Agenda

1. Overview of current practice
2. Where we are now
3. Liabilities for remaining coverage
4. Liabilities for incurred claims
5. Summary and Challenges
Overview of current practice

PGN 401:

- Data Validation & Reasonability
- Segmentation & Special Features of Business
- Prescribed Margins (75% adequacy)
- Basis Changes
- Inflation
- Discounting
- Expenses
- Reinsurance
Overview of current practice

IFRS4 Phase I:

- **Reinsurance**
- **Expenses**
- **Discounting**
- **Inflation**
- **Data Validation & Reasonability**
- **Segmentation & Special Features of Business**
- **Prescribed Margins (75% adequacy)**
- **Basis Changes**

**PGN 401 vs. Current IFRS**

- Largely consistent
- Some differences
Overview of current practice

Industry pitfalls addressed by IFRS4 Phase II:

- **Sufficiency of Reserves**
- **Expenses**
Where we are now

- Comment period closed: Nov 2007
- FASB joins project: Oct 2008
- FASB DP: Sep 2010
- Final Standard?: H2 2013
- Phase II IFRS Effective Date of Standard?: 2015

- 2004
  - Jul 2004: Phase II work begun
- 2007
  - May 2007: Discussion paper published
- 2008
  - 2010
  - Jul 2010: Phase II exposure draft
- 2012
  - H2 2012: IASB re-exposure / review draft FASB ED?
The Board envisages a “Building Blocks Approach” Model

- Best Estimate (mean) Liability
- Time Value of Money
- Risk Adjustment
- Residual Margin
Liabilities for remaining coverage

Premium allocation approach simplification and proxy of the building blocks approach

Building blocks approach (BBA)  Premium allocation approach (PAA)

All three components measured using one approach

Onerous contract liability, measured using BBA if necessary

Liability for incurred claims, measured using BBA

Liability for remaining coverage, measured by reference to unearned premium
IFRS 4 Phase II reserving
Remaining coverage – Building Blocks Approach

Residual Margin

Risk Adjustment

Discounted Best Estimate

Amortized over time
Defer day 1 profits
Released/paid over time

End of coverage period

Time
IFRS 4 Phase II reserving

Liability for Incurred claims

Liability for Remaining coverage

Start of Insurance Contract coverage period

Reporting date

Insurance Liability is extinguished

That is, when the contract:
- expires;
- is cancelled; or
- is discharged

Consistent with de-recognition principle in IAS39
IFRS 4 Phase II reserving
Remaining coverage

 Liability for remaining coverage

• Premium Allocation Approach
IFRS 4 Phase II reserving
Remaining coverage – Premium Allocation Approach

What is it?
• Simplified/modified measurement approach for pre-claim liabilities for certain short-duration contracts.

How is it calculated?
• Premiums received net of acquisition costs, released over time evenly or in line with expiring risk.

Is this different from the current approach?
• No! 😊
  (unless discount and interest accretion applies to your business.)
IFRS 4 Phase II reserving
Remaining coverage – Premium Allocation Approach

What acquisition costs can be used?

• Directly attributable acquisition costs that relate to a portfolio of insurance contracts for both successful and unsuccessful efforts.

• Sales force contract selling

• Underwriting

• Medical inspection

• Policy issuance, administration and maintenance

• Recurring commissions
IFRS 4 Phase II reserving
Incurred Claims

• Building Blocks Approach
IFRS 4 Phase II reserving
Incurred Claims– Building Blocks Approach

Risk Adjustment

Time Value of Money

Best Estimate (mean) Liability
IFRS 4 Phase II reserving
In incurred claims – Building Blocks Approach

How is calculation segmented?

- The current definition of a portfolio of insurance contracts in IFRS 4 will substantially be retained:
- “insurance contracts that are subject to similar risks and managed together as a single pool.”
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

What is included in the cash flows?

Claims Outgo

Claims handling expenses

Non-Reinsurance Recoveries
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

What expenses should be included?

Claim handling costs:

- “the costs that the insurer will incur in processing and resolving claims under existing insurance contracts” that is:
  - Legal fees
  - Loss adjuster’s fees
  - Salary, floor space and stationery of claims processors
IFRS 4 Phase II reserving
Incurred Claims-Building Blocks Approach

- **‘Best’ Estimate (mean) Liability**
  - Explicit, unbiased, probability-weighted average (expected value) of future cash outflows less future cash inflows that will arise as insurer fulfils the insurance contract.
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

How should it be calculated?

- Deterministic
  - Basic Chain Ladder ✓
  - Loss Ratio’s ❌
  - Average Cost per Claim ✓

Stochastic methods ✓ ✓

Does this actually give you a “Best Estimate” or mean? ❌

- What about using FSB’s Interim Measures?
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Example of Claims Distribution

1. Generate a number of scenarios
2. Each scenario will have a different claim size
3. Plot the likelihood of each claim size occurring

High Frequency Low Severity
Low Frequency High Severity
Example

Company A insurers a cruise ship – the Costa Concordia

Company A is investigating potential claims from this risk
### IFRS 4 Phase II reserving

**Incurred Claims – Building Blocks Approach**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Probability</th>
<th>Claim Amount</th>
<th>Expected Claim Cost</th>
</tr>
</thead>
<tbody>
<tr>
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<td>R 1,000,000,000</td>
<td>R 4,000,000</td>
</tr>
<tr>
<td><img src="image2" alt="Image" /></td>
<td>90.00%</td>
<td>R 0</td>
<td>R 0</td>
</tr>
<tr>
<td><img src="image3" alt="Image" /></td>
<td>9.60%</td>
<td>R 400,000</td>
<td>R 38,400</td>
</tr>
</tbody>
</table>
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Distribution of cruise ship claims

What is “Best Estimate”?

“Probability weighted average” or “Expected Present Value”
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Risk Adjustment

Time Value of Money

Best Estimate (mean) Liability
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Objective of the Risk Adjustment:
“The compensation the insurer requires for bearing the uncertainty inherent in the cash flows of a portfolio that arise as the insurer fulfils the insurance contract.”

Less!

More!
IFRS 4 Phase II reserving

Incurred Claims – Building Blocks Approach

Three options of methods to estimate Risk Adjustment:

1. Cost-of-Capital;
2. Confidence level; or
3. Conditional Tail Expectation (CTE).
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach
Cost-of-Capital Method
IFRS 4 Phase II Reserving
Incurred Claims – Building Blocks Approach
Cost-of-Capital Method

This poses two questions:

1. What level of “capital” will need to be held over and above the best estimate?

2. How do you get from best estimate to this level?
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

What level of capital will need held over and above the best estimate?

- Risk Appetite of business
- Type of business written
- Underwriting process
- Reinsurance programs in place
- Size of book
- Number of years in operation
- Reliability of estimates

SAM is calibrated towards a 1 in 200 or 99.5% sufficient capital amount.
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

How do you get from mean to 1 in 200 loss?

Stochastic Methods

- Fit a statistical distribution to the claims severity or frequency
- Choose a level of sufficiency e.g. 99.5th

SAM approach

- Calculate the SCR necessary to support the obligations
- Apply prescribed percentages of Best Estimate

Onerous in terms of:
- Data
- Computation

Not necessarily appropriate
Need to disclose sufficiency level
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

Capital

Capital Release

Interest on Capital

Claims Paid

Discounted Best Estimate Reserves

Reporting Date 1 2 3 4 5

Time
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

How is the Capital Released over time?

Capital released in line with claims payment pattern

Can be deduced using Chain ladder triangles

Discounted Best Estimate Claims Paid    Capital
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

**Interest on capital** = Capital Required \times Risk free

---

Reporting Date
1 2 3 4 5
**IFRS 4 Phase II reserving**

**Incurred Claims – Building Blocks Approach**

**Cost-of-Capital Method**

\[
\text{Discounted return} = \text{Capital Release} + \text{Interest}
\]

**Required Return**
IFRS 4 Phase II reserving
Inurred Claims – Building Blocks Approach

Cost-of-Capital Method

Back to our Cruise Ship Example:

1. What is your risk appetite? - 99.5% capital

2. What is your required return? - 10%

3. What is risk free? – 4%
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

Back to our Cruise Ship Example:
4. What is your claims payment pattern?

Claims Payment Pattern
IFRS 4 Phase II reserving

5. Given the inputs in steps 1-4, how do you calculate Cost-of-Capital?

<table>
<thead>
<tr>
<th>Quarter</th>
<th>% Paid</th>
<th>Discounted Best Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0%</td>
<td>R 4,000,000</td>
</tr>
<tr>
<td>1</td>
<td>72.82%</td>
<td>R 1,087,200</td>
</tr>
<tr>
<td>2</td>
<td>94.64%</td>
<td>R 58,274</td>
</tr>
<tr>
<td>3</td>
<td>96.96%</td>
<td>R 1,772</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>R 4,000,000</td>
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# IFRS 4 Phase II Reserving

<table>
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<tr>
<th>Quarter</th>
<th>% Paid</th>
<th>Discounted Best Estimate</th>
<th>Required Capital (99.5&lt;sup&gt;th&lt;/sup&gt;)</th>
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<tbody>
<tr>
<td>0</td>
<td>0%</td>
<td>R 4,000,000</td>
<td>R 986,000,000</td>
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<tr>
<td>1</td>
<td>72.82%</td>
<td>R 1,087,200</td>
<td>R 267,994,800</td>
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<tr>
<td>2</td>
<td>94.64%</td>
<td>R 58,274</td>
<td>R 14,364,521</td>
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<tr>
<td>3</td>
<td>96.96%</td>
<td>R 1,772</td>
<td>R 436,681</td>
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<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>R 4,000,000</td>
<td></td>
</tr>
</tbody>
</table>

**99.5<sup>th</sup> Reserve R986m**

**Capital Required at 99.5<sup>th</sup> R990m**
# IFRS 4 Phase II Reserving

<table>
<thead>
<tr>
<th>Quarter</th>
<th>% Paid</th>
<th>Discounted Best Estimate</th>
<th>Required Capital (99.5&lt;sup&gt;th&lt;/sup&gt;)</th>
<th>Capital Release</th>
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<tr>
<td>1</td>
<td>72.82%</td>
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<td>R 13,927,840</td>
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<tr>
<td>Total</td>
<td></td>
<td>R 4,000,000</td>
<td>R 986,000,000</td>
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</table>
## IFRS 4 Phase II reserving

<table>
<thead>
<tr>
<th>Quarter</th>
<th>% Paid</th>
<th>Discounted Best Estimate</th>
<th>Required Capital (99.5\textsuperscript{th})</th>
<th>Capital Release</th>
<th>Interest earned @ Risk free</th>
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<tbody>
<tr>
<td>0</td>
<td>0%</td>
<td>R 4,000,000</td>
<td>R 986,000,000</td>
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<td></td>
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<tr>
<td>1</td>
<td>72.82%</td>
<td>R 1,087,200</td>
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<tr>
<td>3</td>
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<td>R 436,681</td>
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<td>R -141,539</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>...</td>
<td>...</td>
<td>R 986,000,000</td>
<td></td>
<td>R 29,699,848</td>
</tr>
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</table>

**Interest on capital** = \[ \text{Capital Required} \times \text{Risk free} \]
# IFRS 4 Phase II reserving

<table>
<thead>
<tr>
<th>Quarter</th>
<th>% Paid</th>
<th>Discounted Best Estimate</th>
<th>Required Capital (99.5th)</th>
<th>Capital Release</th>
<th>Interest earned @ Risk free</th>
<th>Discounted return @ CoC</th>
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<tbody>
<tr>
<td>0</td>
<td>0%</td>
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<td>R 986,000,000</td>
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<td></td>
<td>R -710,585,813</td>
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<td>R 1,087,200</td>
<td>R 267,994,800</td>
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<td>R -9,715,459</td>
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<tr>
<td>Total</td>
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<td>R 4,000,000</td>
<td>R 986,000,000</td>
<td>R 29,699,848</td>
<td>R 985,600,000</td>
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</table>

**Discounted return** = **Capital Release** + **Interest**

@ Required Return
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

99.5\textsuperscript{th} Reserve R986m → Release R986m

Discounted Best Estimate Reserves R4m

Interest R29m

Discount @ Required return R985m

Risk Adjustment R1m

Synergies with SAM
IFRS 4 Phase II reserving
Incurred Claims – Building Blocks Approach

Cost-of-Capital Method

Change in Ratio of Risk Margin to Best Estimate with changes in Cost-of-Capital Rate

<table>
<thead>
<tr>
<th>Cost-of-capital Rate</th>
<th>Ratio of RM to BE</th>
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</thead>
<tbody>
<tr>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>4.50%</td>
<td>7.50%</td>
</tr>
<tr>
<td>2.50%</td>
<td>4.20%</td>
</tr>
<tr>
<td>7.50%</td>
<td>12.50%</td>
</tr>
</tbody>
</table>

SAM prescribes a 6% Cost-of-Capital Rate
Summary & Challenges

Insurance Contract Liabilities

Remaining coverage
- Premium Allocation Approach
  - Building Block Approach
- Discounting? And Rate
  - Incremental Acquisition costs
    - Release in line with earnings curves
- Policyholder Behaviour e.g. Lapse rates
- Residual margin

Incurred claims
- Building Block Approach
  - Risk Adjustment
    - Time Value of Money
      - Expected Present Value Cashflows
        - Change in contracts over time
          - Expected Present Value of Recoveries
        - Contingent Claim amounts
      - Claims Handling Expenses
        - Data amounts & reliability (e.g. UMA)
          - Business Changes
            - Segmentation
    - Counterparty Default Risk
  - Change in Risk Adjustment
    - Contingent Claim amounts

Reinsurance

Identifying

Allocating
Questions?