Institute
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ALM operations: upping your game

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Agenda

- The challenge facing ALM functions
- ALM activities
- Drivers for change
- What to do
- Benefits of getting it right

The challenge facing ALM functions

ALM activities

Activity	Involves
Investment Policy	Set appropriate investment policy and risk-limit frameworks, which are consistent with the organisation's objectives, risk preferences and appetites.
Liability driven investment	Construct portfolio of appropriate assets to match a policyholder/shareholder liabilities.
Hedging	Hedge residual risks following the initial construction of a portfolio, subject to the organisation's risk preferences with respect to interest rates, inflation and other risk factors.
Credit risk management	Defining and managing against counterparty exposure and asset concentration limits.
Derivatives	Manage derivative exposures and collateral positions.
Maintenance	Maintenance of investment mandates.
Monitoring	Monitoring against solvency metrics, risk appetite statements or metrics, and escalating emerging issues. Implementing and monitoring management actions.
Reporting	Investment risk reporting and analysis to Board/Risk committees.
Driving performance	Policyholder – driving investment performance for policyholders. Shareholder – driving business performance through investment strategy and capital opportunities.
Liquidity	Setting investment benchmarks in line with liquidity requirements, monitoring of liquidity and maintaining/inputting into liquidity plans.

Each of these key underlying activities will be affected by Solvency II. This impacts both insurers and investment managers.

Drivers for change – increased focus

Guideline 25 – Asset-liability management policy

1.61. In its risk management policy the undertaking should cover at least the following information with regard to asset-liability management:

a) a description of the **procedure** for **identification** and **assessment** of different natures of **mismatches** between assets and liabilities, at least with regard to terms and currency;

b) a description of mitigation techniques to be used and the expected **effect of** relevant **risk-mitigating techniques** on asset-liability management;

c) a description of **deliberate mismatches** permitted;

d) a description of the underlying methodology and frequency of **stress** tests **and scenario tests** to be carried out.

Draft Level 3 guidelines – Systems of Governance

"In the first year of operation, the main focus of the reviews were ... governance, credit risk and reserving for insurers." 16 out of 33 s166 reviews on governance, controls and risk management.

PRA Annual Report 2014

Liabilities	Assets	Diversification
Discount based on risk-free rates plus illiquidity premia	Solvency capital requirement impacted by asset risks	Significant benefits from diversification of risks
Increased volatility in solvency position	Current asset allocation may be capital inefficient	
	Change ALM approach?	

Drivers for change – technical

- Solvency II challenges of portfolio construction
- Defining and measuring cashflow matching
- Linkage to liquidity management

Solvency 2 – discount rate summary

Discount rate = reference rate
+ credit risk adjustment
(+ volatility adjustment or matching adjustment)

Reference rate	Determined by swap rates (or government bond rates if swaps not available) for terms where markets are sufficiently liquid (Last Liquid Point)
Credit Risk Adjustment	Deducted from discount rate. Calculated as 50% of 1 year average of LIBOR – SONIA (or EURIBOR – EONIA) spread, subject to 10bp floor and 35bp cap
Volatility Adjustment	Formulaic 65% of a currency/country risk-adjusted spread (same risk adjustment as Matching Adjustment). Subject to supervisory approval.
Matching Adjustment	Limited to 65% of corporate spread (or 70% sovereign). Only for eligible liabilities (annuities) backed by eligible assets (fixed and known cashflows). Subject to supervisory approval, with various criteria to be fulfilled – particularly around close cashflow matching.
UFR extrapolation	Last Liquid Point = 20 years Euro, 50 years UK (currently) Beyond LLP, forward rates are extrapolated to an Ultimate Forward Rate (UFR)

Also, discount rate 'transitional arrangements' → 16 year linear transition in discount rate from S1 rate to S2 rate

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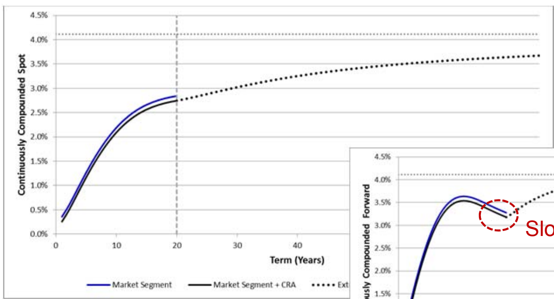
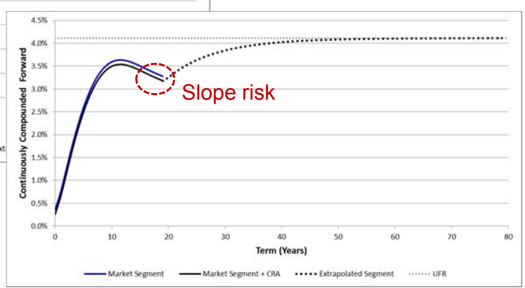
Euro yield curve – extrapolation post LLP

- Extrapolation to Ultimate Forward Rate (UFR) of 4.2%, with 40 year convergence period

Example Euro spot curve



Example Euro forward curve



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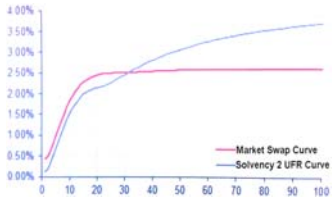
What needs to be done?

Volatility Adjustment business

Deciding what to hedge:

- Regulatory – hedge swap spread risk
- Economic – rather invest in government bonds (government exposure), or swaps (bank exposure)?
- Both?



'Regulatory' strategy ought to be based on hedging the discount rate:

Discount rate = reference rate (swaps) + CRA + VA (with extrapolation)

This implies hedging asset portfolio of:

swaps, gilts and corporates

With remaining CRA (LIBOR – OIS) unhedged, but restricted to [10bp, 35bp] range

Weights in each of swaps/gilts/corporates depends on weights of gilts and corporates in Volatility Adjustment

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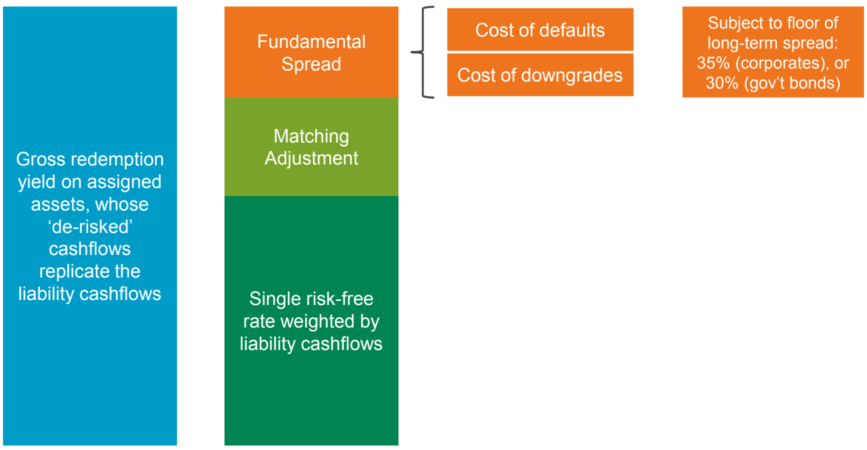
Matching adjustment



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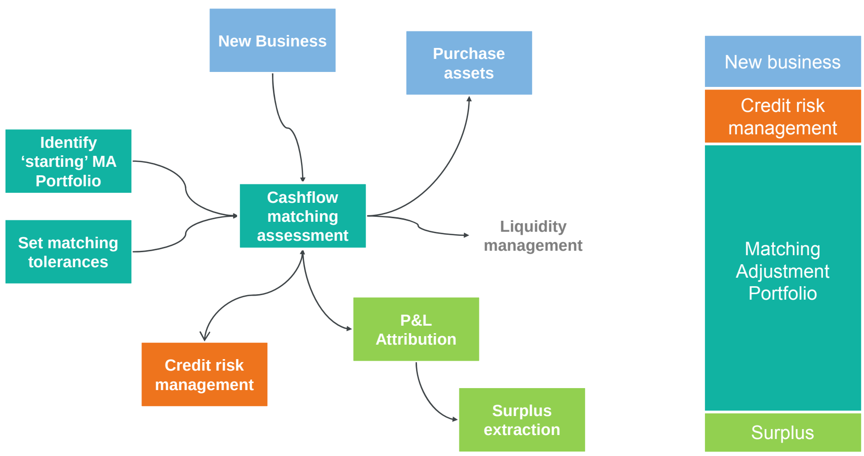
What needs to be done?

Matching Adjustment business

Matching Adjustment		
Requirements	Liabilities	Primarily annuities business
	Assets	Fixed and known cashflows
	Cashflow matching	Cumulative cashflow mismatch at each future point, shortfall at any future point, discounted shortfalls, SCR approach, and various other methods
	PRA feedback	(October 2014) - detail on callable bonds, eligibility structuring, active rebalancing, new business, surplus extraction, liquidity plans
	Application	(PRA Pre-Application: 1st December 2014 – 6th January 2015) Application process – PRA: from 1st April 2015
Embedding activities	MA or VA?	Firstly, need to decide on Matching Adjustment versus Volatility Adjustment
	Eligibility	Asset and liability assessment. 'Structuring' of otherwise ineligible assets
	Cashflow matching	Improving current matching, e.g. forward bond purchases, 'rollercoaster' swaps
		Regular monitoring and maintenance of cashflow matching
	Surplus extraction	Rigorous P&L Attribution, governance
	Portfolio identification	Separate identification of MA portfolio from other assets/liabilities
	Liquidity	Liquidity planning, monitoring and maintenance
	▪ ALM optimisation – maximise Matching Adjustment, subject to cost of capital ▪ Note – IFRS profitability, until IFRS 4 Phase 2, will be based on Solvency 1 statutory reserves	

Matching Adjustment Portfolio 'process'



What needs to be done? PPP

Prudent Person Principle

Requirements	■ Only invest in assets which firm can properly identify, measure, monitor, manage and control as well as appropriately take into account in the assessment of their overall solvency needs ■ All assets → ensure the security, quality, liquidity and profitability of the portfolio ■ Technical Provisions → appropriate to the nature and duration of the insurance and reinsurance liabilities ■ Assets invested in the best interest of policy holders
Embedding activities	■ Investment policy ■ Internal quantitative limits for asset classes, by counterparty, geographical area or industry ■ Appropriate controls and obligations on investment managers ■ Appropriate modelling requirements must be in place for investment ■ Investment policy clearly directs investment in appropriate type and maturity of assets, sufficient levels of marketable/liquid assets ■ Prudent Person Principle consideration embedded in investment policy decisions ■ Make use of existing ERM risk policy compliance evidence and governance ■ Reporting of assets – ensuring investment managers can report line-by-line assets

What needs to be done? Operational

- Clear target operating model (TOM) as to how the daily ALM activities should be carried out.
- TOM should reflect investment policy, risk policy and business strategy, and the overarching principles of Solvency II
- Practical and well-designed transformation plan is vital

1 Analyse risks and model trades	2 Execute, capture and book trades	3 Position daily/ weekly/monthly valuation	4 Reconciliation	5 Collateral mgmt	6 Custody/ Investment accounting	Asset database
■ Produce and check asset and liability cash-flows and sensitivities ■ Reconcile model vs data ■ Produce proxy liabilities ■ Produce hedging analytics ■ Produce hedging report	■ Select instruments ■ Build term sheets ■ Select counterparties ■ Negotiate prices ■ Update term sheets ■ Execute trade ■ Confirm trades/produce trade status reports	■ Report end of day/week/month value position ■ End of day/week/month data uploaded to data system ■ Trader support tools updated	■ Reconcile position versus counterparty ■ Reconcile cash balances ■ Reconcile trade positions ■ Update General Ledger	■ Make/ receive/agree margin calls ■ Resolve disputes ■ Substitute collateral ■ Make OTC settlements ■ Set-up wins ■ Authorise and confirm payments	**PRA Asset Valuation concerns** ■ The PRA issued a notice in December 2013 reminding insurers of the need to comply with GENPRU 1.3, with specific reference to the monitoring and management of valuation risk ■ The notice reminds firms to explicitly assess valuation risk and quantify valuation uncertainty, even where firms consider it to be immaterial. ■ It makes reference to the findings of initial fieldwork, indicating that insurers are failing to meet the standards expected by the regulator.	

Other considerations:

- **Granularity of the process, e.g. separate results Matching Adjustment portfolios**
- **Frequency of reporting**
- **Profit and Loss Attribution.**

What needs to be done? Operational

- Regular monitoring required - ensure ongoing compliance with regulations
- Risk management processes must ensure appropriate governance and oversight
- Asset valuation model → investment manager has a responsibility
- Solvency 2 training required
  - First line teams
  - Second line teams
  - Investment managers
- Outsourcing – 'designate **person** with **overall responsibility for the outsourced key function** who is **fit and proper** and **possesses sufficient knowledge and experience** regarding the outsourced key function to be able to **challenge the performance and results** of the service provider.'

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Benefits of getting it right

- Value
- Regulatory relationship
- Investor confidence

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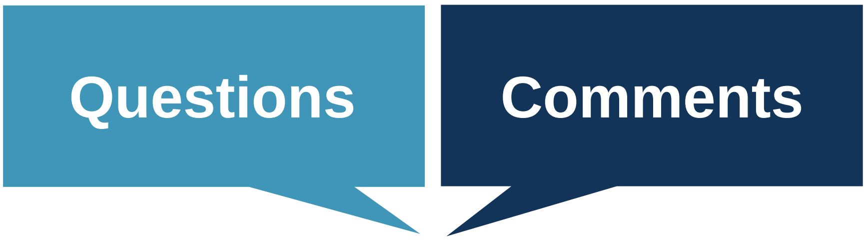

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.

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