

European Embedded Value – Bottoms Up!

Workshop A04

Implementing Market Consistent at AXA

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European Embedded Value – Bottoms Up!

AXA implemented European Embedded Value on a bottoms-up market consistent basis last year. Here's how....

- Objectives : setting the standard
- Landscaping : Co-existence with UK standards
- Reviewing consistency in an evolving market
- Framing decisions – Integration post-implementation

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Objectives : Setting the Standard

- 12 principles from the CFO forum
- ...with some additional guidance, but evolving standard
- Choices to be made
- Disclosure
- For reference: www.cfoforum.nl
 - Principles, Basis for Conclusions, and Disclosure & Sensitivities

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Before ... and After

- AXA already published Traditional EV
 - For both Life and Total Group
 - Including Movement analysis
- Some changes required
 - New business modelling
 - Further expansion of options and guarantees modelling
- AXA internally had a stochastic Economic Capital & Value model
- Some choices to address
 - Top down or bottom up
 - Deterministic or Market consistent
 - Life or Total Group
 - Approach to non financial risks

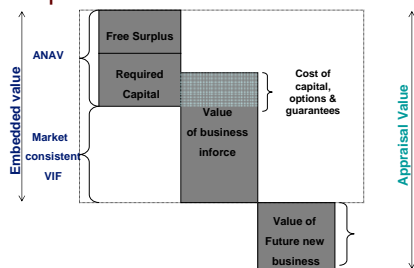
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EEVolution and choices

- Traditional EV
 - Lack of clarity about investment assumptions and discount rate
 - No explicit consideration of multiple scenarios
- Top down EEV
 - Easiest linkages to Traditional EV
- Bottom up EEV
 - More granular analysis of risks
 - If market consistent, links to option pricing

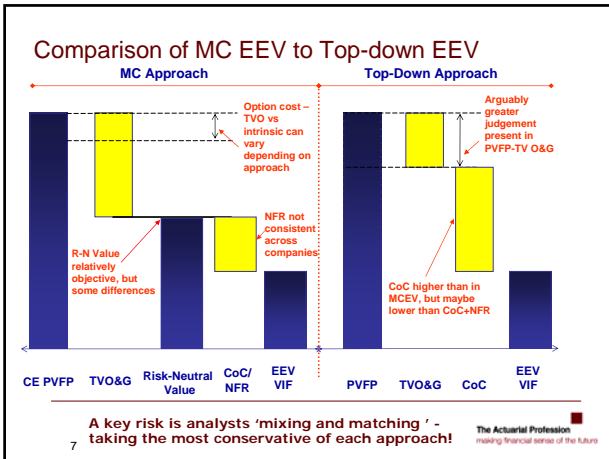
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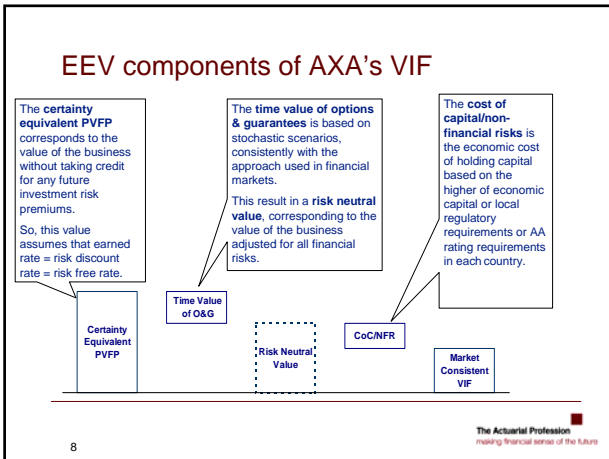
EEV components

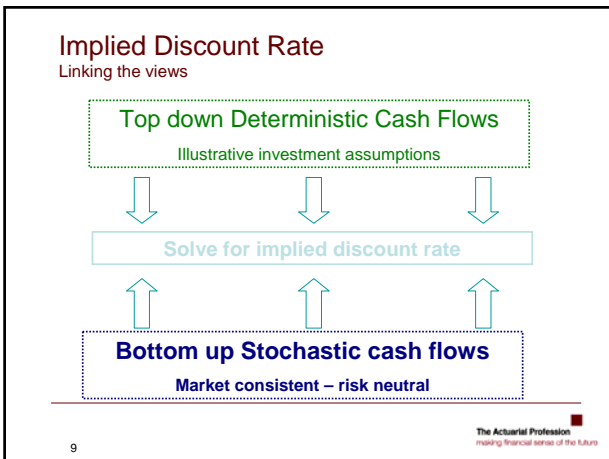


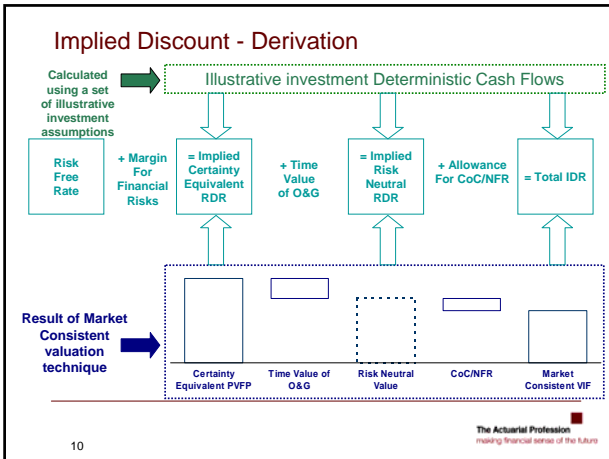
Embedded Value = Adjusted Net Asset Value (ANAV) + Value of inforce (VIF)

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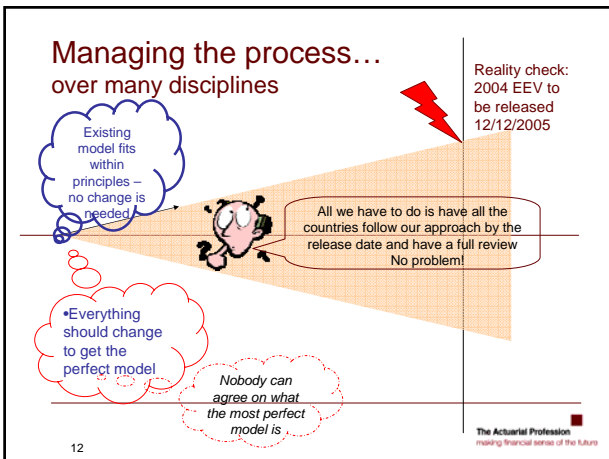




European Embedded Value Approach VIF / ANAV / CoC

Required capital	Maximum of three capital amounts; typically amount to reach AA rating
Non financial risk	Cost of required capital in excess of local minimum requirement
Implied discount rate	Calculation of a implied discount rate (IDR) for inforce and separately for new business
Scenarios	Barrie & Hibbert
ANAV reconciliation	RU reconciliates ANAV from IFRS and local statutory
Submission	All entries are made locally in Magnitude
Interim reports	Quarterly new business (NBV, APE, PVEP, IRR) Q1 and Q3 estimated; Half year updated for actual economic conditions

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Consolidation tool Templates

- Static Validation
- ANAV reconciliation
- Key assumptions
- Movement analysis EEV
- Implied Discount rate
- Sensitivities

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Roles and Responsibilities Local, Central and Reviewer

Central

- Determine policy
- Coordinate process
- Issue instructions
- Provide training
- Review, consolidation reporting
- Central controls



Reviewer

- Review policy
- Review methodology & modeling
- Review assumptions
- Report findings

Local teams

- Follow guidelines
- Set appropriate assumptions for local conditions
- Perform cash flows projections
- Calculate the ANAV on the basis of statutory accounts and reconcile to statutory and IFRS
- Enter into central reporting system
- Local controls

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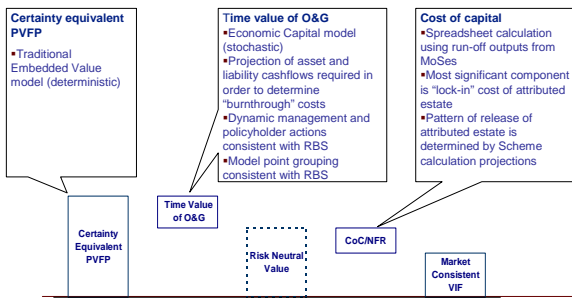
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The AXA UK Experience: Risk Management Tools

- Prior to EEV, risk management measures included:
 - Traditional Embedded Value
 - Regulatory calculations, including Realistic Balance Sheet (RBS) and ICA
 - Economic Capital & Value
 - Attributed Estate Scheme calculations
 - Monthly New Business Value
- Projection model (MoSes)
 - Can be run either deterministically or stochastically according to purpose

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The AXA UK Experience: Building European Embedded Value



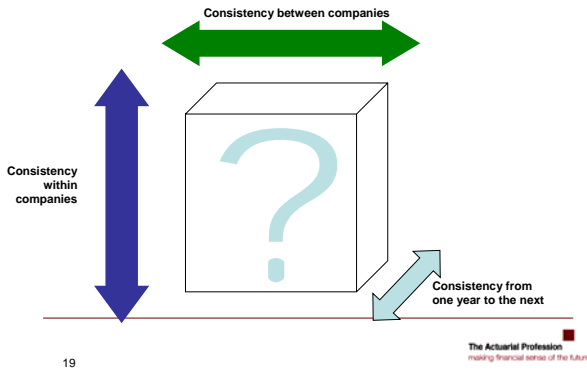
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What is consistency?

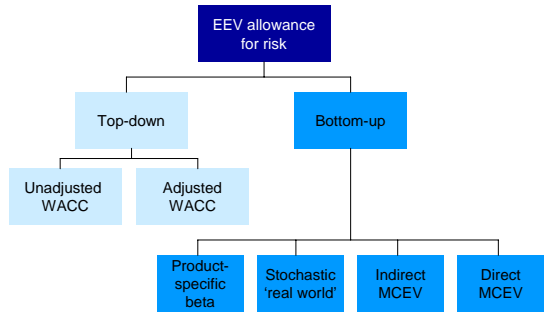


What are the reference points?

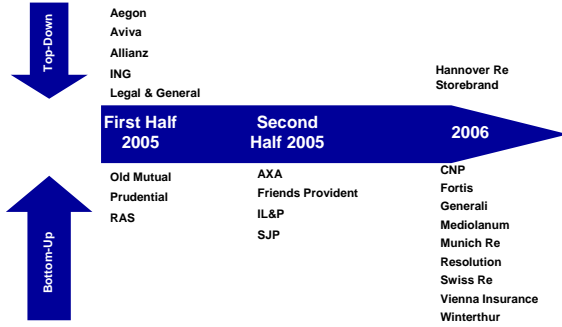
- **EEV Principles**
 - 12 Principles, plus associated guidance
 - The first objective criteria for embedded values?
 - But significant scope for interpretation in THE key area: Allowance for Risk
 - Principle 3 requires "sufficient allowance for the aggregate risks in the covered business"
- **"Best Practice"**
 - Will only emerge over time
 - Shaped by a wide group
 - Insurers
 - Reviewers
 - Experts
 - Recipients (shareholders; analysts)

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A number of approaches have been used to allow for risk



Early-adopters' preference for a top-down approach has given way to a wave of bottom-up (mainly market consistent) implementations

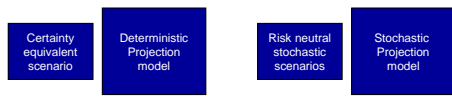


Note: Skandia and Standard Life published EEV but did not disclose the approaches used to allow for risk.

Market-consistent embedded value aims to standardise the allowance for risk in line with that implicit in market prices

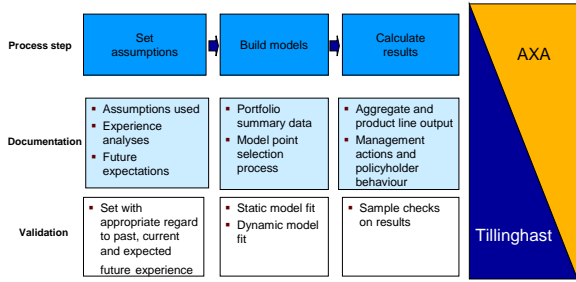
- The key attraction of MCEV is that it is a "mark to market" approach
 - Makes it more comparable between companies
 - Reduces the subjectivity in results
 - Reduces the ability of management to "manage" the results
- BUT there remain a few areas of genuine disagreement
 - Choice of risk-free rate
 - Whether and how to allow for a liquidity premium
 - How to treat illiquid or non-existent markets
 - How to allow for non-market risk

A bottom-up market consistent approach places greater demands on modelling systems



- Vector replaces constant return assumption - for accumulation and discounting
- Interpretation of certainty equivalent scenario for
 - Income/capital gains
 - Credit spreads/losses
- Bonus rates adjusted to certainty equivalent ("risk free") returns
- Scenarios to be arbitrage free
- "No leakage" from scenario/model combination
- Option and guarantee cost critically dependent on
 - Management actions
 - Policyholder behaviour



Developing an effective review process required an efficient combination of AXA and Tillinghast resources



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Framing decisions – post implementation
Now, what do you do with it?

- Depends on which “It” you chose 
- AXA's bottom up approach links directly to product development
 - More disciplined approach to product guarantees
- NBV targets 
 - Value not volume (while serving client needs!)
- Return on EEV
 - Tradeoffs between new business and inforce management

Integration into Risk Management



- Monthly new business value reporting moving from traditional to European EV basis



- Internal education
- Product approval process
 - Ensure appropriate recognition of non-financial risks



- Project assessment
 - e.g. Retention targeting
- Focus on “value adding” activity on EEV basis

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Possible Future EEVolutions

- Increased consistency across companies?
- More granular reporting?
- Accelerated reporting timeframes?
- Expanded Interim Reporting?
- A path towards IFRS Phase II and Solvency II?



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