureau of Economic Research

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Seeds of the Capital Crisis

- The Great Inflation had 3 principal effects on the European life insurance sector
 - Shortened duration of bond portfolios to allow faster reinvestment
 - Increased exposure to assets seen as inflation hedges (e.g., equities and property)
 - Increased pressure to provide higher guarantees to compete with short term products
- Current sustained low levels of inflation and interest rates have left insurers exposed to higher product guarantees

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Seeds of the Capital Crisis

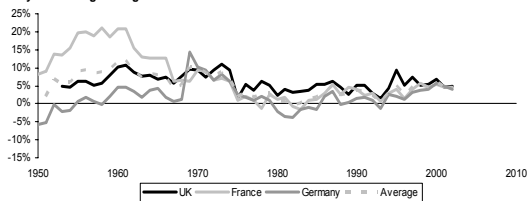
- The Great Equity Illusion
 - Investor expectations of future equity market returns have become detached from the fundamentals
 - Historical equity risk premiums used to forecast future risk premiums
 - Future equity returns should be based on expectations of dividend and earnings growth
- Equity returns on this basis have fallen from the 4-6% range in the '80s to 1-3% recently
- The "Perfect Storm"
 - Rising interest rates → ratcheting up of product guarantees
 - Rising nominal equity returns → declining forward equity risk premiums
 - Shortened bond portfolios and increased equity positions have greatly increased life insurers' exposure to loss

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Equity and Bond Returns 1950-2002

Annual outperformance of equities over bonds
20-year moving average



Source: Global Financial Data; National Bureau of Economic Research

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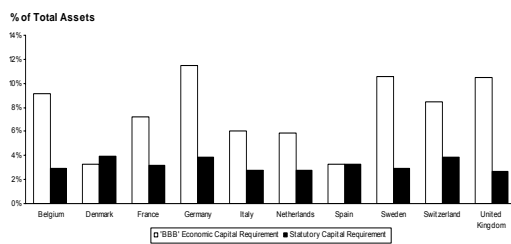
Impact on life insurer balance sheets

- Economic capital was estimated for several European countries based on experience with various clients – calculated at the BBB level – could be higher for insurers desiring higher credit ratings
- Aggregate target capital is 3 times the statutory minimum capital levels
- EC target capital is 64% ALM risk; 5% credit risk; 4% underwriting risk; 27% operational risk
- EC varies significantly by product type, product design, asset allocation and country – UK will have significant increases in EC due to high equity gearing and presence of guarantees
- Solvency II likely to affect ability of insurers to underwrite certain types of life insurance
- How will this affect product design, pricing, asset allocation, capital structure, competitive behavior and strategy?

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Economic Capital versus Statutory Solvency Margin by Country



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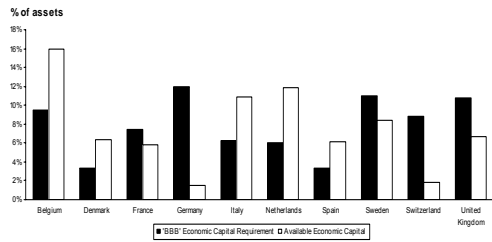
Balance sheet pressure

- Current solvency capital buffers adequate to cover minimum regulatory capital requirements but....
- There is a major shortfall against economic capital requirements
- In the UK the significant penetration of unit-linked products is offset by traditional life insurance with a high risk profile, especially due to high equity holdings
- Most undercapitalized – Germany and Switzerland
- Well capitalized – Italy, Netherlands, Spain, Belgium, Denmark

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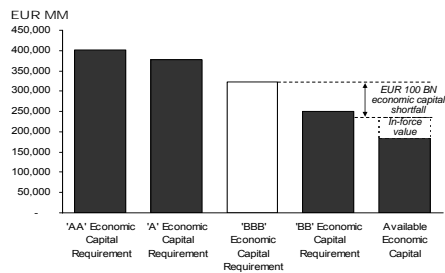
Economic Capital versus Available Capital by Country



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Economic Capital Shortfall for European Life Sector



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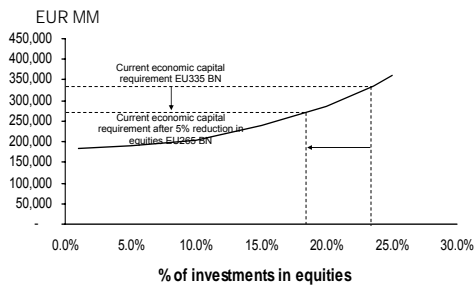
Balance sheet pressure

- Strongly capitalized life insurers represent about 40% of the market and have an economic capital surplus of about €50 billion
- Adequately capitalized life insurers may represent 10% of the market
- Undercapitalized insurers may represent 50% of the market and have an economic capital deficit of about €150 billion
- For the latter, raising capital may not be an option. Instead need to "de-risk" (i.e., reduce equities, guarantees) or restructure their portfolios (i.e., exit non-productive business lines).

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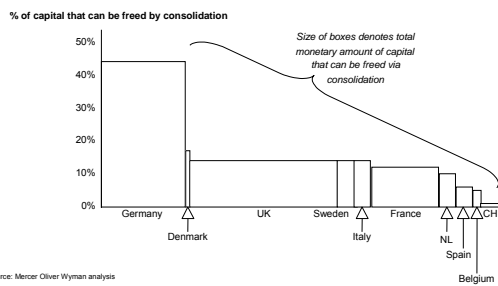
Sensitivity Of Overall Economic Capital To Asset Mix



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Potential Economic Capital Release from Consolidation



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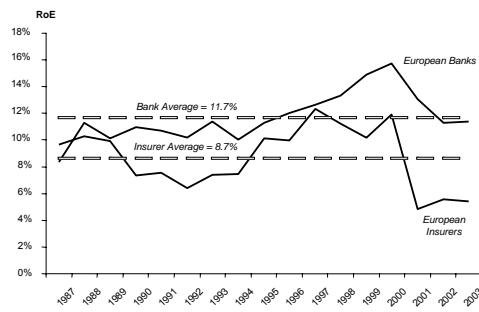
Increasing capital productivity

- Even for well-capitalized European life insurers their return on capital in the last decade has been below that of the banks
- Improving capital productivity raises three issues
 - Where is capital deployed in the life insurance value chain? How does productivity vary across the value chain?
 - How can returns for risk intermediation be drastically improved?
 - What capabilities do life insurers need to be effective balance sheet factories?

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Capital Productivity in European Banks and Insurers* 1987-2002



* In this graph, life and non-life insurers are combined; this is because in practice many European insurers are composites, and de-facto cross-subsidisation makes it difficult to fully separate publicly disclosed profitability between Life and Non-Life
Source: Datatream
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Improving Capital Management

- Only limited number of life insurers can claim to have a fully integrated economic capital and economic value into all major financial, business and strategic planning processes
- Distortion arises from different reserving standards, simplistic capital ratios and embedded value assumptions
- Expected key improvements
 - Capital management: With capital as a scarce commodity the importance of tools to assess, allocate and manage risk will increase
 - Asset allocation: ALM is a core risk but has been underdeveloped
 - Product design: focus on true value creation & return per unit of risk
 - Operational risk improvements: large operational losses can be significantly reduced

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Future structure of European life insurance

- Concern over capital has led to insurer downgrades
- Growth prospects still strong due to economic growth, demographic changes, pension deregulation
- But will capital be there for future growth? Capital strength is polarized. Industry restructuring and "right-risking" will be important to ensure capital will be there for future growth
- Five competitive business models will emerge
 - Large global balance-sheet factories
 - Regional retailer-wholesalers
 - Category killers
 - Value-chain engineers
 - Distribution specialists

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Towards a Global Framework & Strategic Issues in
the European Life Sector

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Thank you!
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