Managing two with-profits funds, a case study

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Introduction
Background

• During 2017 the objective was to improve the information available to the WP Actuary and the management committees

• Today we will be sharing some insights from the exercise, regarding:
  – Capital requirements from a WP perspective
  – Updating run-off plans
  – How to use surplus capital
  – Additional considerations for with-profits annuities

• But first, some background on the funds…

History


Windsor Life

- WP Annuities (long tail & no FB)
- Moderate GAO liability on CWP Pensions; GIR on UWP Pensions
- No “sunset” clause

![Best Estimate Liabilities](chart)

<table>
<thead>
<tr>
<th>WP Annuities</th>
<th>CWP Pensions</th>
<th>UWP Pensions</th>
<th>CWP Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>6%</td>
<td>14%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asset Share</th>
<th>Temporary Clawback</th>
<th>Past Estate Distributions</th>
<th>Asset Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
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Problems & Solutions

- Pillar 2 ICA is out-of-date
- SCR is group focused
- Delays are too long
- Limited information

Solutions

- Internal capital measure
- Revised run-off plan
- Interim approximations
- Streamlining
Solvency Capital

Capital Requirements Perspectives (Group vs WP)

- Need to evaluate the WP funds on an **individual basis**
- The WP management committees **perspective differs from the group** as a whole…
  - Internal Pillar 2 Capital vs Solvency Capital
  - Realistic results vs LACTP in EU Delegates Acts
  - Insight into Management Actions
  - Group vs WP risk exposures
  - Small WP funds are not overshadowed
How informative is the group capital requirement?

The following components of risk may be under-represented in the Standard Formula and Group Internal Model SCR.

However, may be important to the WP fund when viewed in isolation.

1. Volatility (Equity, Property, and Interest Rates)
2. Longevity Trend
3. Gilt-Swap Spreads
4. Stronger Yield stresses
5. Optionality Take-Up stresses
6. Interactions between stresses

Approaches to Management Actions (MAs)

- **MA Capacity**
- **Per stress MAs**
- **Assess available MAs**

About 25% of the market uses this approach for SII P1 (particularly standard formula firms)

This approach is typically used by IM firms for SII P1

MAs expected to be applied under this scenario

This approach is not typical, but can provide additional insights
WP Management Basis

Day-to-Day
Low severity
High severity

Internal view of risks and allowing removal of some management actions

Evaluate potential management actions

Remove Risk Margin

Streamlined Capital Model - Process

1 - Standard Formula Stresses
2 - Bespoke model runs
3 - Other inputs

4 - Scale stresses where required
5 - Apply own correlation matrices
6 - Apply non-linearity adjustment

= Gross of management actions capital requirement
Streamlined Capital Model - Timeline

<table>
<thead>
<tr>
<th>Process</th>
<th>Quarterly</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bespoke &amp; scaled standard formula stresses</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Simplified non-linearity &amp; management action assessment</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Update non-linearity adjustment</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>... standard formula scaling factors</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>... 1-in-200 year stresses</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>... management actions impact</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>... correlations</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

- Discuss resource requirements & availability with WP teams
- Complete annual updates throughout the year – not all at once
- Utilise periods where resources are less strained

Windsor Life WPF Balance Sheet (Before)

Solvency assessed internally based on historic ICA approach.
However the ICA basis was only updated annually.
Furthermore, the following were often out of date:
- Correlations
- ICG add-on
- 1-in-200 year calibrations
- Types of risks considered
Windsor Life WPF Balance Sheet (After)

Capital position is now better understood and more up-to-date

Assets

- Discretionary Benefits
- Guaranteed Benefits

Pillar 2 Capital (assuming no management actions)

Reduction to capital when assuming partial management actions

Capital Required

Before distributing estate – we need to understand
- The expected impact of the distribution
- How the estate will evolve over time

Run-off Plan
### What is a Run-off Plan?

<table>
<thead>
<tr>
<th>What?</th>
</tr>
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<tbody>
<tr>
<td>Projections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Who?</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirements?</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCA App 2.15</td>
</tr>
</tbody>
</table>

### Market Consistent Models

- **Realistic**
  - Deterministic projection – accumulating at realistic returns (allowing for risk premium)

- **Risk-Free (Stochastic)**
  - Option & guarantee costs only valued at time zero

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16 November 2018
Running off Intrinsic and Time Value

- **Intrinsic Value (IV)**
  - Actual IV from deterministic projection

- **Time Value (TV)**
  - Starting TV from difference between deterministic and stochastic result
  - Approximate runoff to zero
  - A product TV runs-off faster than its IV…
  - …but products with low TV run-off first
  - TV run-off pattern may be immaterial

Surplus Distributions

To fully capture the impact of distributions, we need to model the impact on:

- Cost of GARs (rise)
- Cost of Cash Guarantees (fall)
- Capital requirement (depends on the above)

Approximate to allow experimentation & comparison of strategies.
Simplified Model

- Balance Sheet
  - SII own funds
  - Remove RM
  - Split BEL

- Surplus Distributions
  - User input
  - Affects O&Gs
  - Calibrated to full

- Capital
  - WP management basis
  - Run-off with risk factors

Agility vs Controls

- WP Actuary as user
- Create sensitivities
- Quickly modify
- Version control
- Recalibration
- Peer review
- Control cycle
- Restrict access

- Quickly assess strategy (distribution & investment)
- Easier to review
- Range of output
- Sensitivities
- Accurate
- Select strategy

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Long Tails

**Windsor Life WPF (90:10) Liability Run-off**

Can assess long term impacts of:
- Distribution strategy
- Investment strategy

Sunset clause?

Over time:
- Risks (capital req) become more concentrated
- Projection becomes less reliable

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**Distribution Levels**

Where do we draw the distribution level...

Considerations:
- Fairness
- Policyholder expectations
- Consistency
The run-off plan established a gradual future distribution rate.
Strategies

Approaches to Distributions

Key question: What is fair for the policyholders?

<table>
<thead>
<tr>
<th>Increase BEL</th>
<th>Increase capital req.</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estate distribution</td>
<td>Enhance smoothing</td>
<td>Fund NP conversion</td>
</tr>
<tr>
<td>Reduce charges</td>
<td>Return of Fund</td>
<td>Buy-out risks</td>
</tr>
<tr>
<td>Increased EBR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The challenge of WP Annuities

- There is no “final” bonus making them capital intensive
- A very long tailed risk
- Potential options

Introduce a temporary bonus
Reduce reversion bonus
Reduce EBR
Higher expect policyholder payouts

Temporary bonus for WP Annuities under a shock

- Example of a 10% fall in asset values at the end of year ten
- The improved capital position can enable expected payments to policyholders to be brought forward

Current Approach - Shock

Support required from the estate/shareholder to support current annuity levels even with no future RB additions

Temporary bonuses Approach - Shock

Temporary Bonus reduced, reducing annuity level in short term but allowing future increases to be applied. No support required from the estate/shareholder
National Mutual

- Relatively large GAO liability
- Low RB/High FB
- Includes “sunset” clause

Best Estimate Liabilities

- 46% CWP Pensions
- 2% UWP Pensions
- 52% CWP Life

Asset Share

- Past Estate Distributions
- Asset Share
National Mutual Balance Sheet

Where do we draw the distribution level...

Differences:
- Accelerated run-off
- GARs exacerbate cost of distributing estate
- Less linear run-off pattern
- Low TV reduces complexity of projection
Conclusions

1. Improve information for WP management
2. Group view can overshadow WP view
3. Consider alternative uses of available capital
4. Every WP fund is unique
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