Agenda

- Structure of the PSB
- Capital resource requirements
- Capital resources eligible to be used
- Systems and controls – implications for actuarial functions
What is the Integrated Prudential Sourcebook?

Forms part of the FSA Handbook

- INTEGRATED – it applies to all financial services firms: insurers, banks & building societies, fund managers, IFAs, Society of Lloyd’s, Lloyd’s agents

- PRUDENTIAL - it is the cornerstone of the new prudential supervision framework

- SOURCEBOOK - not just a rulebook, as it contains much GUIDANCE as well as rules.

- “PRU” will replace the various interim sourcebooks, such as IPRU
Prudential Categories

- PRU Category 1 – deposit takers
- PRU Category 2 - Insurers and Reinsurers; Society of Lloyds
- PRU Category 3 – Investment Firms dealing as principal
- PRU Category 4 – Investment Firms and Lloyd’s agents holding client money
- PRU Category 5 – Investment Firms and Lloyd’s agents holding client money

Each Prudential Category has its own Base Capital Requirement
How the PSB is structured

Application & General Requirements (PRU 1) → Capital (PRU 2)

- Credit (PRU 3)
- Market (PRU 4)
- Liquidity (PRU 5)
- Operational (PRU 6)
- Insurance (PRU 7)
- Group (PRU 8)
General structure

For each of the six risk categories:

- must have adequate systems to Identify, Measure, Monitor and Control the risk in question
- capital adequacy must be seen to address each of these risk categories

BUT

- A simplistic approach to capital requirements for Operational Risk is likely to be acceptable initially
- Capital for Group Risk can be held elsewhere in the group – provided it is demonstrably available in stress situations

Must have documented Risk Policy for Insurance, Market, Credit and Operational risk
## Overview of Risk Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Market Risk</td>
<td>Movement in external market valuation (incl specific assets)</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>Failure of payment (what is your concentration &amp; exposure to clients/counterparties?)</td>
</tr>
<tr>
<td>Operational Risk</td>
<td>Risks related to systems, processes, people and external events</td>
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<tr>
<td>Insurance Risk</td>
<td>Inherent uncertainties regarding the occurrence, amount and timing of insurance liabilities</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>Inability to meet liabilities as they fall due</td>
</tr>
<tr>
<td>Group Risk</td>
<td>Risk of impact from other group entities</td>
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PSB in the context of the FSA Handbook

PRU forms only one volume of the FSA Handbook. Consequently it does NOT cover:

- Sales regulation – Conduct of Business Sourcebook
- PPFM – Conduct of Business Sourcebook
- Regulatory reporting – initially in IPRU
- Governance of With Profits – Supervision Manual
- Skilled Persons’ reports – Supervision Manual (SUP)
- Approved Persons – SUP, SYSC, FIT and APER
- Authorisation of firms – Authorisation Manual
- Powers of and approaches to enforcement – in the Enforcement Manual
- Systems and Controls (high-level guidance) – in SYSC
Capital Resource Requirements

- Pillar 1 requirement (CRR) to be based on:
  - Minimum Capital Requirement for “Regulatory basis life firms”
  - Enhanced Capital Requirement for “Realistic basis life firms”
- Pillar 2: Individual Capital Adequacy Standards (“ICAS”)
  - firms must have adequate systems and procedures for assessing that financial resources are “adequate” at all times (“Individual Capital Assessment” or “ICA”)
  - firms must identify all major risks and carry out stress and scenario tests on these
  - FSA will give Individual Capital Guidance based on the ICA - but also based on ECR, strength of risk processes and other relevant factors
  - ICG may be challenged, but ultimately FSA can impose
Pillar 1: (a) “Regulatory basis life firms”

- Firms writing only non-profit business, or With Profit Funds under £500m
- Only change under CP 195: any additional amount needed for resilience tests is not mathematical reserves but a capital requirement
- Implies resilience capital can be outside Long Term Fund
- Explicit resilience tests introduced for interest rate movements and property values
- Minimum Capital Requirement is higher of:
  - Now €3m instead of €800K
  - Resilience Capital
  - EC Minimum Guarantee Fund
  - EC Required Minimum Margin
Pillar 1: (b) “Realistic basis life firms”

- Firms whose With Profit Fund(s) exceed £500m
- “Twin peaks” approach:
  - Enhanced Capital Requirement (ECR) is the higher of
    - “regulatory peak” and “realistic peak”

Generally, following a strong equity market, realistic peak will be higher
- Following a bear market, regulatory peak might be higher
- Regulatory reserves can be less prudent – 3 concessions (currently these are granted as waivers)
Twin Peaks Test

With Profits Insurance Capital Component

Risk Capital Margin

Future Liabilities (Smoothing costs, “glidepath” cost etc)

Cost of guaranteed benefits

Asset shares

Inadmissible assets & Non-Profit VIF

EU Required Minimum Margin

Resilience test capital

(not-so-prudent) Technical Reserves

Regulatory Peak vs. Realistic Peak

* Can also be calculated prospectively by projected cash flows
Risk Capital Margin

Based on three specified stress tests:
- Market risk – as per new resilience tests
- Credit risk – including increase in credit spreads
- Persistency risk (rates 50% above best estimate)


Iterative process in formulating PPFM – assessing impact on realistic liabilities and hence on ECR

FSA wishes to calibrate RCM to achieve desired confidence level for meeting PRE
Realistic Liabilities

No prescribed definition of asset share, but firm must retain a record of its own definition & methodology - auditable

Costs of guarantees and smoothing must be on a market-consistent basis:

- Stochastic modelling (preferred)
- Option pricing (only if guarantee is relatively simple, capable of being hedged and whose value cannot be affected by management intervention)
- Deterministic projections with attributed probabilities (tolerated as a last resort)
Multiple With Profits Funds

- Twin Peaks comparison must be done separately for each With Profits Fund
- Different funds may give differing results – some realistic, some regulatory
- WPICCC is the sum of all positive excesses of realistic peak over regulatory peak - no offsetting of negatives
- New FSA Form 19 shows realistic assets & liabilities
- New Form 18 shows regulatory liabilities and derives WPICCC for each WP Fund
Pillar 2: ICAS Framework

- ICA must be based on two parameters chosen by the Board, consistent with firm’s strategy:
  - Confidence level for avoiding failure to meet obligations
  - Period of time over which this is assessed
- Must address all six risk categories
- Must identify biggest risk exposures and stress them
- For ‘plain vanilla’ portfolios it may be sufficient to use series of stress tests or scenario analyses
- Firms are encouraged to use DFA models
- Any assumptions affecting the value of options & guarantees must be stochastic
- Required from 1.1.05 - but FSA will be asking “some firms” for ICAs during 2004
Individual Capital Guidance

- Will take 2-3 years for FSA to review ICAs and determine ICG for all firms
- ICG will almost always be higher than (or equal to) ECR
- ICG lower than ECR is possible (a waiver from Pillar 1) – BUT:
  - No single ICA model is expected to be reliable enough to use as sole basis for such a waiver
  - Any ICA model(s) used to justify less than ECR should be independently and externally reviewed
- ICG is a *target* level, not the minimum acceptable
- Falling below ICG level is not as serious as falling below CCR
- ICG is not made public
- FSA expects ICG *on average* to be 25% higher than CCR – but will vary greatly between firms
Capital Resources for meeting the CRR

**Tier 1 capital**
- Core Tier 1: Ordinary shares & audited reserves
- Non-ordinary shares
- Innovative Tier 1

**Tier 2 capital**
- Upper tier 2: Perpetual subordinated debt
  - Perpetual cumulative preference shares
- Lower Tier 2: Long term subordinated debt
  - Fixed term hybrid capital

Classification based on permanence and loss absorbency / ranking on wind-up
Capital resources: restrictions for life insurers

- Tier 1: at least 50% must be Core Tier 1
- Maximum of 15% of Tier 1 can be Innovative Tier 1
- Tier 2 capital cannot exceed total Tier 1
- Lower Tier 2 cannot exceed 25% of total capital resources
Implicit Items

- Implicit items being phased out – only 25% of total resources from March 2007, and zero from 2009
- Can be granted (by waiver) as non-core Tier 1 capital
- Implicit items cannot increase regulatory surplus to more than the realistic surplus
FSA Objectives for Systems and Controls

- Senior management arrangements, systems and controls ("SYSC")
  - "A firm must take reasonable care to establish and maintain such systems and controls as are appropriate to its business." (SYSC 3.1.1R)
    - To enable it to comply with its obligation to maintain appropriate systems and controls, a firm should carry out a regular review of them. (3.1.2 G (2))
    - This would be one of the key objectives of Internal Audit

- The Appointed Actuary is a required function with significant influence (Controlled Function 12)
  - The Appointed Actuary and the actuarial department forms an important input into the management of risks, and monitoring systems and controls within a firm.
Systems and Controls

What is covered by SYSC and PRU 6?

- Organisation
  - Clear and appropriate reporting lines with arrangements to supervise/monitor delegation (including any outsourcing)

- Management information
  - A firm must have arrangements which furnish its governing body with the information it needs to identify, measure, manage and control risks of regulatory concern. The information must be relevant, reliable and timely.

- Compliance

- Risk assessment

- Employees and agents

- Audit Committee
What is covered by SYSC and PRU 6? (cont’d)

Internal Audit
- Depends on nature, scale and complexity of its business, it may be appropriate to delegate much of the task of monitoring to an internal audit function.
- Internal Audit should have clear responsibilities and reporting lines, be adequately resourced and staffed by competent individuals, be independent of the day-to-day activities of the firm.

Business Strategy

Remuneration policies

Business continuity

Records
Impact of SYSC on Actuarial Functions

Common areas of ongoing development

- Risk Management - processes or resources to identify, assess and control risks
- Documentation - procedures, systems, work performed, limits and controls operated
- Responsibilities - delegation of responsibilities to sub-committees, management are not adequately defined
- Business continuity planning - existence and testing
- Stress and scenario testing - defining and ongoing development
Internal Audit’s Approach

- Most Internal Audit functions will operate a risk based approach to their planning and schedule of reviews.
  - It will be important to ensure that your risk matrices for the Actuarial function are suitably aligned to those of the wider organisation, in particular to your operational risk function.
  - This will help to ensure that Internal Audit will adequately plan and resource their review of the Actuarial function.
  - Many Internal Audit teams now include Actuarial resources to support their more technical areas of work or will outsource this work to consulting firms.
### Sample Risk Matrix

<table>
<thead>
<tr>
<th>Process</th>
<th>Key Risk</th>
<th>Impact of Process Failure</th>
<th>Likelihood of Process Failure</th>
<th>Gross Regulatory Risk</th>
<th>GRR</th>
<th>Control Rating</th>
<th>NRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate consideration of business continuity within the operational environment</td>
<td>Risk of failure to establish Disaster Recovery Plans</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness and understanding by Approved Persons of their responsibilities and ability to fulfil these responsibilities, including documentation</td>
<td>Risk that Approved Persons do not meet their regulatory responsibilities</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation of data integrity impact</td>
<td>Risk that data integrity issues have been adequately recognised in the financial returns</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinsurance arrangements are documented and up to date</td>
<td>Risk that reinsurance arrangement are not finalised and fully documented</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Questions to be considered

Internal Audit will consider the following questions and scope

- Is there a risk management culture embedded in Actuarial?
- Has a risk assessment been conducted and documented?
- Are there up-to-date and comprehensive manuals of the Actuarial procedures?
- Can you demonstrate that all agreed procedures and methodologies are being followed?
- Is it clear who is responsible for each decision made which is of an actuarial nature, particularly where functions have been delegated?
- Can you demonstrate that each Actuarial member of staff is adequately trained and competent for their role?
Internal Audit Review

- Internal Audit may review the following areas

  - Documentation of Processes
    - Business Plans, and new business limits
    - Solvency Monitoring and Reporting
    - Financial Condition Reports, Statutory Valuations
    - Monitoring PRE, ALM
    - Stress & Scenario testing
    - Product development and pricing, including assumptions

  - Other Areas
    - Adherence to processes and procedures
    - Organisational structure and job descriptions
    - Management Information and reporting to senior management
    - Data Integrity
    - Management controls and monitoring
    - Relationship with other functions and information flows
In particular, documentation will be required for the following items under the PSB (or “PRU”):

- Risk management processes and controls. (SYSC 3A and PRU 6)
- Business plans/projections (SYSC 3A)
- Statutory and other valuation processes and methodologies
- Product pricing processes and methodologies including underwriting strategy and any limits on business to be written (PRU 4.2)
- ALM process, and any mismatch tolerances (PRU 7.1)
- Job descriptions (including competencies) and delegated authorities (SYSC 3.2.3)

SYSC 3A.5.6 provides guidance that internal documentation of processes and systems may reduce a firm’s exposure to some operational risks.
Common Challenges Faced by Firms

Two employee groups with disparate skill-sets lacking a common understanding

Actuarial
- Mathematical
- Theory-focused
- Rely on Intellectual Capital
- Prefer to leave options open
- Long time horizons

Internal Audit
- Formalised
- Process-focused
- Rely on Documentation
- Demand closure
- Short time horizons