

# Analyst and investor briefing

2008 Worldwide long-term savings new business and business update

Moving from EEV to MCEV reporting

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# EEV to MCEV

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# Agenda



- Objectives of MCEV supplementary reporting
- Impact on Aviva's embedded value results
- Implied discount rates
- Additional disclosures
- Effect by region
- Summary

# Objectives of MCEV reporting

## Why adopt MCEV now?



- **Aviva is taking a step forward in its reporting transparency**
- **MCEV shows the group as a strong diversified business**
  - Impact on NAV per share for 2007 is -1% (763p) and for HY08 is -7% (654p)
  - But - MCEV will be volatile if investment markets are volatile
- **MCEV is another perspective on the economics of our life businesses**
  - It changes the timing of profit recognition e.g. spread business
  - It separates underwriting and investment return
  - It gives insight into duration and emergence of investment profits
  - It provides a further perspective to prioritise capital allocation

# Objectives of MCEV reporting

## Embedded value in context



- **More than one lens needed to view the performance of long-term business:**
  - MCEV
    - A perspective on value generation - the present value of future cash flows available to the shareholder, adjusted for the risks of those cash flows
    - Includes the impact of the cost of capital and cost of guarantees on a stochastic basis
    - Useful for capital allocation
  - IRR - values all the cashflows of new business, including the investment return. No significant change under MCEV from EEV
  - IFRS
    - Basis of dividend policy
    - Proxy for cash generation
    - IFRS can be distorted by local reserving requirements and non-cash items
  - Solvency
    - IGD is a non risk based measure to assess solvency

# Objectives of MCEV reporting

## A step forward in transparency and accessibility



- **Improved consistency of the basic framework for earnings valuation**
  - Asset cashflows consistent with market prices
- **Increased external disclosures**
  - Standardised analysis of earnings and Group MCEV disclosures
  - Free surplus movement showing cash emergence for covered business
  - Explicit disclosure of Non-Hedgeable Risks allowance
- **Mandatory “audit” required of results – Aviva has always elected to do this**
- **Recognition of spread profits in expected return – more aligned to IFRS**
  - Use of LTIR to determine investment return in operating profit
- **Provides a view of the business from market-consistent viewpoint**
  - Aligns with the direction of Solvency II and potential IFRS Phase II methodology

# Objectives of MCEV reporting

## Next step in evolving embedded value reporting



### EEV added

- Explicit allowance for the time value of options & guarantees
- Look through to actual expenses within service companies
- Required capital based on economic capital requirements
- Discount rate mechanically derived
- Improved quality of sensitivities and disclosures

### MCEV adds

- Market consistent option & guarantee valuation
- Less subjective – economic assumptions tied to risk free returns
- Explicit non-hedgeable risk allowance
- Significant improvement in sensitivities and disclosures
- Required “audit” of results\*
- Aligned with expected Solvency II and IFRS II approaches

\* No change for Aviva as the group elected for a review of its EEV reporting, including results



# Impact on Aviva's embedded value results

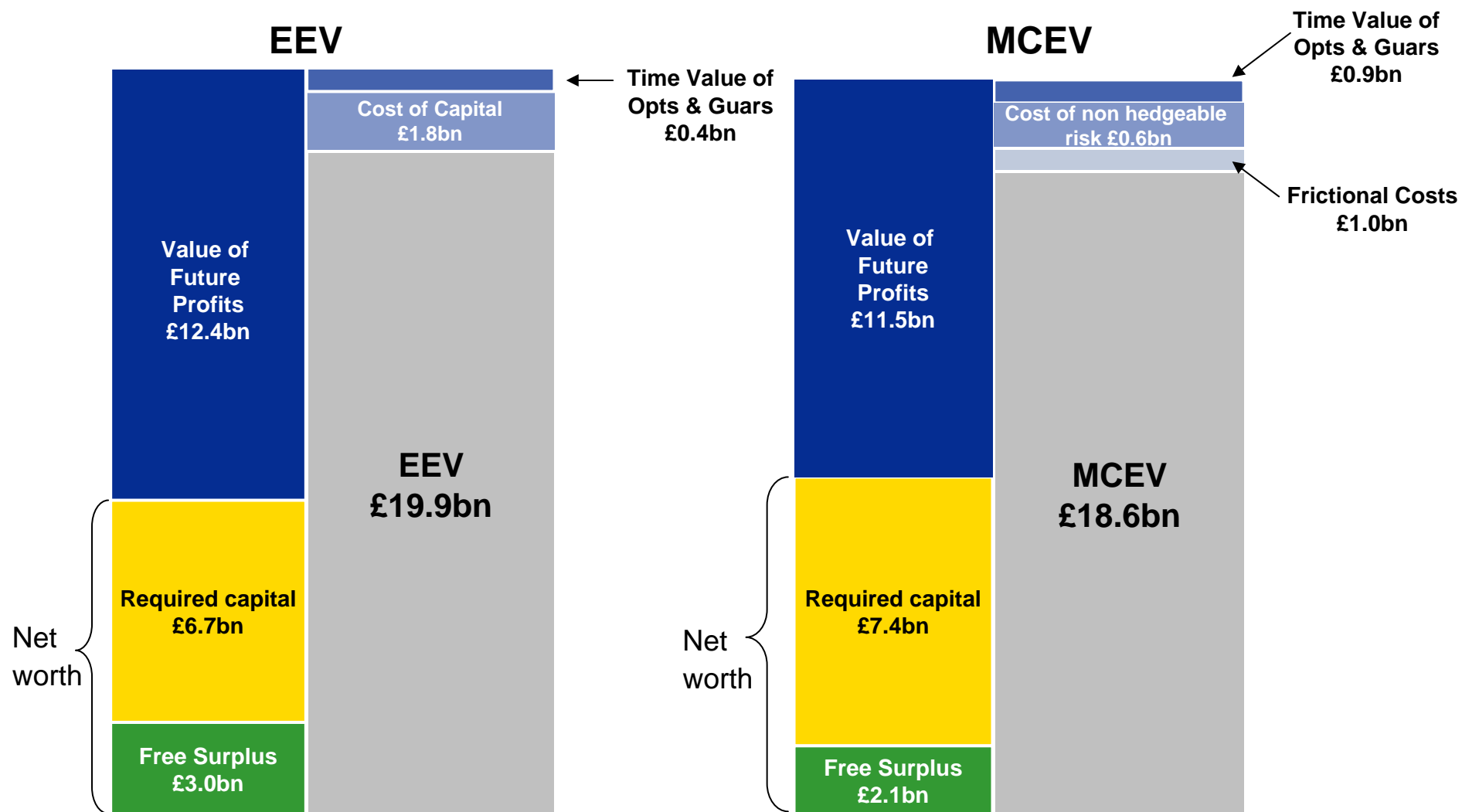
## Key performance indicators



	30 June 2008		31 December 2007	
<b>Key performance indicators:</b>	<b>MCEV</b>	<b>EEV</b>	<b>MCEV</b>	<b>EEV</b>
PVNB	£18,214m	£17,283m	£32,722m	£31,600m
New business contribution post required capital (Gross)	£352m	£488m	£897m	£912m
Margins (gross)	1.9%	2.8%	2.7%	2.9%
Operating profit	£1,509m	£1,719m	£3,065m	£3,286m
Equity shareholders' funds	£17,389m	£18,672m	£19,998m	£20,253m
Net asset value per share	654p	702p	763p	772p
NAV % change	(6.8)%	-	(1.2)%	-
IRR	12.9%	14.0%	12.9%	14.1%

# Impact on Aviva's embedded value results

## Overview – half-year 2008



# Impact on Aviva's embedded value results

## MCEV - key changes



- **Economic assumptions are now market consistent**
  - Values asset cash flows consistent with current market prices
  - MCEV uses actual market yield curves and volatilities
  - New business profits valued on start of quarter economic assumptions, or more frequently where actively re-priced
  - Use of liquidity premium above swap rates for certain annuity business
- **Explicit allowance for the Cost of Non-Hedgeable Risk**
  - Risks that cannot be hedged, such as lapses
  - Other risks, eg operational risk
- **Required capital updated to include economic capital requirements for business units**
- **Clearer definitions of operating assumptions**
  - Use of mean best estimate, using the earned rate each year
- **Disclosure of implied discount rates**

# Impact on Aviva's embedded value results

## Change in EV and VNB for 30 June 2008



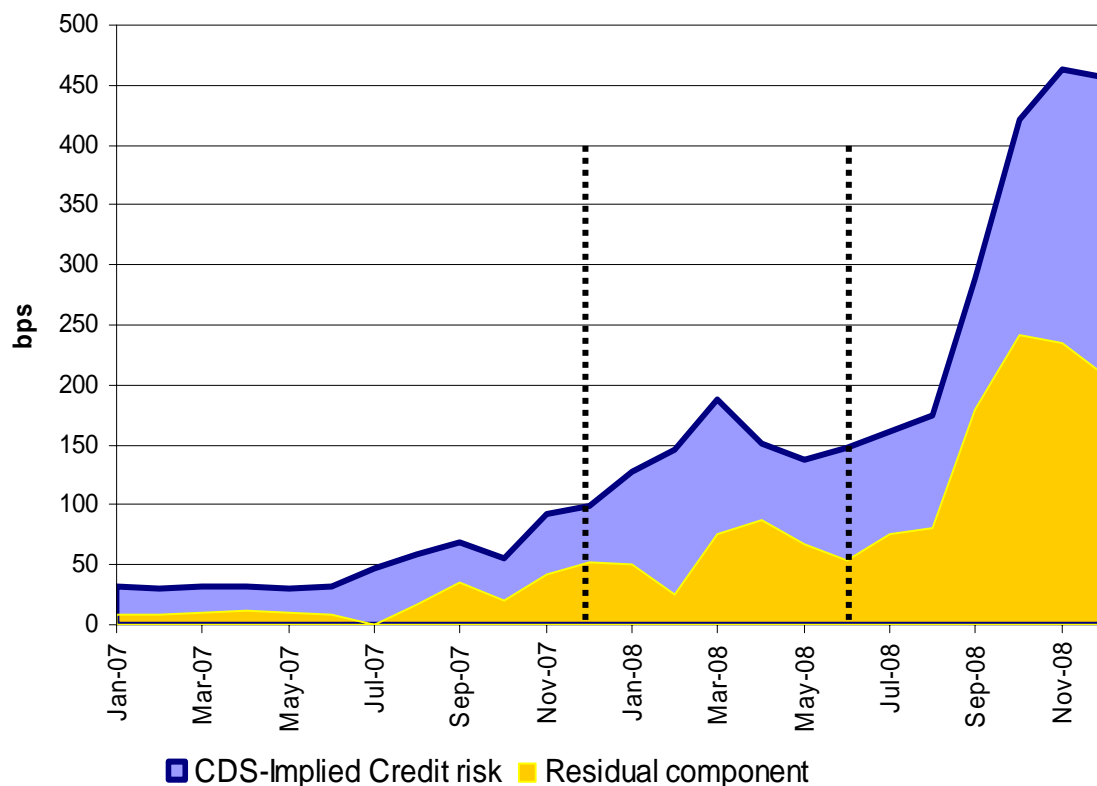
	Embedded value (EV) 30 June 2008 £m	Value of new business (VNB) 30 June 2008 £m
<b>Opening life EV/VNB on an EEV basis</b>	<b>19,867</b>	<b>488</b>
Economic assumptions	(16.6%)	(61.3%)
Discount rate at risk free	14.7%	47.5%
Cost of Non-Hedgeable Risk	(3.0%)	(12.1%)
Required Capital changes	(0.4%)	(2.3%)
Operating assumption changes	(0.5%)	0.4%
Model changes / other	(0.7%)	(0.2%)
<b>Closing EV/VNB on an MCEV basis</b>	<b>18,579</b>	<b>352</b>

# Impact on Aviva's embedded value results

## Market consistency in the current market



Corporate bond spreads



Analysis of Tillinghast values

..... - Denotes period end for reporting purposes

- In stable markets, swap rates are a suitable proxy for risk-free returns
- In the current market, risk free returns in excess of swaps can be earned
- Risk free rate adjusted for certain annuity products in second half of 2007 and half-year 2008
- Sensitivity analysis provides information to adjust the risk free rate
- Methodology will be updated if additional CFO Forum guidance is given

# Impact on Aviva's embedded value results

## Profit drivers - product impact

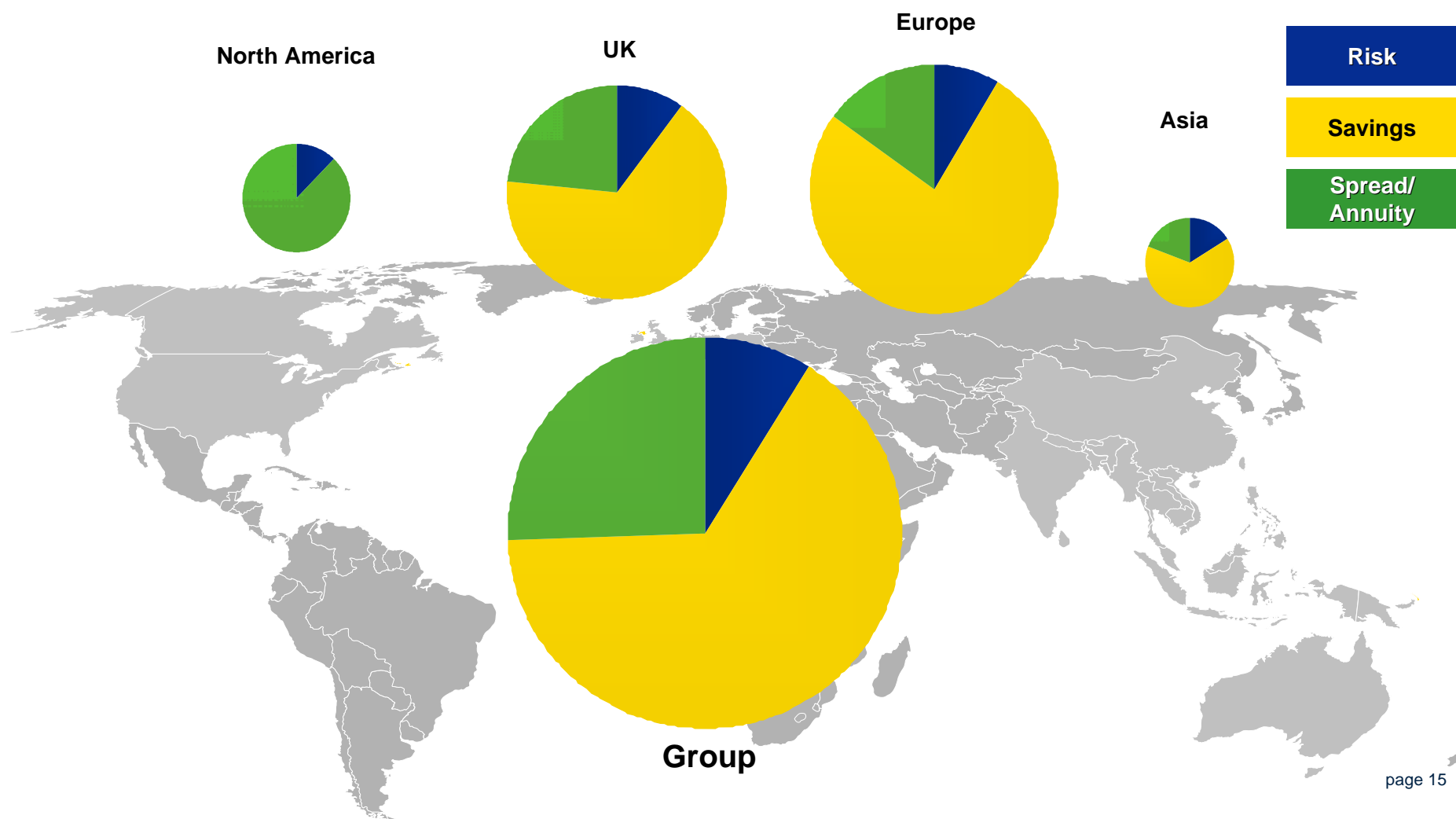


	Risk business	Savings business	Annuity business	Group
Expected impact	Increase due to lower than average market risk	Neutral	Decrease as asset spreads are now booked when earned	
2007 EEV margins	9.1%	2.0%	3.0%	2.9%
2007 MCEV margins	10.8%	2.2%	0.9%	2.7%
2008 HY EEV margins	12.5%	1.5%	2.6%	2.8%
2008 HY MCEV margins	13.4%	2.0%	-1.6%	1.9%

- Limited overall impact due to diversified book
- Profits over lifetime of business unchanged
- Earnings pattern for asset profits more similar to IFRS

# Impact on Aviva's embedded value results

## Product mix by region

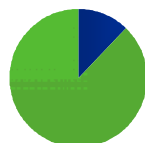


# Impact on Aviva's embedded value results

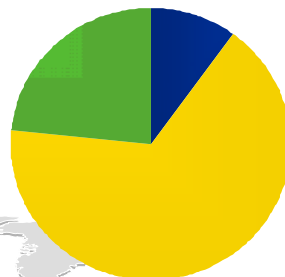
## Product mix by region



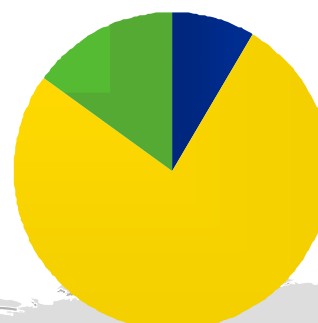
North America



UK



Europe



Asia



Risk

Savings

Spread/  
Annuity

2007	EEV	MCEV	2007	EEV	MCEV	2007	EEV	MCEV	2007	EEV	MCEV
VNB (£m)	108	2	VNB (£m)	305	278	VNB (£m)	456	02	VNB (£m)	43	65
Payback period	5	6yrs	Payback period		8yrs	Payback period	5	12yrs	Payback period		4yrs
IRR		12%	IRR		13%	IRR		13%	IRR		21%
Total EV (£m)	1,588	1,206	Total EV (£m)	7,106	6,911	Total EV (£m)	10,988	1,293	Total EV (£m)	637	686



# Implied discount rates



2007	MCEV Total business IDR %	EEV Risk discount rate %
United Kingdom	8.4%	7.3%
Europe	7.5%	7.7%
North America	14.3%	6.7%
Asia Pacific	9.4%	10.7%
Average	8.0%	7.6%

- IDR is the discount rate applied to all the cash flows (including spread assets) to make them equal the MCEV values
- EEV risk discount rate – Top down approach with prudent implicit risk allowances and explicit allowance for TVOG
- MCEV is a bottom up approach, with no allowances for credit spreads and full allowances for other risks

# Additional disclosures



- Emergence of free surplus from existing business and use of free surplus in the writing of New Business (see page 31 of the analyst pack)
- Payback periods (see page 30 of the analyst pack)
- Timescales for emergence of future profits in to free surplus (see page 31 of the analyst pack)
- Extensive sensitivity analysis (see page 44 of the analyst pack)

# Regional review





# Aviva UK

## Business overview

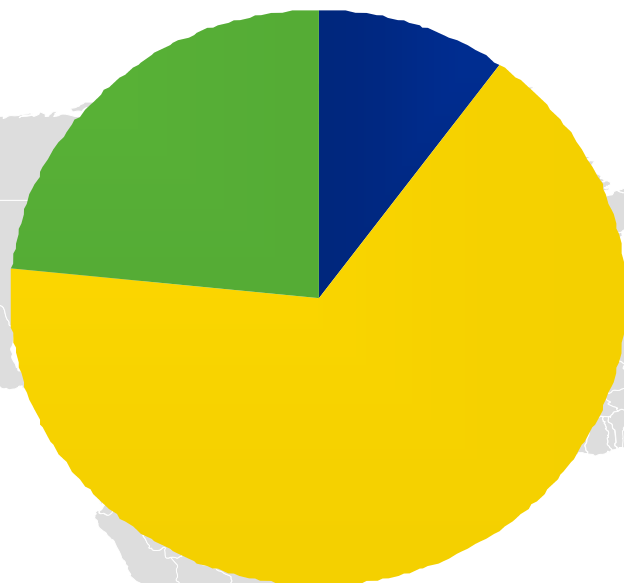


Risk

Savings

Spread/  
Annuity

### Aviva UK



FY07	EEV	MCEV
Operating profit (£m)	864	822
VNB (£m)	305	278
Payback period		8yrs
IRR		13%
Total EV (£m)	7,106	6,911

HY08	EEV	MCEV
Operating profit (£m)	471	416
VNB (£m)	154	73
IRR		13%
Total EV (£m)	6,547	5,776

# Aviva UK

## Business overview

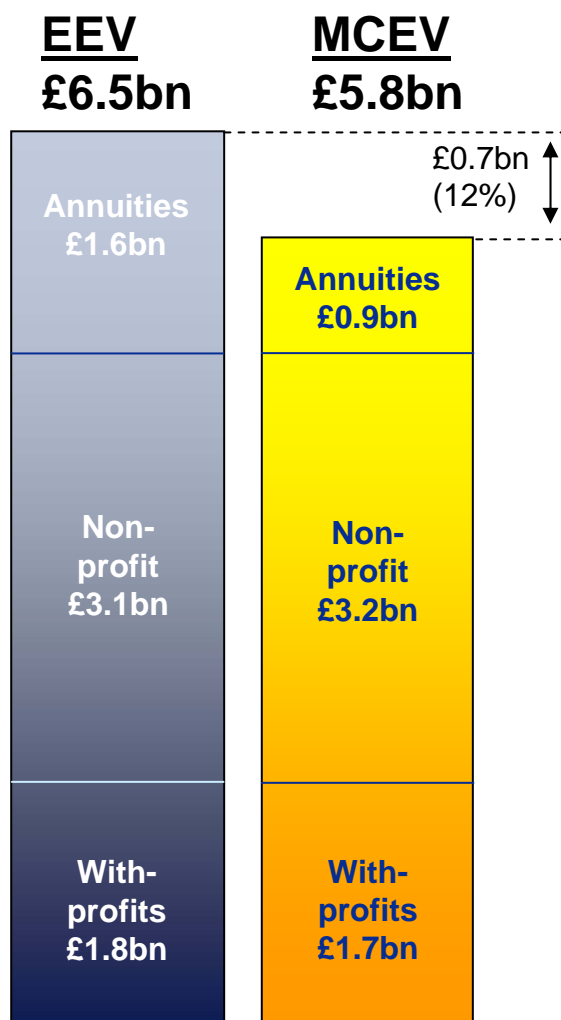


- **MCEV confirms benefits of scale & broad product strategy**
  - **Impact on embedded value for 2007 is -3% and HY08 is -12%**
  - **Impact on operating earnings for 2007 is -1% and HY08 is -9% <sup>(1)</sup>**
- **Restatement effect principally attributable to annuities**
  - **Caused by removal of asset yields above risk free rates**
- **Purely a change to timing of recognition of earnings**
- **Strategy unchanged**

FY07	EEV	MCEV
Operating profit (£m)	864	822
VNB (£m)	305	278
Payback period		8yrs
IRR		13%
Total EV (£m)	7,106	6,911

HY08	EEV	MCEV
Operating profit (£m)	471	416
VNB (£m)	154	73
IRR		13%
Total EV (£m)	6,547	5,776

<sup>(1)</sup> after the effect of the presentational change under MCEV to reclassify £37m in FY07 and £16m in HY08 of credit default experience profits to investment variances



### Annuities - drop in value but underlying economics unchanged

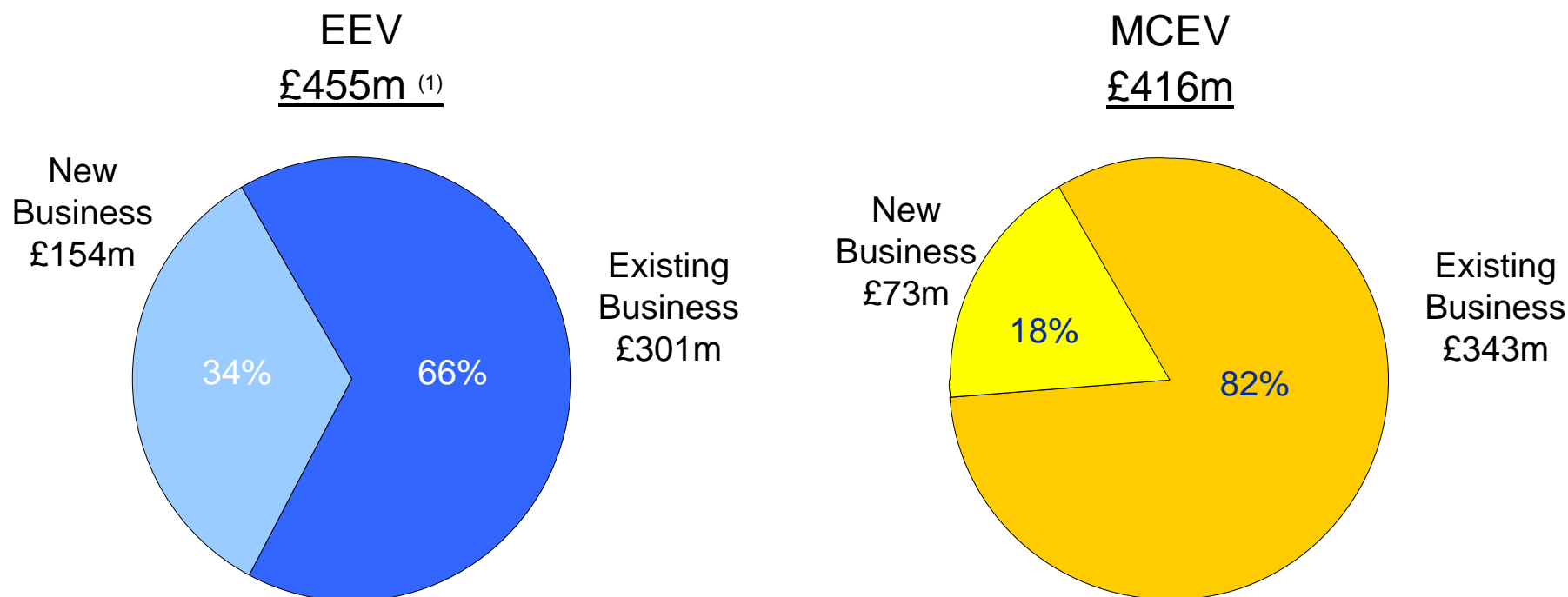
- MCEV - calculated assuming assets earn risk-free rate (swaps + 50 bp)
  - does not factor actual asset yield achieved - treats asset yield above risk-free as an implicit allowance for defaults

Balance Sheet Date	Implicit allowance for defaults
December 2007	60 bp
June 2008	90 bp

- Historic defaults around 10bps since 1989
- Based on asset portfolio of £16bn, this is equivalent to pre-tax profits of £150m pa less actual default losses – equivalent to present value (net of tax) over average term of 10 years of £1bn less actual defaults

### Non-profit and with-profit - no significant change overall

- Includes £0.1bn adverse effect of moving lapse assumptions to mean best estimates
- No estate “burn-through” on with-profits



- New business value lower by £81m (-53%) principally due to annuities
- Existing business earnings higher by £42m (+14%) & now account for over 80% of total
- Existing business now a bigger driver to improving overall profitability

<sup>(1)</sup> after the effect of the presentational change under MCEV to reclassify £16m of credit default experience profits to investment variances



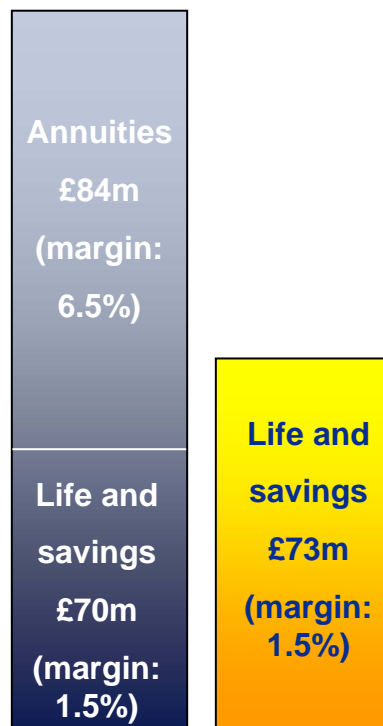
# Aviva UK

## Impact on new business value -30 June 2008



### HY2008

**EEV**      **MCEV**  
**£154m**      **£73m**



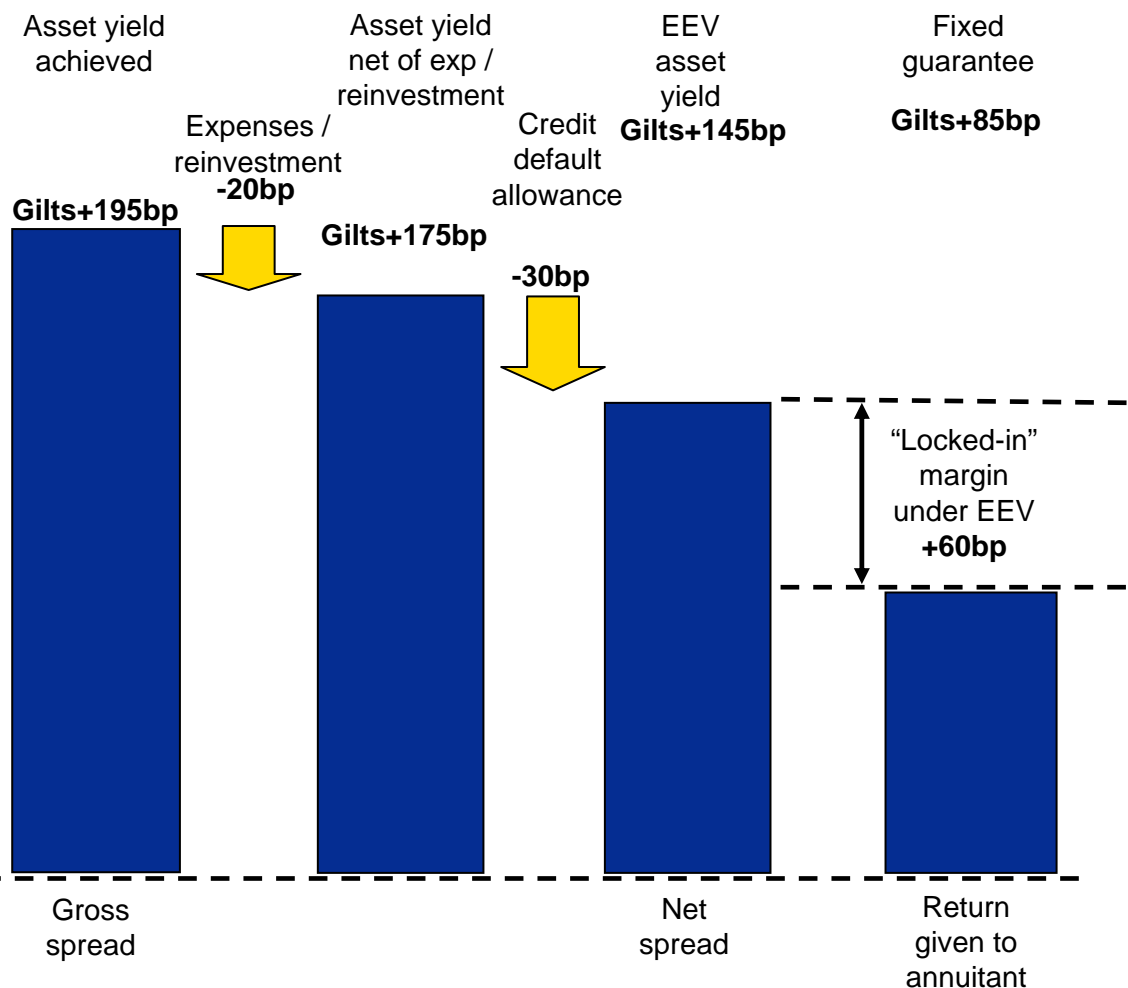
### Life and Savings

- Adoption of MCEV beneficial with:
  - protection profits 15% higher
  - asset accumulation unchanged

### Annuities

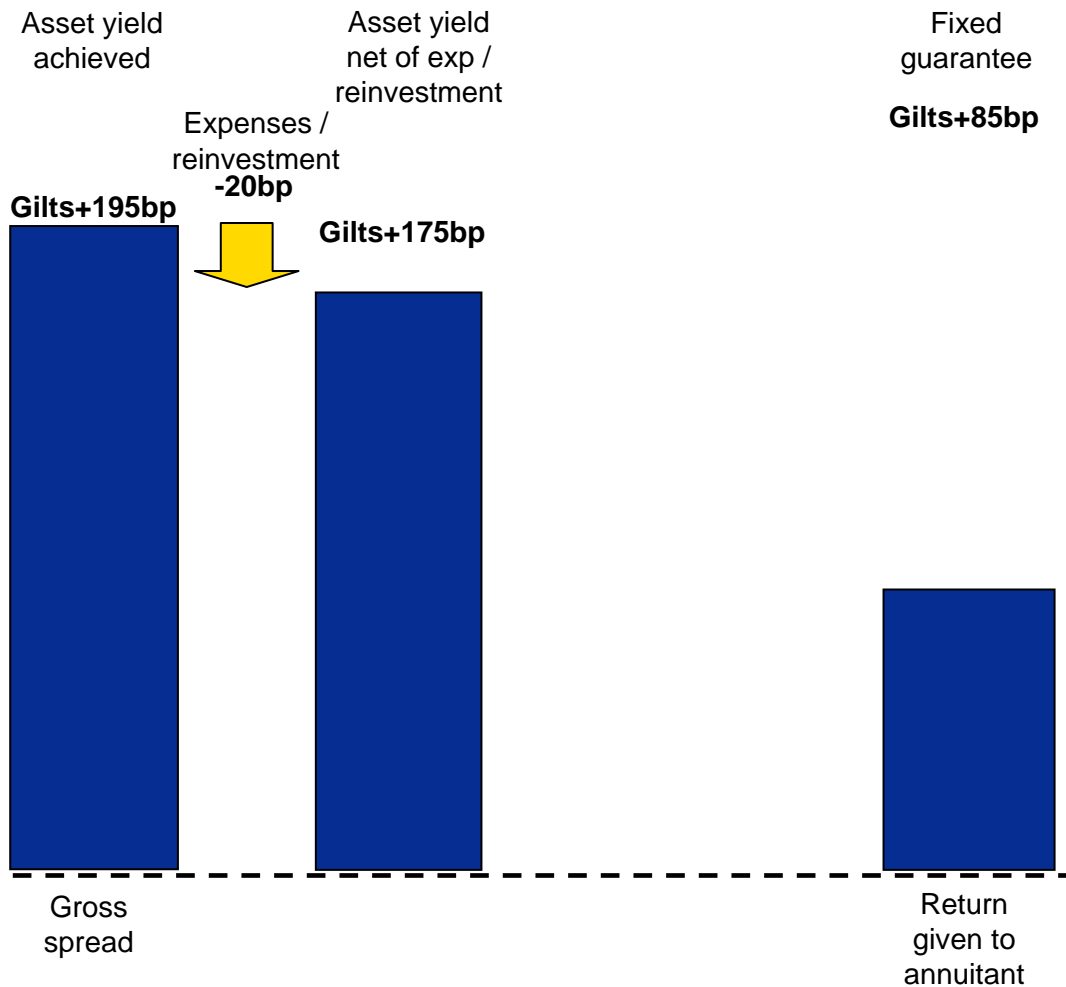
- Reported new business value under MCEV does not factor all of the asset yields achieved

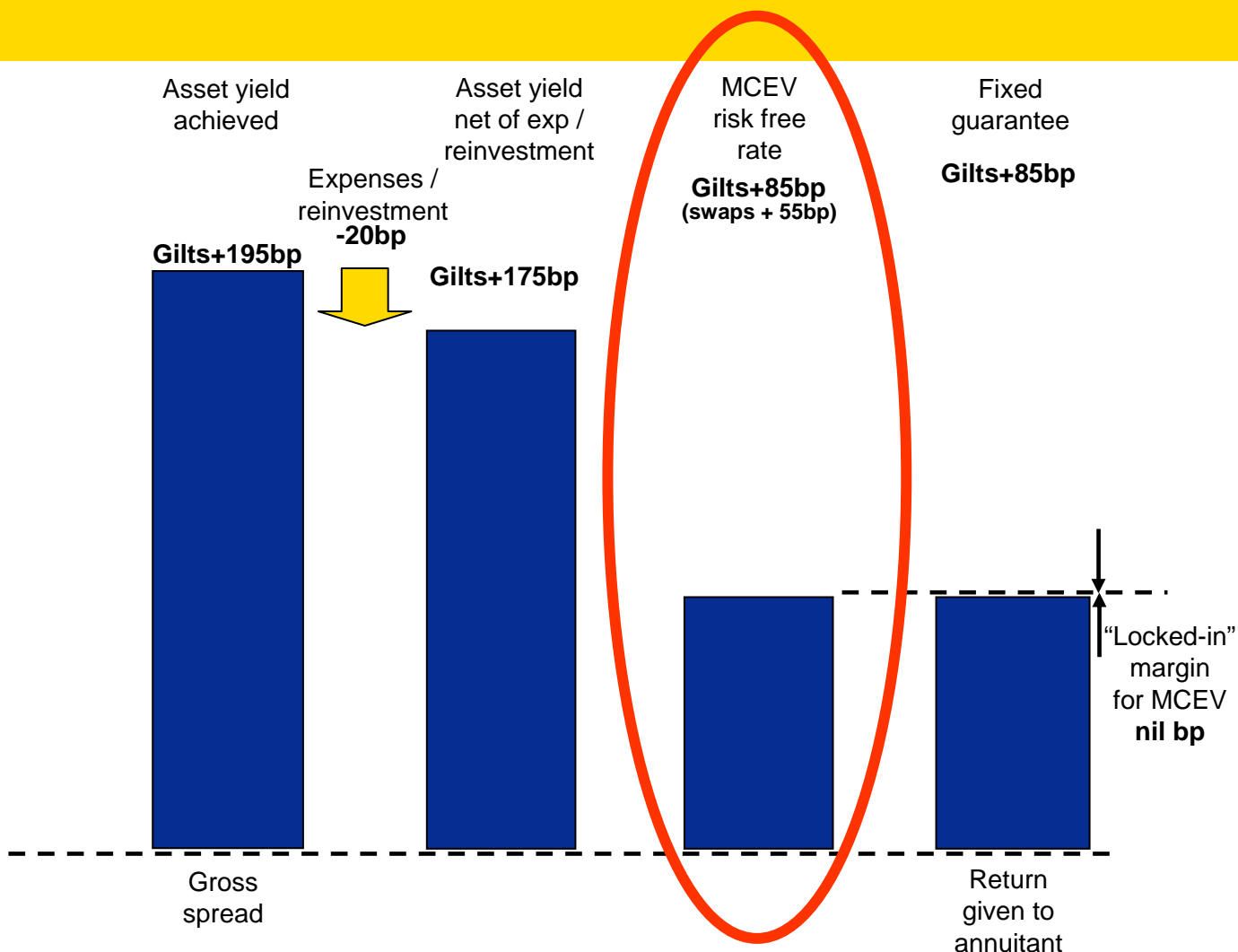
Period	Yields achieved above risk-free
Full year 2007	+75 bp
Half year 2008	+90 bp

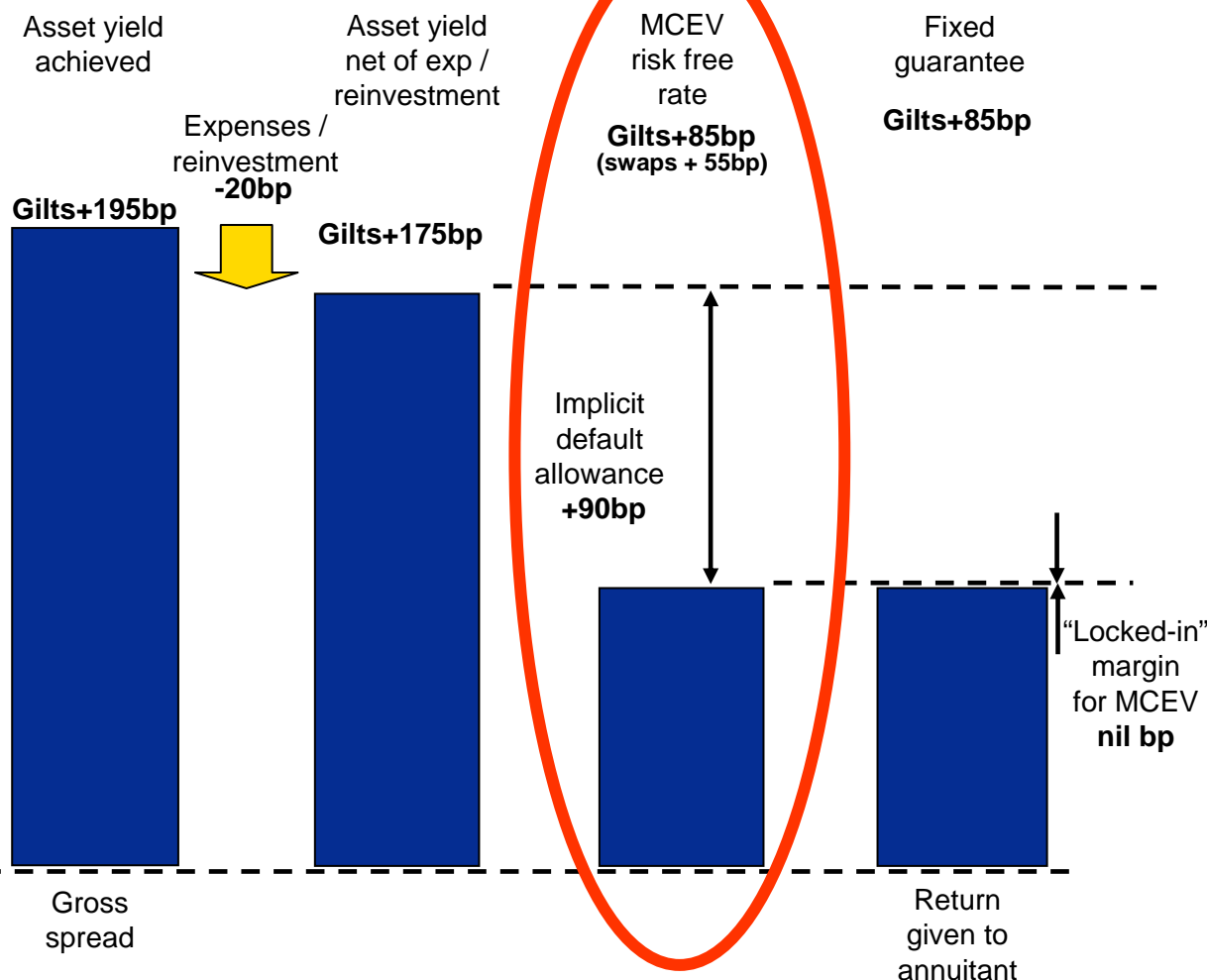


- EEV “locked-in” margin covers risk of:

- Defaults over our long-term allowances
- Longevity







- Appropriate risk within balanced portfolio
- Understand risk and how to price it
- Strong performance record with historic defaults well below market benchmark
- Profitability metrics attractive:
  - New business IRR 19%
  - Payback period 6 years

**EEV <sup>(1)</sup>**  
**£301m**

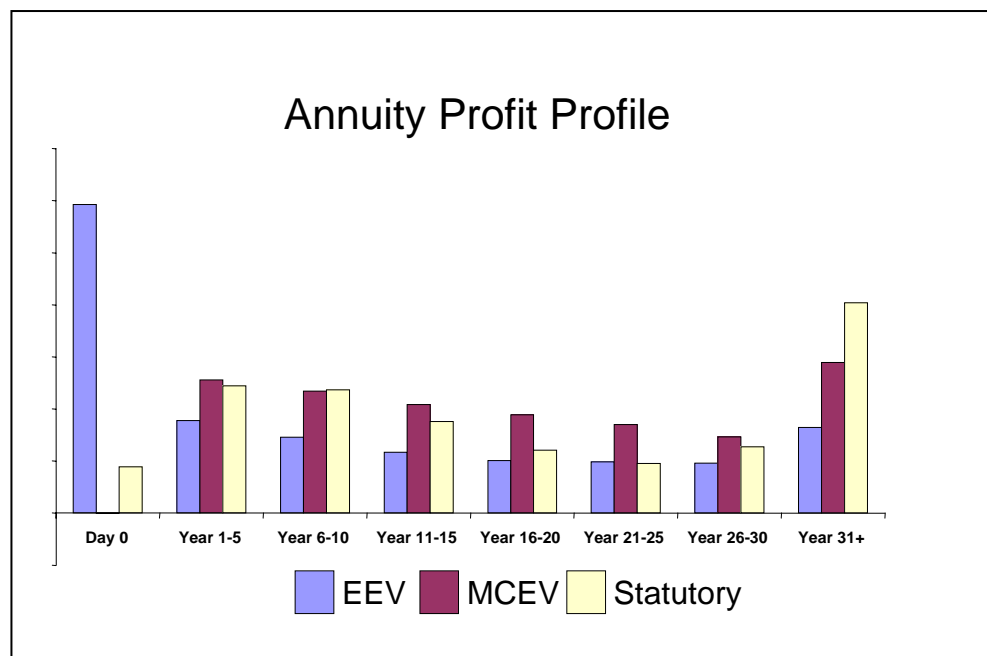


**MCEV**  
**£343m**



### Annuities

- Operating earnings higher by £40m.
- Reflects asset yield over risk-free earned in period – confirming MCEV only affects timing of recognition of profit not its overall quantum





# Aviva USA

## Business overview

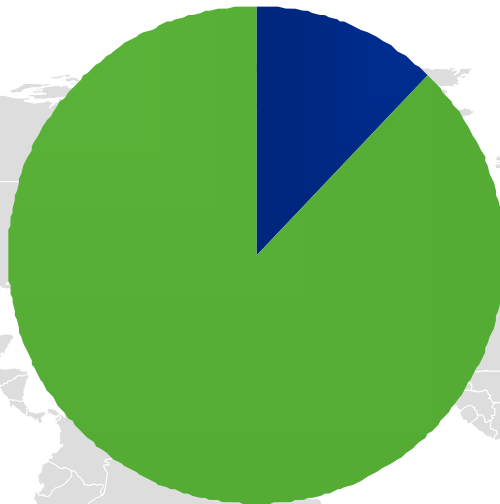


Risk

Savings

Spread/  
Annuity

### Aviva USA

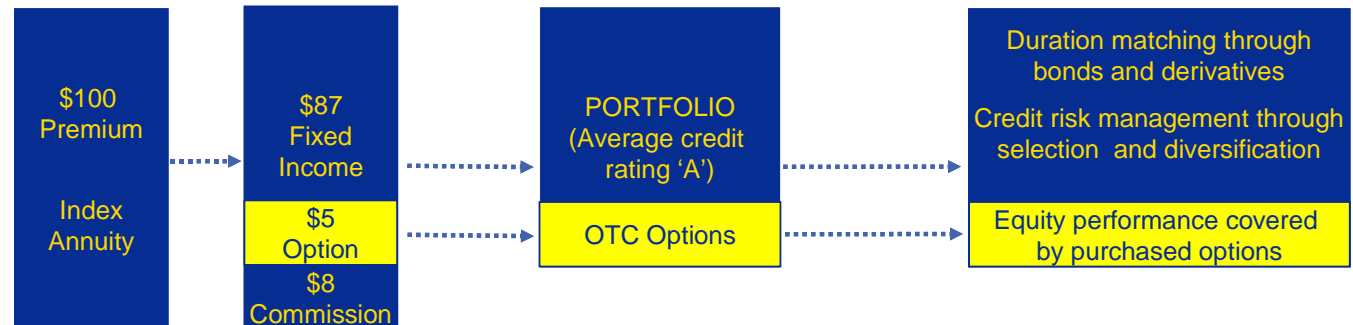


FY07	EEV	MCEV
Operating profit (£m)	255	124
VNB (£m)	108	2
Payback period	5	6yrs
IRR		12%
Total EV (£m)	1,588	1,206

HY08	EEV	MCEV
Operating profit (£m)	139	
VNB (£m)	6874	(8)
IRR		11%
Total EV (£m)	1,714	974



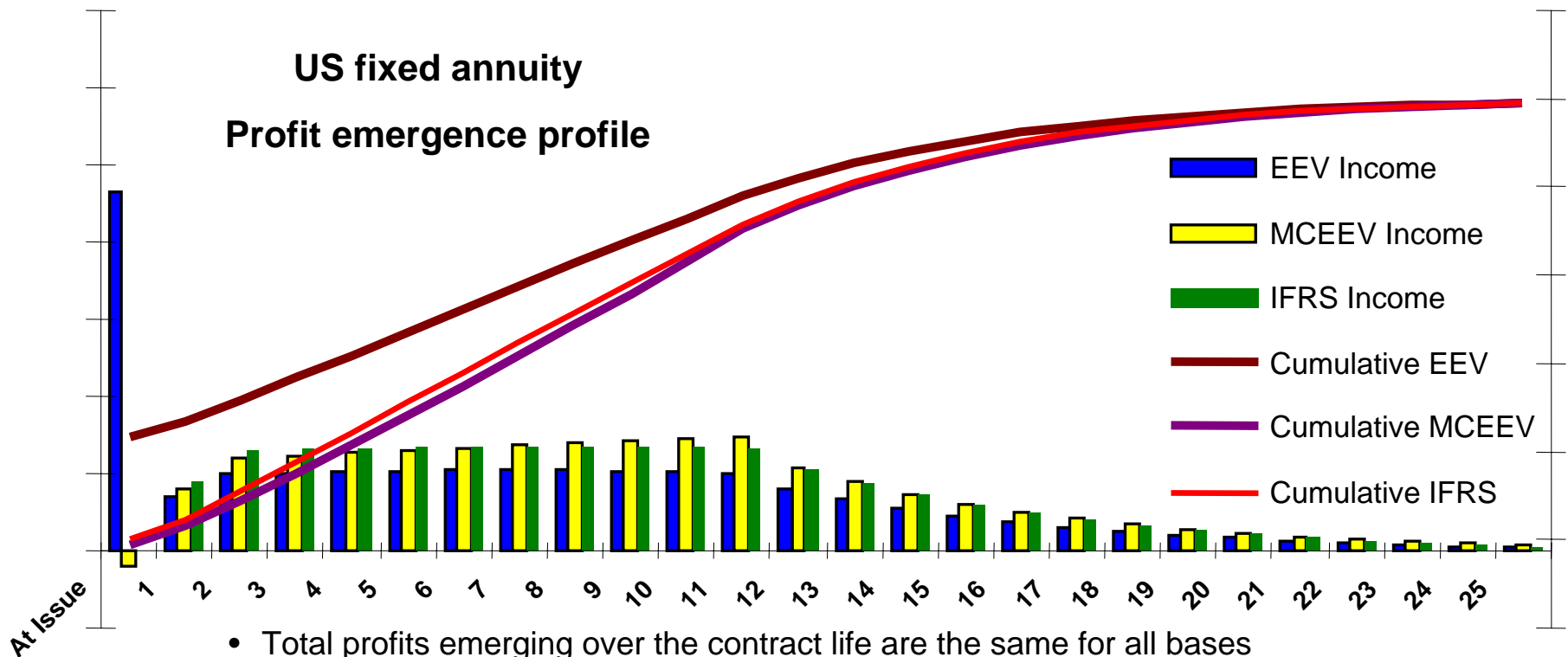
### Aviva US Indexed product investment model



- Key features of indexed annuity product are:
  - Return of premium guarantee and minimum return guarantee - managed by bond return + derivative to cover guarantees
  - Equity-index participation - managed by purchase of OTC option
- Overall credit risk managed by risk selection and diversification
- Liabilities to policyholders well-matched - profit driven by expense margins and earning of investment return and credit spreads
- MCEV reporting:
  - NBC captures:
    - Costs of acquisition and administration
    - Costs of options and guarantees
    - Risk-free return only
  - Credit spread in excess of risk-free rate recognised as earned and shown in expected return
  - Net worth shows impact of movements in spreads on asset values

# Aviva USA

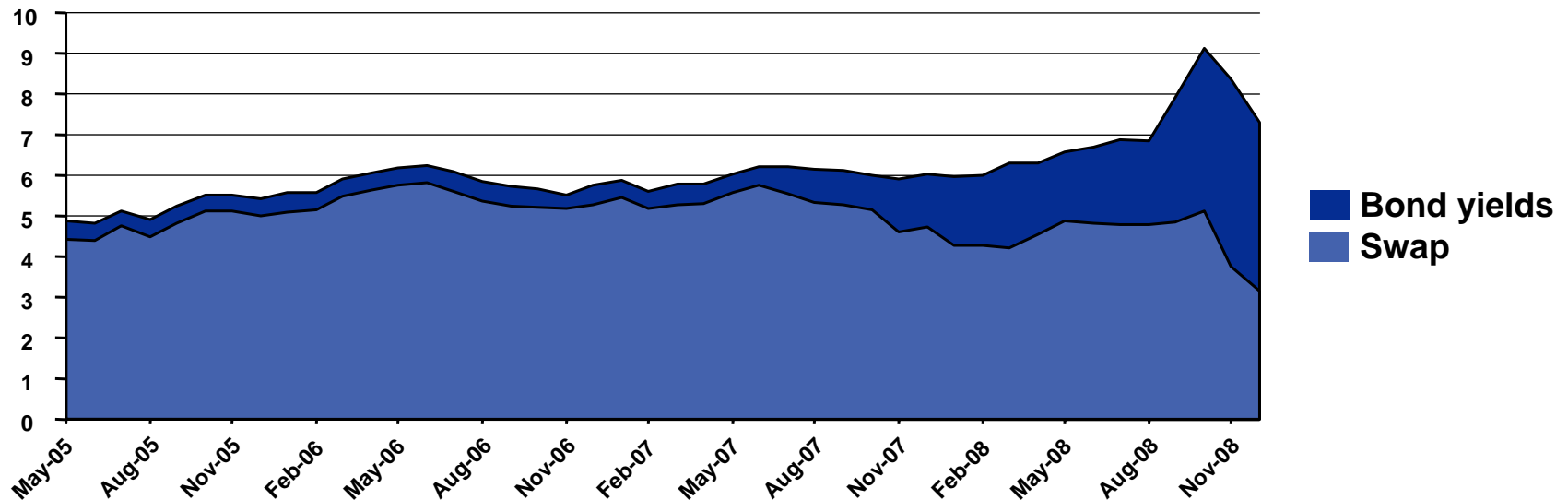
## Profit emergence – fixed annuity



- Total profits emerging over the contract life are the same for all bases
- Characteristics of MCEEV profile:
  - Initial profit reported is currently low
  - Investment profit emerges over time
  - Profile similar to IFRS

# Aviva USA

## Market spreads for 'A'-rated bonds



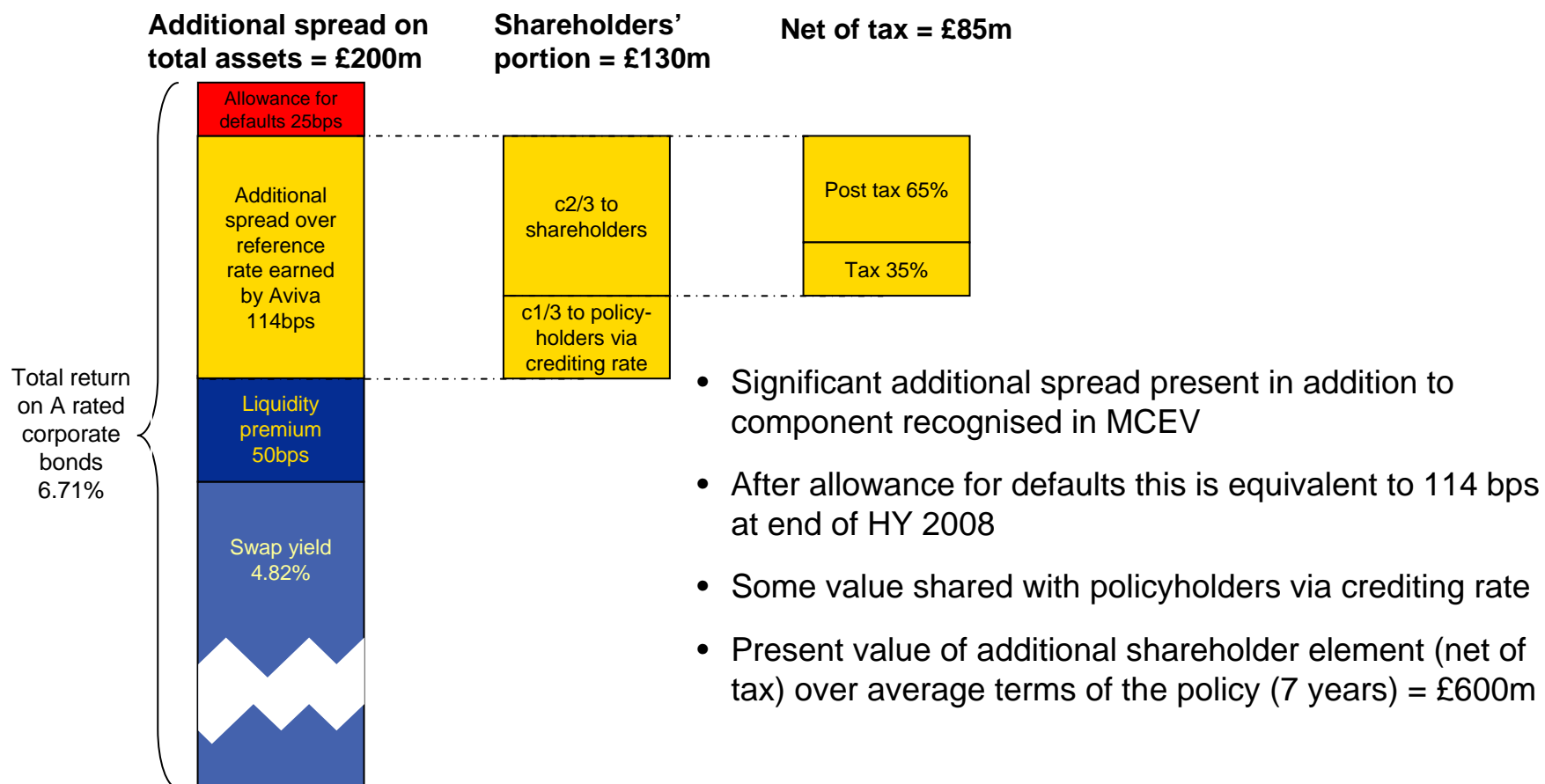
- Market spread between bond yields and swap comprises:
  - Expected default experience
  - Risk around volatility of default experience
  - Liquidity
  - Other elements
- MCEV values only risk-free return upfront
- Real return = excess spread less any default experience
- Emerges in future profits:
  - Expected defaults in operating profits
  - Actual defaults in total profits

# Aviva USA

## Value from additional spread



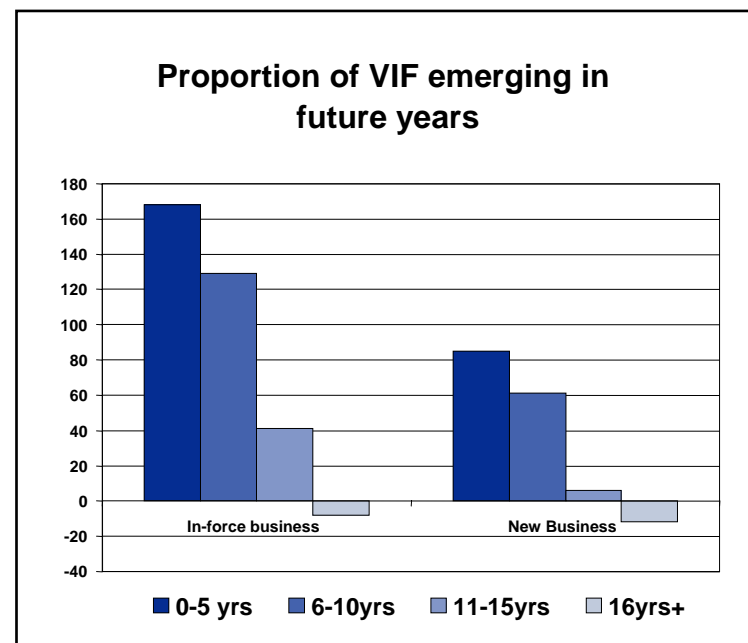
Total assets @ 30 June 2008 = £18bn (\$36bn)



# Aviva USA Summary



- Reported MCEV:
  - Impact of recognising only risk-free return up-front flows through NB margin, operating profit and total MCEV
  - Additional spread profit will emerge as earned in expected return in excess of risk-free
  - Present value of additional margin bridges gap to EEV
- Other metrics complete the picture:
  - IRR (including long-term rate of return) = 11.4% HY '08 / 11.8% FY '07
  - Payback period (including return of required capital and initial expenses) = 6 years
  - 51% of in-force VIF + 61% of new business VIF emerges in 0-5 years
- No change to underlying economics of the business:
  - Strong new business franchise
  - Strong track record of credit selection and management
  - Significant additional profits expected to emerge over the life of the policies





# Aviva Europe Business overview

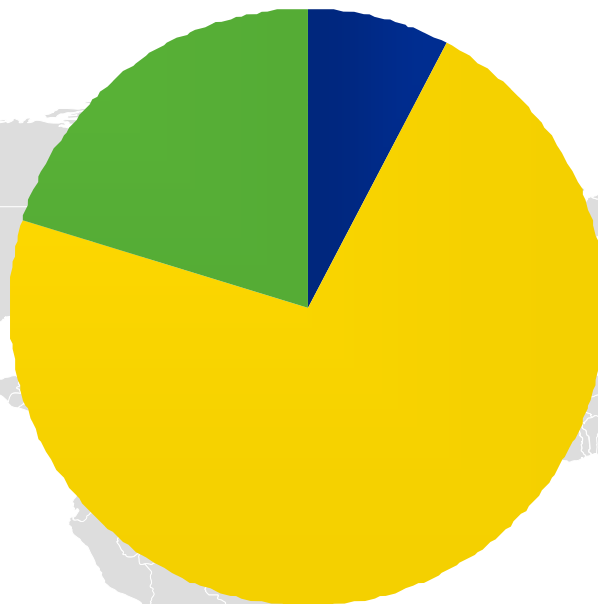


Risk

Savings

Spread/  
Annuity

## Aviva Europe



**FY07**

**EEV MCEV**

Operating profit (£m) 1,543 1,503

VNB (£m) 456 02

Payback period 5 12yrs

IRR 13%

Total EV (£m) 10,988

11,293

**HY08**

**EEV MCEV**

Operating profit (£m) 823

VNB (£m) 245 728 55

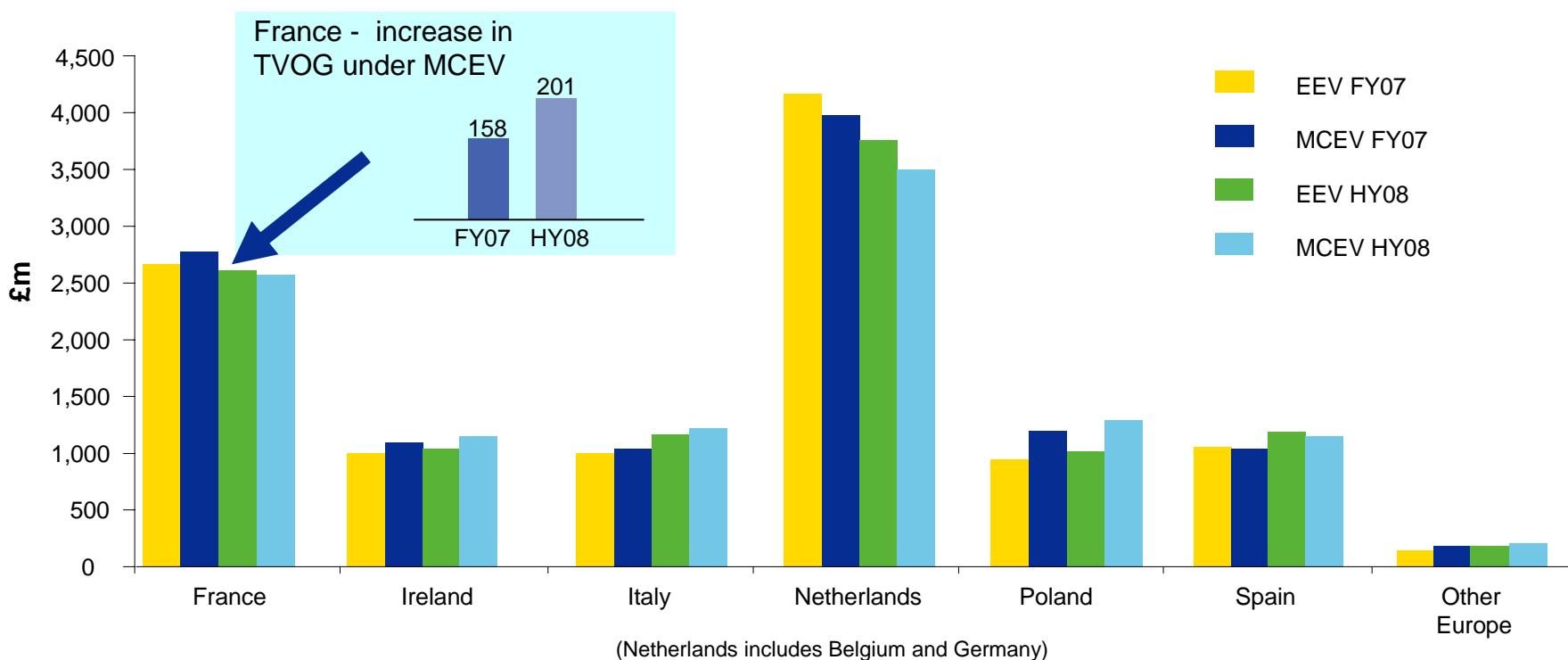
IRR 2 13%

Total EV (£m) 10,949

11,109

# Aviva Europe

## Embedded Value by country shows little change

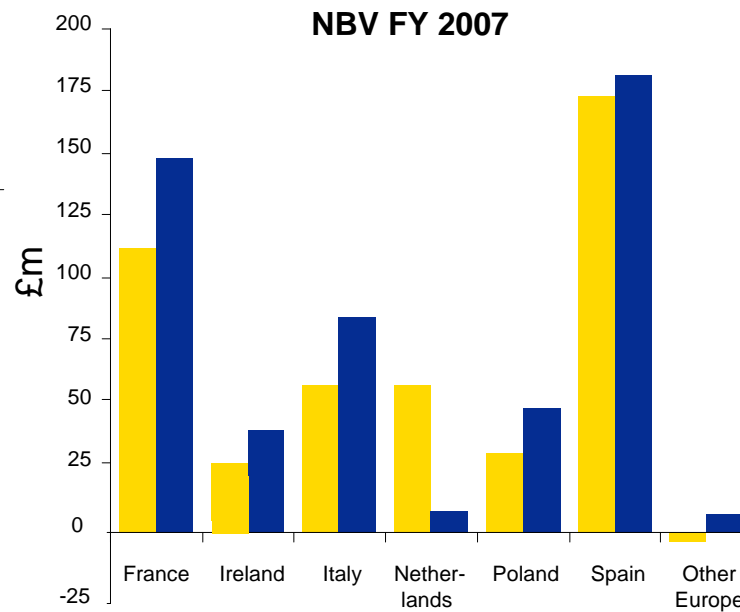
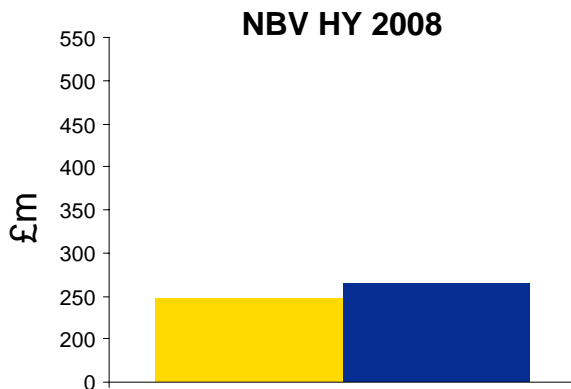
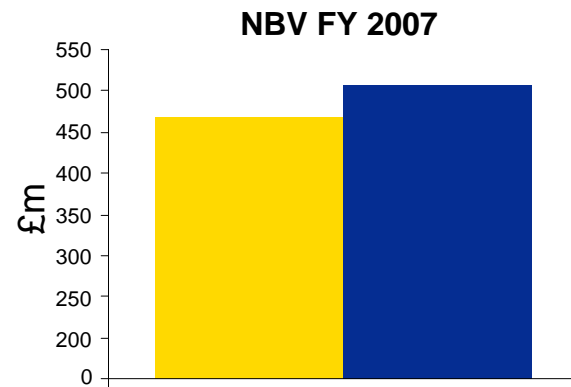


- MCEV is higher than EEV overall, but individual markets differ depending on business mix
- Netherlands includes a higher proportion of annuity and corporate pension business. The benefit of credit spreads is earned over time
- Positive impact in other countries. France HY08 impacted by increased value of guarantees



# Aviva Europe

## Geographical spread in Value of New Business



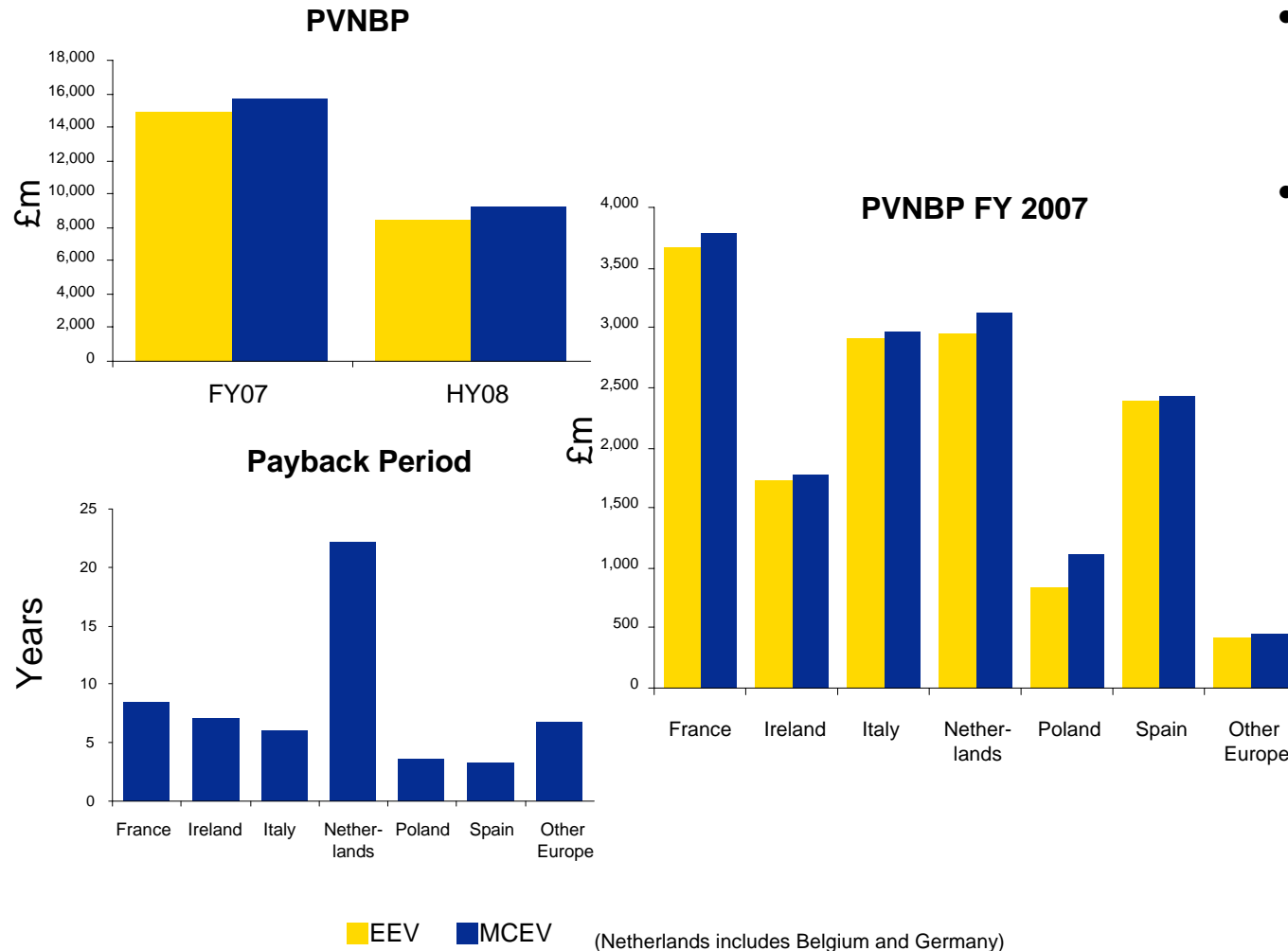
- NBV increased under MCEV at both FY 2007 and HY 2008
- Netherlands HY 2008 includes a large proportion of corporate pension business and investment spread profits are earned over time
- Spanish NBV HY 2008 includes Caja Murcia from December 2007.
- Other Europe HY 2008 impacted by sales of Pillar II pensions policies in Romania

■ EEV ■ MCEV

(Netherlands includes Belgium and Germany)

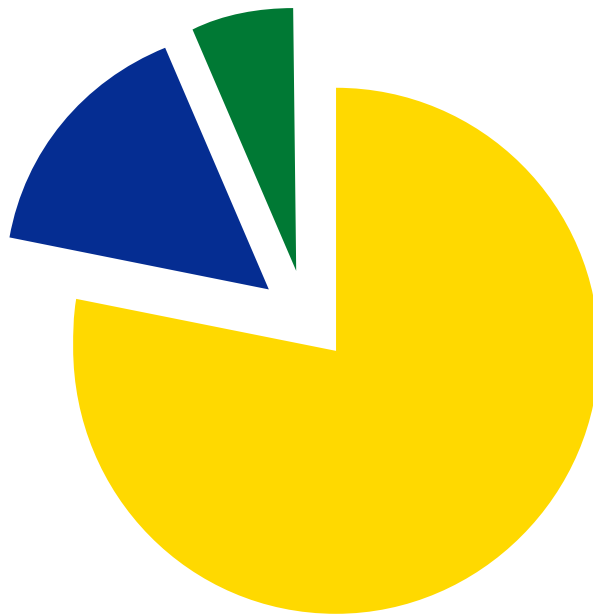
# Aviva Europe

## PVNB – Small positive MCEV impact



- PVNB increases under MCEV due to change in risk free rate
- Average payback period of 12 years for Aviva Europe including a longer payback period for annuity products written in the Netherlands, Germany and Belgium. Excluding these the average period is 6 years, ranging from 3 years in Spain to 8 years in France

## Mix of Business



■ Savings   ■ Spread/Annuities   ■ Risk

- No fundamental impact reflecting the diversity of the underlying portfolio, and relatively low level of annuity business
- Negative NVB and longer payback period in Netherlands, Belgium and Germany reflects corporate pension and annuity business
- A useful and improved way of comparing the underlying business between markets

# Summary

## Adoption of MCEV

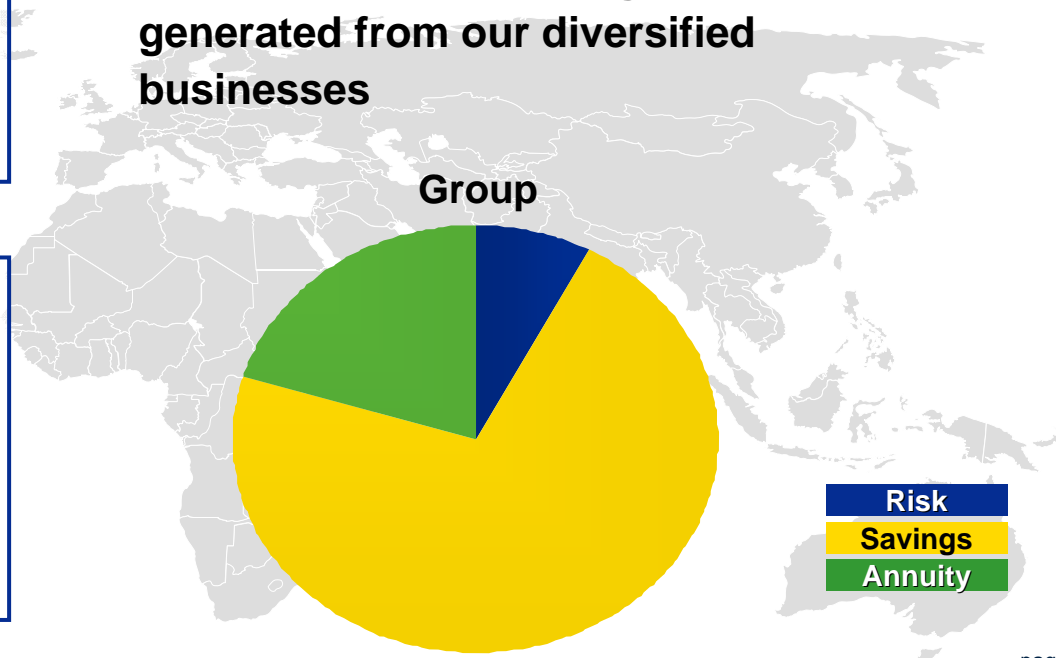


### Group life and pensions key metrics

FY07	EEV	MCEV
Operating profit (£m)	2,753	2,544
VNB (£m)	912	897
Payback period		9yrs
IRR		12.9%
Total EV (£m)	20,319	20,096

HY08	EEV	MCEV
Operating profit (£m)	1,480	1,280
VNB (£m)	488	352
IRR		12.9%
Total EV (£m)	19,867	18,579

- A better measure of profit recognition
- Provides more disclosure
- Demonstrates the strength and value generated from our diversified businesses



# Questions and answers