The Actuarial Profession

making financial sense of the future

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Risk-adjusted performance measures for Solvency II

Before we begin: It's important to choose the right performance measures…

"Last quarter sales were up 100%"

"We went from one to two sales!"

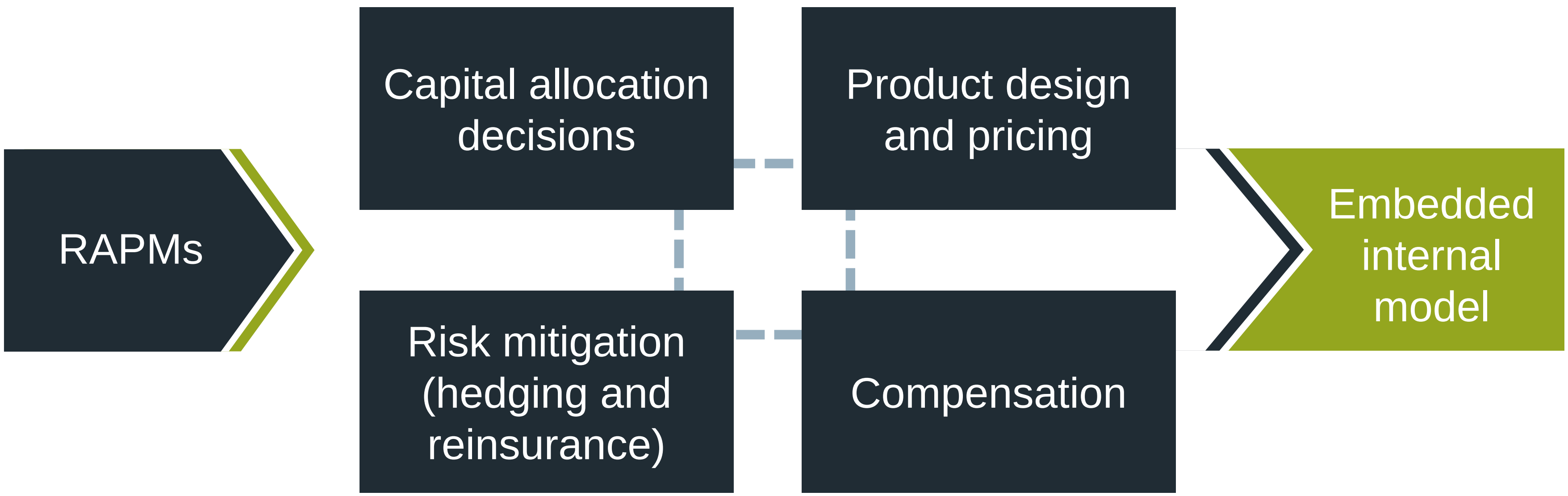
Agenda

- Introduction
- Uses of risk-adjusted performance measures
- Range of approaches
- Desirable properties
- Example metrics used at LBG
- Practical challenges
- Wrap-up

Introduction

- Most insurers have made good progress with ***designing and building*** their internal models
- Insurers now turning their attention to ***embedding*** internal model across the business
- To do this (and to satisfy the ‘use test’) need to use internal model in ***day-to-day decision making***
- So need to link internal model capital to decisions through **Risk-Adjusted Performance Measures (RAPMs)**

What are RAPMs used for?



There are a range of potential designs for RAPMs

Range of possible designs for RAPMs

Penalty / reward function	Accounting based	SII B/S based	Economic B/S based
• Financial penalty for breaching risk capital limits • Simple direct impact on compensation, but without new complex performance measures.	• IFRS profit less cost of holding solvency capital requirement • Mixes accounting and economic measures.	• SII profit less cost of holding solvency capital requirement • SII profit defined as change in SII own funds.	• 'Adjusted' SII profit less cost of holding economic capital • Uses internal view of balance sheet and capital (e.g. ORSA)

Stop here?

To be effective RAPMs need to possess six key properties

1. **Simple** enough for management and staff to understand
2. **Transparent** and auditable
3. **Economic** measures that are sensitive to **profits generated** and **reflect the actual risks** being run
4. Both a**bsolute and relative** measures required, each for different uses
5. Both **prospective and retrospective** performance measures required
6. **Consistent** measures up and down the organisation as well as across different business lines / products.

Insurers may base their RAPMs on adjusted SII metrics to align with their internal views

Examples

- Various BEL adjustments, e.g. contract boundaries, illiquidity premiums, GI renewals
- Internal view on frictional cost of capital rate
- Allowance for cost of risk capital for market risk
- Allowance for a buffer over and above the SCR in risk margin

LBG use two metrics as part of an integrated risk, capital & performance management framework

1 Economic Value Creation (EVC)

- **Absolute** £ amount measure of value created, from a shareholder perspective
- Defined as **'adjusted' SII profits less a required return**
- Used for performance measurement & **compensation**

2 Economic Internal Rate of Return (EIRR)

- **Relative** measure of performance
- Similar to traditional IRR, but **fully adjusted for risk**
- Used for **pricing and capital allocation** decisions

Existing metrics (e.g. IFRS profits) will continue to be used alongside the new RAPMs

Economic value creation provides an absolute measure of the value created by an activity

Measure 1: Economic Value Creation (EVC) defined as

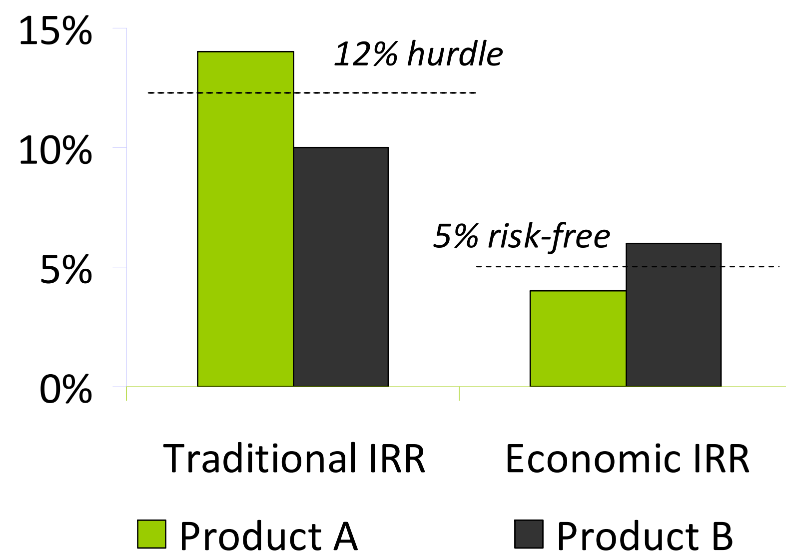
EVC =		
Δ *SII own funds*	⇨	Gross SII profit
– BEL adjustment	⇨	Differences between SII and 'Economic' balance sheet
– required return on assets	⇨	Expected return for each asset class (set of risk premia)
– risk capital x frictional cost of capital	⇨	Frictional cost of holding economic capital (incl. buffer)

Economic IRR provides a relative measure of value creation to allow options to be ranked

Measure 2: Economic IRR

- Internal rate of return measure, based on cash flows underlying EVC, i.e. rate of return in excess of frictional cost of capital
- Key properties
  - Allows like for like comparison between products and BUs
  - EIRRs in excess of risk free are value creating

Illustrative product IRRs



Under the traditional IRR measure Product A looks better than B, but the Economic IRR shows that Product A actually destroys value

LBG have encountered several practical challenges in implementing the new measures

- Obtaining **buy-in** from the Board, Executives and staff
- **Technical design decisions** such as:
  - Should we make adjustments to the BEL and do we need two balance sheets?
  - What should the cost of capital rate(s) be?
  - How much allowance should be made for diversification?
  - Should capital buffers be included?
  - Should profit due to market movements (e.g. equity falls) be reflected in performance measures?
- Timing / **parallel running** of new and old metrics
- **IT & systems** implementation.

In reality, no RAPMs will be perfect and the most appropriate metrics will differ for each company

- **Not** one size fits all
  - What works for one company may not be right for another
  - Will depend on company culture, history of economic capital modelling, lines of business, etc.
- **All metrics will have some issues** in practice
  - Will need to use more than one metric to have a coherent and holistic framework
  - Should not try to solve everything through choice of metrics alone
  - Need to choose metrics that achieve a good balance between theoretical purity and practicality and then put in place controls to mitigate any issues.

Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

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