

5th GLOBAL CONFERENCE OF ACTUARIES

Fair Value Calculations

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Agenda

- **Fair Value - setting the scene**

- **What we know from the Draft Statement of Practice**
 - **Setting the Actuarial Basis**

- **How can your model will handle this for :**
 - **Non Profit Business**
 - **Unit Linked Business**
 - **With Profit Business**

- **Conclusions**

Fair Value – Setting the scene

Background

- **Insurance is an increasingly global business and insurance accounting varies considerably across jurisdictions.**
- **A number of jurisdictions have little or no guidance on the accounting for insurance contracts in general-purpose financial statements.**
- **IASC Board started a project on Insurance Accounting in 1997.**
- **Issues paper published in December 1999. Steering Committee of the IASC project met in September and November 2000 to review comments. Develop report to the IASC in the form of the Draft Statement of Principles (DSOP).**

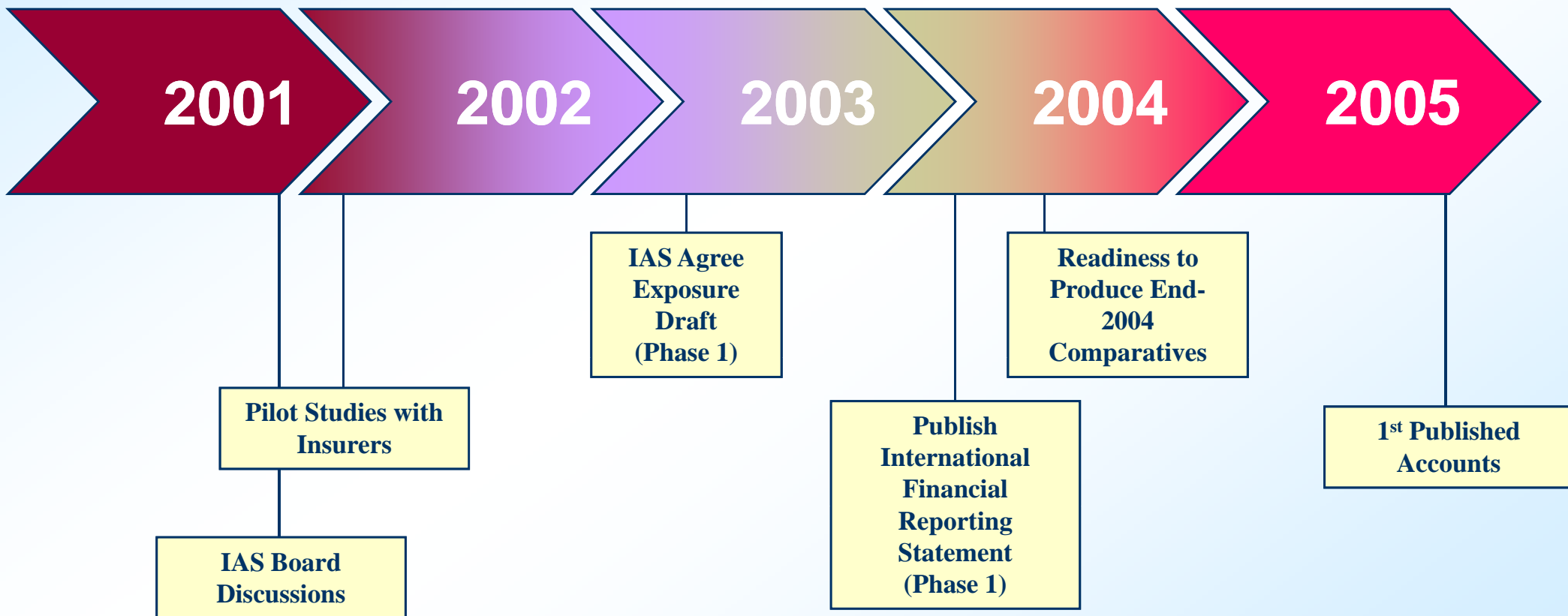
Fair Value – Setting the scene

Background

- **In April 2001 a new International Accounting Standards Board (IASB) appointed to replace IASC.**
- **IASB decided to allow the IASC Steering Committee to complete its work on the DSOP.**
- **Portions of DSOP published in November 2001. With additional portions in December 2001 and January 2002 – Chapters on Performance linked insurance contracts, Presentation and Disclosure yet to be made public**
- **May 2002 split in to Phase 1 and Phase 2. Phase 1 addresses the application of existing IFRSs to companies that issue insurance contracts and disclosures.**

Fair Value – Setting the scene

Timetable



Fair Value – Setting the scene

Balance Sheet as at 31.12.200x

<u>Assets</u>		<u>Liabilities</u>	
Investments	9,000	Fair Value of Insurance Liabilities	8,500
Current Assets	700	Current Liabilities	200
Other Assets	300	Other Liabilities	400
		Shareholder's Funds	900
	<u>10,000</u>		<u>10,000</u>

Fair Value – Setting the scene

Policyholder Cashflows

	2002	2003	2004	2005	2006	2007+
Premiums	100	99	98	97	96	95
Surrender Benefits	-7	-8	-8	-9	-10	-11
Death Benefits	-2	-2	-2	-2	-3	-3
Maturity Benefits	-50	-76	-200	-115	-45	-70
Expenses	-25	-27	-29	-32	-34	-37
Total Policyholder cashflows	16	-14	-141	-61	4	-26

What we know from the DSOP

Draft Statement of Practice

- ▶ **Entity Specific Values**
 - ▶ Demographic and expenses assumptions set with reference to each company's own experience
- ▶ **Fair Value**
 - ▶ Point of reference for valuing cashflows is the terms on which they are traded in the open market
- ▶ **Allowing for future premiums**
 - ▶ Can only be taken into account if "the policyholder has a potentially valuable option in the future"
- ▶ **Investment Risk**
 - ▶ Cashflows must be adjusted for the inherent investment risk within them
- ▶ **Setting the Market Value Margins**
 - ▶ Adjustments required for other risks inherent in the cashflows

Model implications

Specific Issues for Non Profit Business

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

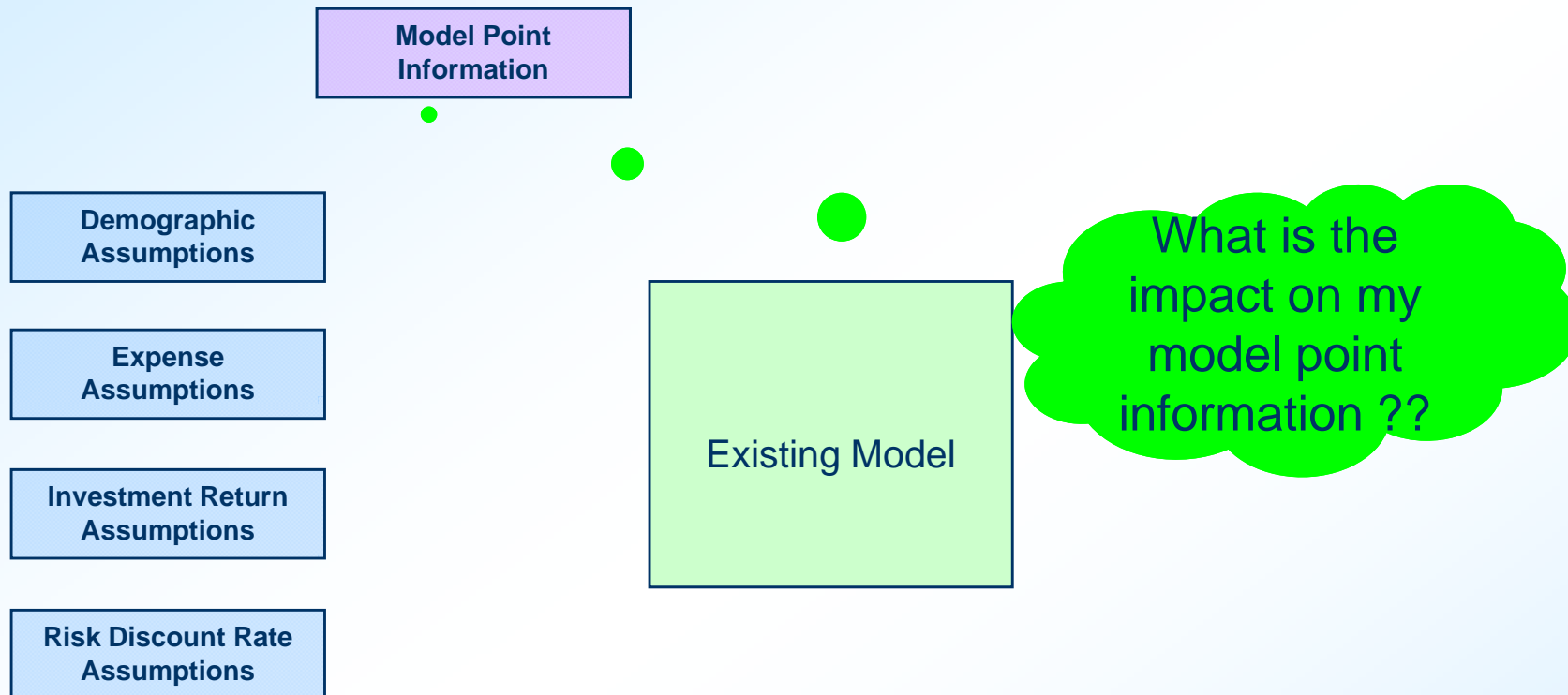
Risk Discount Rate
Assumptions

Existing Model

What is the
impact on my
model?

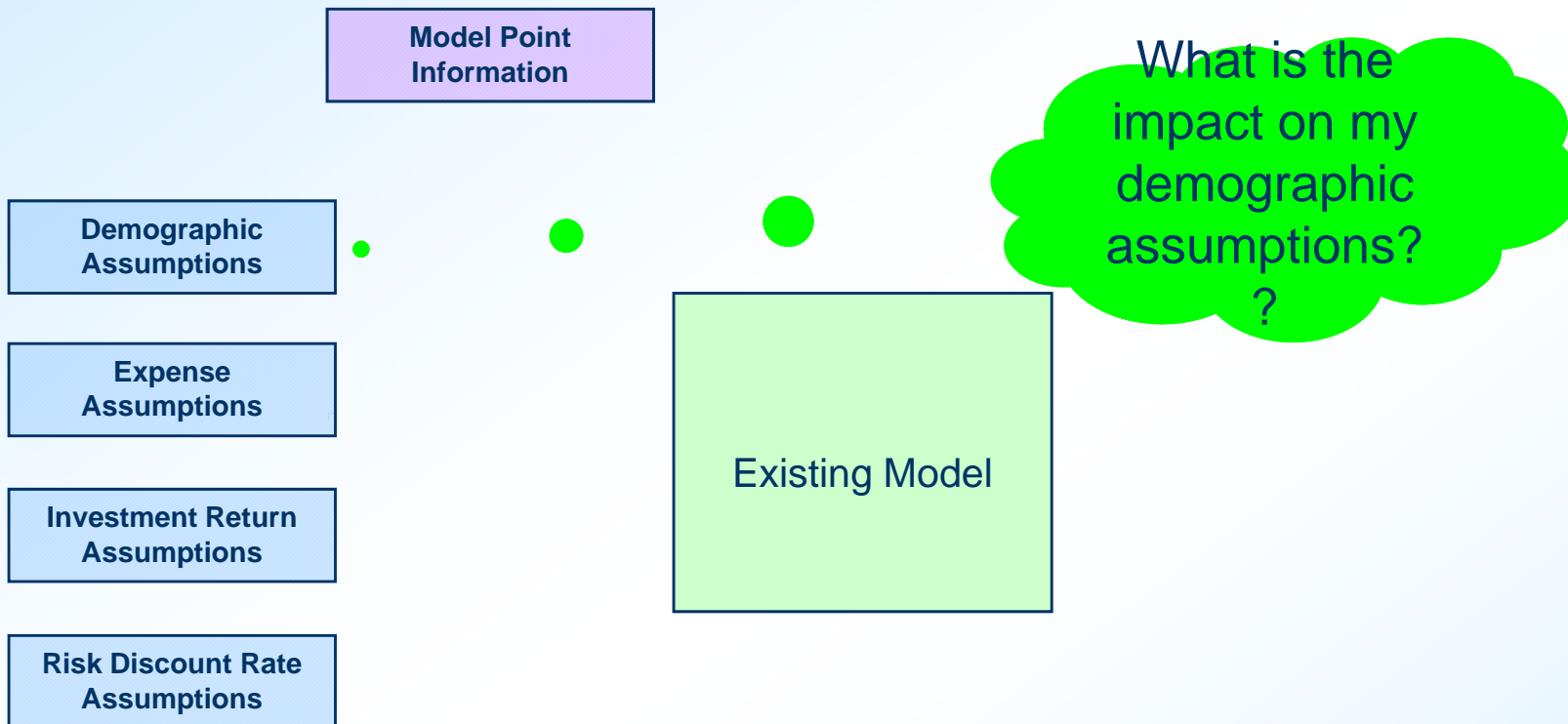
Model implications

Specific Issues for Non Profit Business



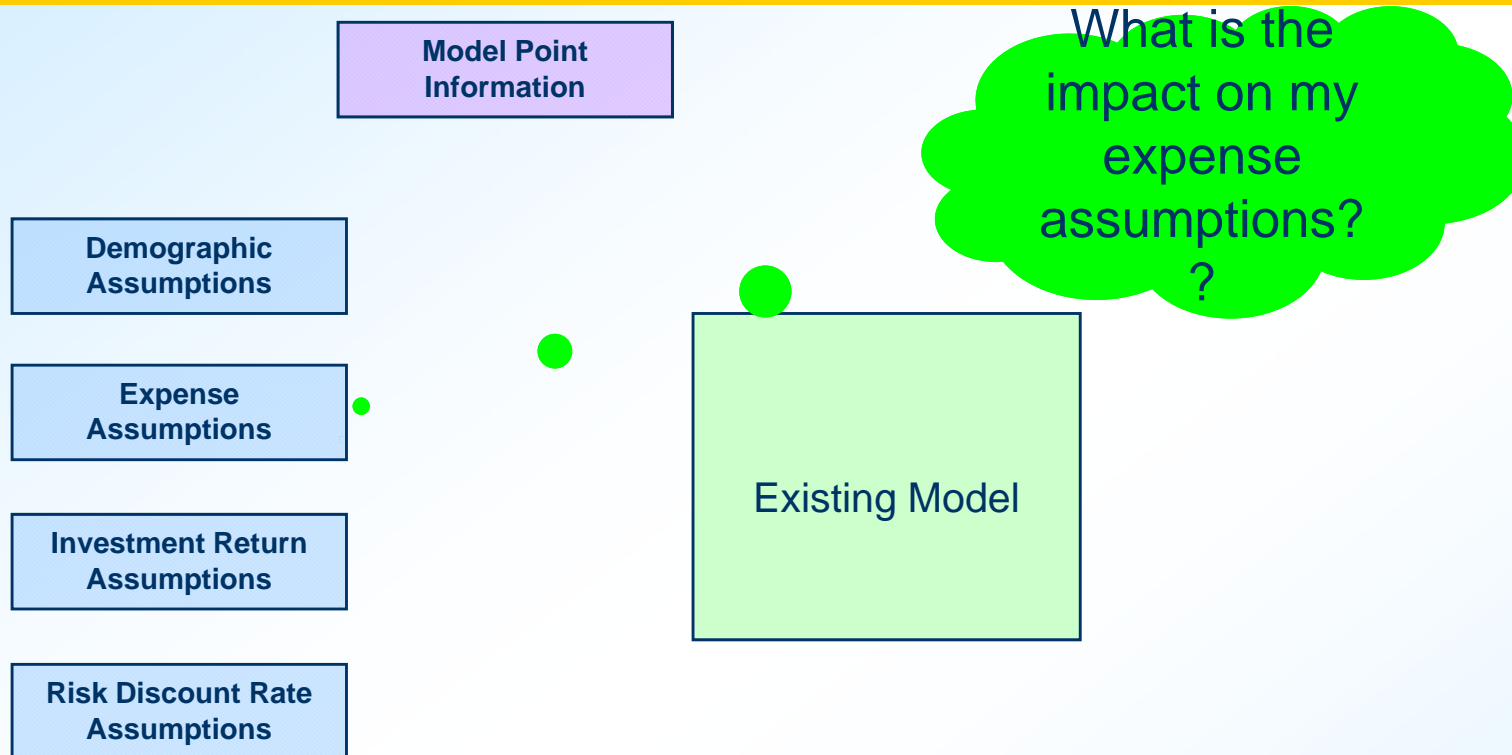
Model implications

Specific Issues for Non Profit Business



Model implications

Specific Issues for Non Profit Business



Model implications

Specific Issues for Non Profit Business

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

Risk Discount Rate
Assumptions

Existing Model

What is the
impact on my
investment
return
assumptions??

Model implications

Specific Issues for Non Profit Business

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

Risk Discount Rate
Assumptions

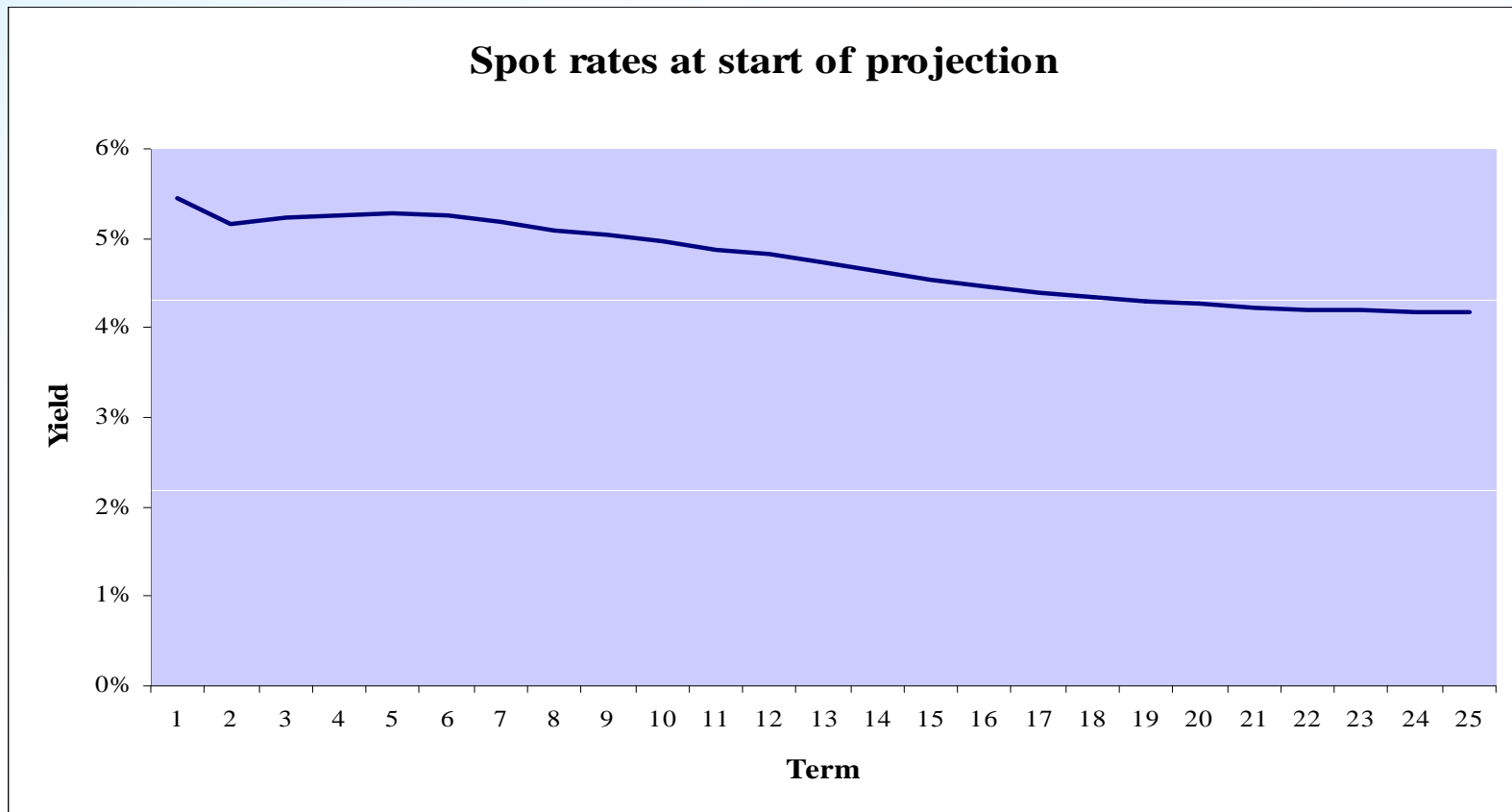
Existing Model

What is the
impact on my
risk discount
rate ??

Model implications

Specific Issues for Non Profit Business

► Investment Return & Risk Discount Rate



Model implications

Summary of Issues for Non Profit Business

- ▶ **DETERMINISTIC** for example, using policy by policy projections
- ▶ **Demographic and Expenses Assumptions**
 - ▶ Best estimate perhaps with market value margins
- ▶ **Investment Assumptions**
 - ▶ Not required
- ▶ **Discount Rates**
 - ▶ Based on risk free returns

Model implications

Specific Issues for Unit Linked Business

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

Risk Discount Rate
Assumptions

Existing Model

What is the
impact on my
...??

Model implications

Specific Issues for Unit Linked Business

- ▶ **DETERMINISTIC** for example, policy by policy projections

- ▶ **Demographic Assumptions**
 - ▶ Best estimate perhaps with market value margins
- ▶ **Investment Assumptions**
 - ▶ Change in approach required so that earned rates are based on risk free returns
- ▶ **Discount Rates**
 - ▶ Similarly based on risk free returns
- ▶ **Treatment of fund related charges**
 - ▶ Addressed through the use of the same rate to roll forward and to discount

Model implications

Specific Issues for With Profits Business

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

Risk Discount Rate
Assumptions

Existing Model
Model

What is the
impact on my
...??

Model implications

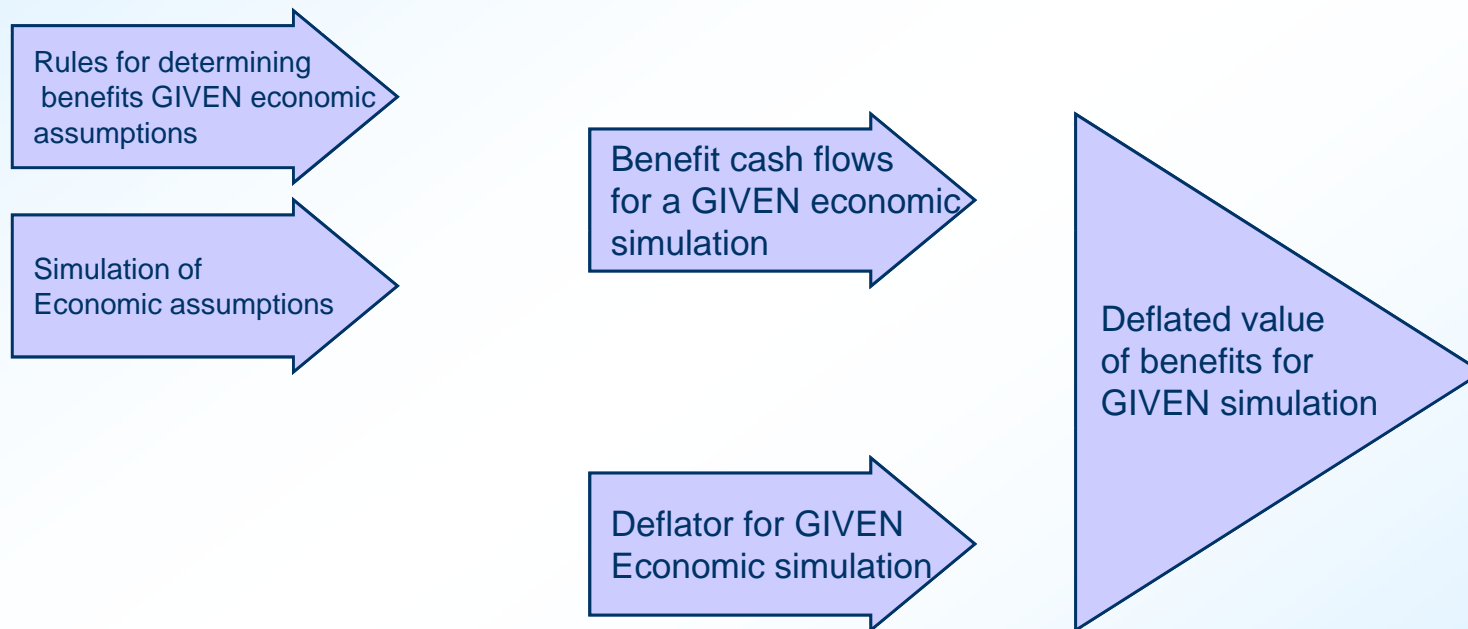
Specific Issues for With Profit Business

- ▶ **STOCHASTIC** projections required
- ▶ Grouped data acceptable and likely to be a practical requirement
- ▶ Demographic Assumptions
 - ▶ Best estimate perhaps with market value margins
- ▶ Bonus assumptions
 - ▶ Will need to be simple or complex formula which models the way your company declares bonus
- ▶ Investment Assumptions
 - ▶ Created from a credible economic model, e.g. TSM, and read in to Model in the form of a stochastic table
- ▶ Discount Rates
 - ▶ Become deflators output from economic model

Model implications

Specific Issues for With Profit Business

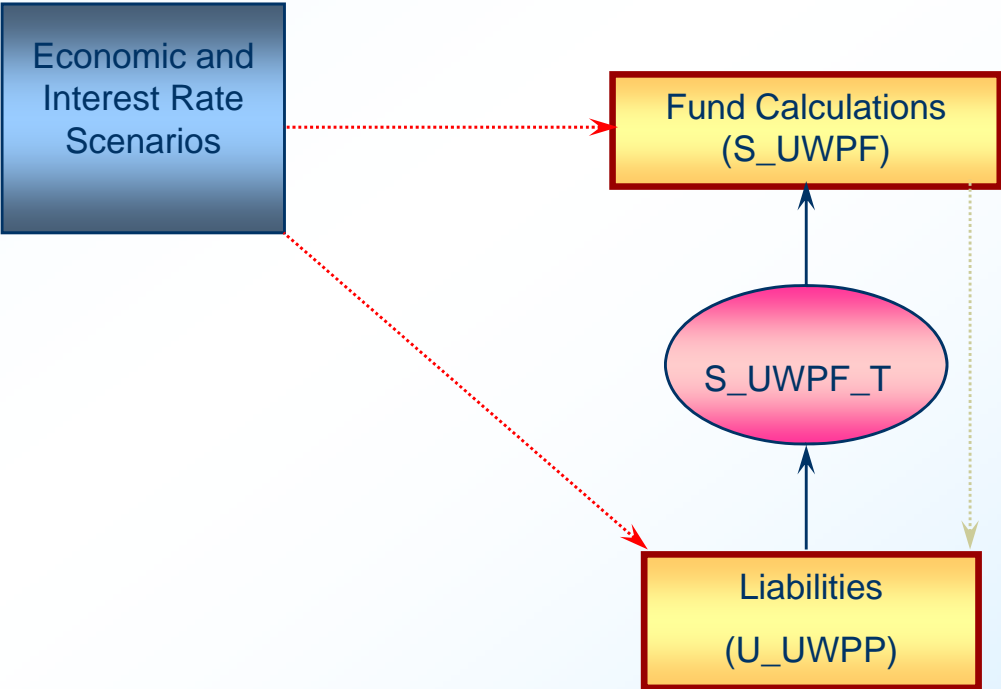
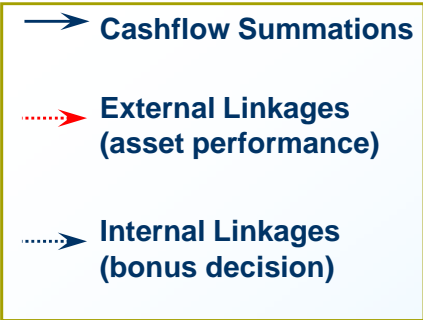
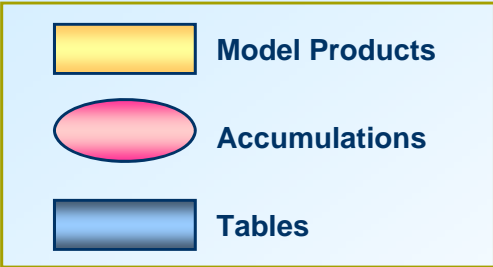
Stochastic approach using deflators



Repeat for each simulation and take the average

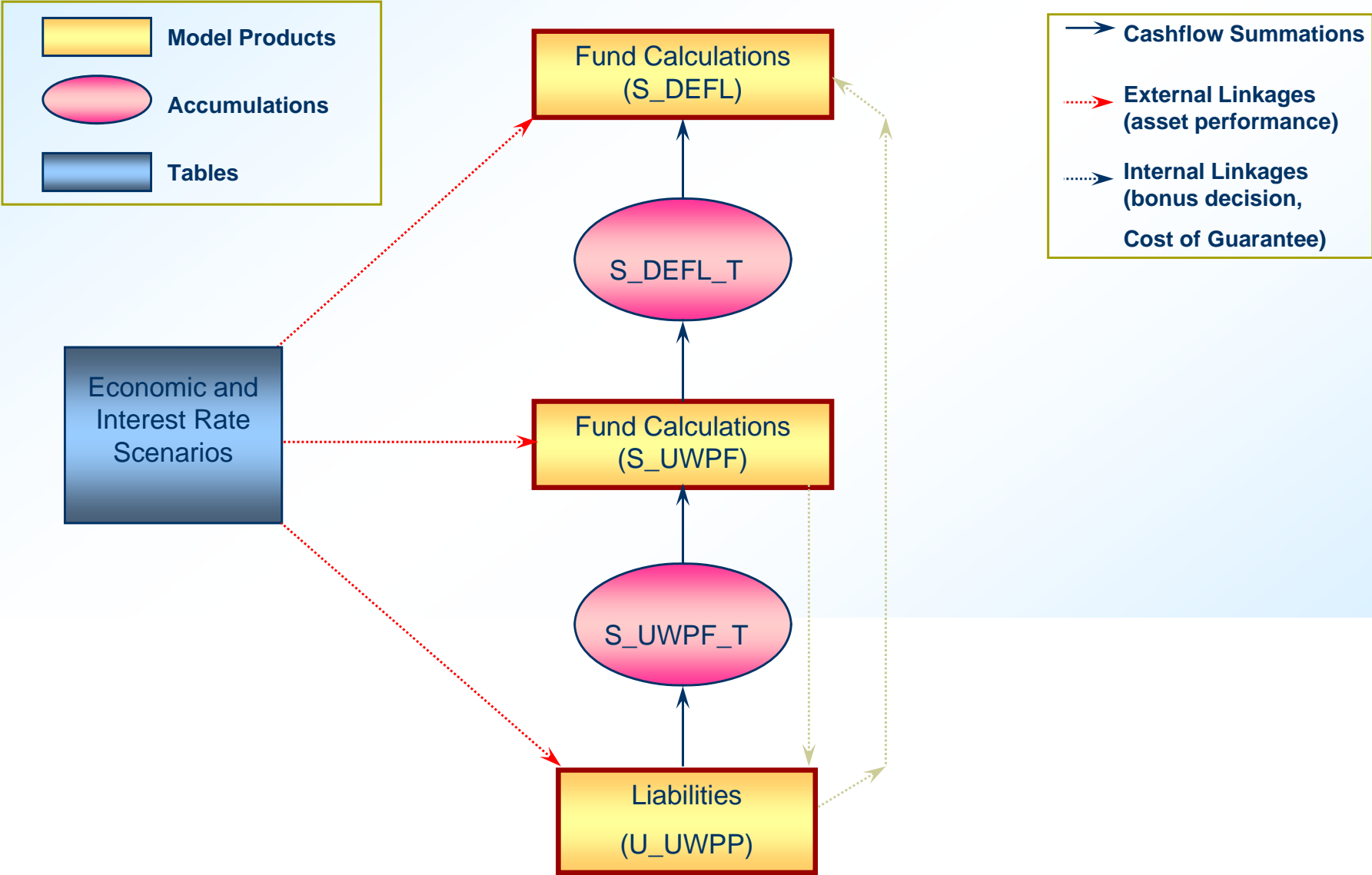
Model implications

Bonus decision for With Profits Business



Model implications

Bonus decision for With Profits business and use of Deflators



Model implications

Issues for the use of the model

Model Point
Information

Demographic
Assumptions

Expense
Assumptions

Investment Return
Assumptions

Risk Discount Rate
Assumptions

Existing Model
Model

Statutory Reserving

Business Planning

Embedded Value

Product Pricing

ALM

US GAAP

What is the
impact on my
current use of
the model ??

Conclusions

Development required

- ▶ **All of this is change is sensible and not just being driven by the IASB**

“We recommend that financial guarantees and onerous options in life insurance policies should be valued stochastically, and consistently with traded option prices in the market.”

Report of the FSA on the Review of the Regulation of Equitable Life

(ordered by the House of Commons)

- ▶ **Preparing your Model Office for Fair Value aligns your projection techniques with Economic Value techniques**
- ▶ **Biggest impact will be for With Profits business where stochastic and dynamic modules will be utilised**

Conclusions

Development required

- ▶ **The framework for Fair Value has not been fully decided upon**
- ▶ **All of the current thinking of what Fair Value will look like is possible now in Model**
- ▶ **Whatever direction the DSOP takes the Model team will react if further development is required**
- ▶ **What it means for YOU ??**

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Fair Value Calculations

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