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## Disclaimer

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**The following slides and comments should not be seen as necessarily reflecting current or past thoughts at past or current employers.**

**They are solely our thoughts.**

**Robert Whitehouse & Richard Martin**

## The Talk – Index

- Introduction and objectives of the talk
- The Operational Challenge
- The Governance Bubble
- Fair pricing:
  - General
  - Property Fund
  - Tax
  - Permitted Links
- Our Changing Future
  - Credit Risk
  - Solvency II
- Questions

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## The Talk – Introduction

### Guide description heading

- Unit-linked business is a significant part of many life companies. However involvement in the technicalities, controls and governance applied to this business line are not always high on an actuary's radar - "It's just long division isn't it?"
- New FSA direction gives an increased focus on oversight in this area. The session will explore why actuaries can add value by looking at some risk management and fairness challenges involved in running a U-L business.

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## The basic basics

**Unit Price = Value of assets / Number of units**

**View 1: We see everything**

**View 2: Something is hiding**

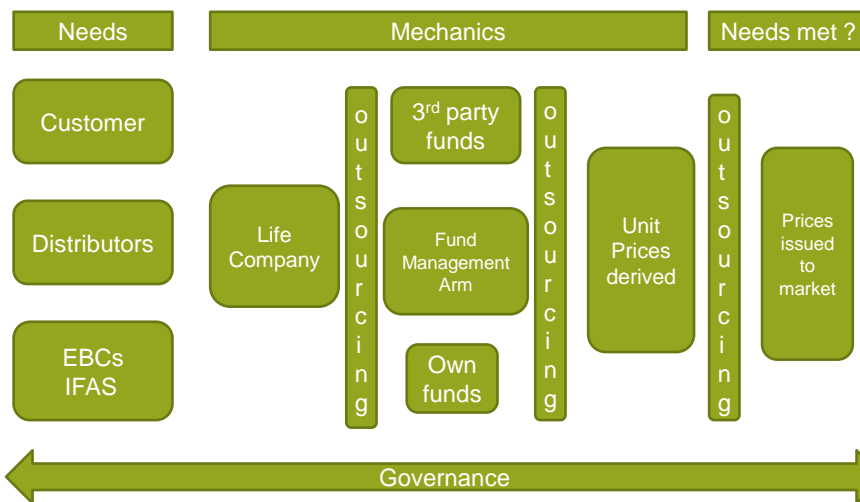
Everything we see  
hides another thing,  
we always want to  
see what is hidden  
by what we see.  
- Rene Magritte

**Unit price is the output of matching assets & liabilities.**

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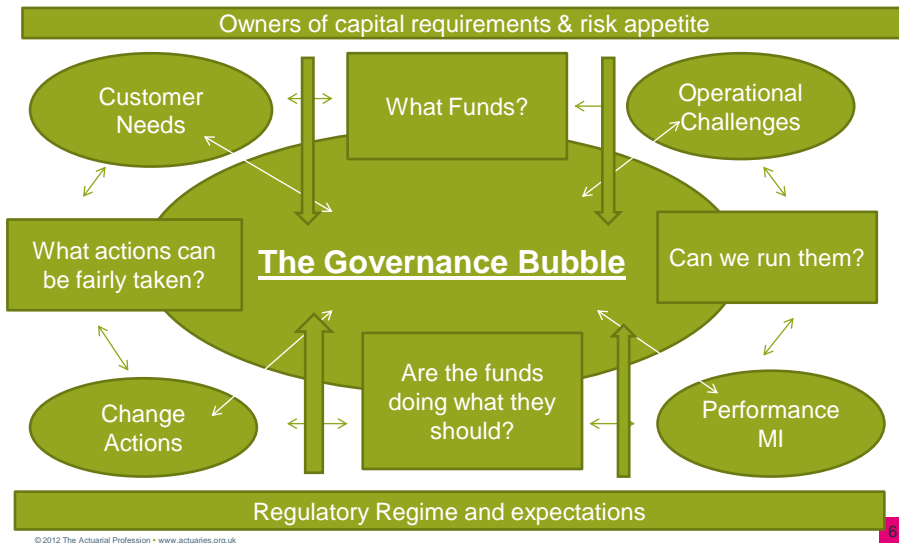
## Unit Linked Pricing – The Operational Challenge



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## Fair Pricing – The Governance Bubble



## So what is a fair price?

ABI Guide, section 4, sets out that:

4.1.1 Unit prices should be calculated in a fair and transparent manner, which means:

- 1) The pricing mechanism should not be used as a deliberate means of extracting value from the fund or from policyholders.
- 2) Cross-subsidy among policyholders or individual funds should be minimised as far as reasonably possible.

4.1.2 In particular, unit prices will be calculated so as to treat policyholders fairly, in accordance with policy provisions, legislation, insurance regulations, and FSA rules and guidance where appropriate.

## So what is a fair price?

“Cross-subsidy among policyholders or individual funds should be minimised as far as reasonably possible.”

Transaction	Direct	Pooled insurance fund	Pooling Benefit
Buy	Offer	Offer if on “grow” basis	Neutral?
		Bid if on “outflow” basis	Potentially?
Sell	Bid	Bid if on “outflow” basis	Neutral?
		Offer if on “grow” basis	Potentially?

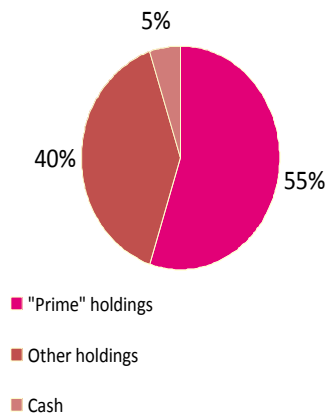
Governance challenge: What price is fair to charge on a pooled vehicle?

- Growing fund
- Contracting fund
- Large customer move against the price basis

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## Fair Pricing – The XYX Property fund



Fund description states that holdings will be '*predominantly* prime properties'.

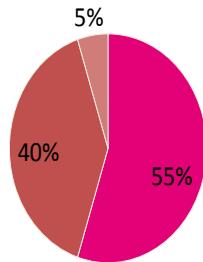
With a 55% holding in prime, the fund mandate is being met

but....

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## Fair Pricing – The XYX Property fund



■ "Prime" holdings

■ Other holdings

■ Cash

• Fund is in decline

• Available cash expected to last 6 months (at current run-rate).

*How do you meet the mandate?*

*How do you fairly price?*

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## Fair Pricing – The XYX Property fund

Options	Implications

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## Fair Pricing – The XYX Property fund

Options	Implications
Sell prime properties to realise cash	

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## Fair Pricing – The XYX Property fund

Options	Implications
Sell prime properties to realise cash	Fund may breach its stated aim

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount in value from current valuation

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount in value from current valuation
<b>Defer fund</b>	

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount in value from current valuation
<b>Defer fund</b>	Gives indication to the market that the fund is a forced seller

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount in value from current valuation
<b>Defer fund</b>	Gives indication to the market that the fund is a forced seller
<b>Do nothing</b>	

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount in value from current valuation
<b>Defer fund</b>	Gives indication to the market that the fund is a forced seller
<b>Do nothing</b>	Fund will run out of cash and then become forced seller

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## Fair Pricing – The XYX Property fund

Options	Implications
<b>Sell prime properties to realise cash</b>	Fund may breach its stated aim
<b>Sell other non-prime properties (urgently)</b>	Urgent sale may require significant discount from current valuation
<b>Defer fund</b>	Gives indication to the market that the fund is a forced seller
<b>Do nothing</b>	Fund will run out of cash and then become forced seller
<b>Something else ???</b>	

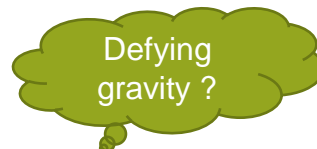
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## Tax – A question of practical fairness

### Example 1 – defying Newton

	Unit Value		
	Gross	Net	
Gross Return \ Tax rate	-	20%	15%
	1.000	1.000	1.000
10.00%	1.100	1.080	1.085
-9.09%	1.000	1.001	1.001



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## Tax fairness – The CGT rate challenge

### Some considerations

### Matching Challenges

**“I-E” run off**

Discount : what rate – zeros, expected returns....?

Undiscounted: Fund credit for upfront payments?

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## Tax fairness – The CGT rate challenge

### Some considerations

### Matching Challenges

**“I-E” run off**

Discount : what rate – zeros, expected returns....?

Undiscounted: Fund credit for upfront payments?

**Losses**

What allowance?

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## Tax fairness – The CGT rate challenge

Some considerations	Matching Challenges
<b>"I-E" run off</b>	Discount : what rate – zeros, expected returns....? Undiscounted: Fund credit for upfront payments?
<b>Losses</b>	What allowance?
<b>Asset Turnover rate</b>	Different rates for active and passive trading?

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## Tax fairness – The CGT rate challenge

Some considerations	Matching Challenges
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<b>Asset Turnover rate</b>	Different rates for active and passive trading?
<b>Operational</b>	Can you support multiple tax rates – realised, unrealised, gain, loss, by fund?

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## Tax fairness – The CGT rate challenge

Some considerations	Matching Challenges
<b>"I-E" run off</b>	Discount : what rate – zeros, expected returns....? Undiscounted: Fund credit for upfront payments?
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<b>Operational</b>	Can you support multiple tax rates – realised, unrealised, gain, loss, by fund?
<b>Sudden changes: Market &amp; Customer</b>	How quickly can you fairly react?

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## Tax fairness – The CGT rate challenge

Some considerations	Matching Challenges
<b>"I-E" run off</b>	Discount : what rate – zeros, expected returns....? Undiscounted: Fund credit for upfront payments?
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<b>Operational</b>	Can you support multiple tax rates – realised, unrealised, gain, loss, by fund?
<b>Sudden changes: Market &amp; Customer</b>	How quickly can you fairly react?
<b>Literature</b>	What have you actually told anyone?

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## Tax - A question of practical fairness

2011 returns			
	A	F	G
Tax Rate on s			19%-20%
Tax			
g			
Credit for			% c/f for future relief
	relief		

Many apparent variants of fair  
Conclusion : Tax is a key discretionary area

## Permitted Links – The Rules

### COBS 21.2 Principles for firms engaged in linked long-term insurance business

COBS 21.2.1 A **firm** must ensure that the values of its **permitted links** are determined fairly and accurately.

COBS 21.2.2 A **firm** must ensure that its **linked assets**:

- (1) are capable of being realised in time for it to meet its obligations to **linked policyholders**; and
- (2) are matched with its **linked liabilities** as required by the **close matching rules**.

COBS 21.2.3 A **firm** must ensure that there is no reasonably foreseeable risk that the aggregate value of any of its **linked funds** will become negative.

COBS 21.2.4 A **firm** must notify its **linked policyholders** of the risk profile and investment strategy for the **linked fund**:

- (1) at **inception**, and
- (2) before making any material changes.

COBS 21.2.5 A **firm** must ensure that its systems and controls and other resources are appropriate for the risks associated with its **linked assets** and **linked liabilities**.

COBS 21.2.6

- (1) A **firm** must ensure when selecting **linked assets** that there is no reasonably foreseeable risk of a conflict of interest with its **linked policyholders**.
- (2) If a conflict does arise, the **firm** must take reasonable steps to ensure that the interests of the **linked policyholders** are safeguarded.

COBS 21.2.7 In applying the rules in this section, a **firm** must consider the economic effect of its **permitted links** and **linked assets** ahead of their legal form.

COBS 21.2.8 A **firm** must notify the **FSA** in writing as soon as it becomes aware of any failure to meet the requirements of this section.

COBS 21.2.9 In considering what action to take in response to written notification of a failure to meet the requirements of this section, the **FSA** will have regard to the extent to which the relevant circumstances are exceptional and temporary and to any other reasons for the failure.



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## Permitted Links – Topical examples

- Fixed interest funds – permitted derivatives
  - *Swaps*
  - *Futures*
- Property funds – economic value
  - *Liquidity/valuation*
  - *RMBS*

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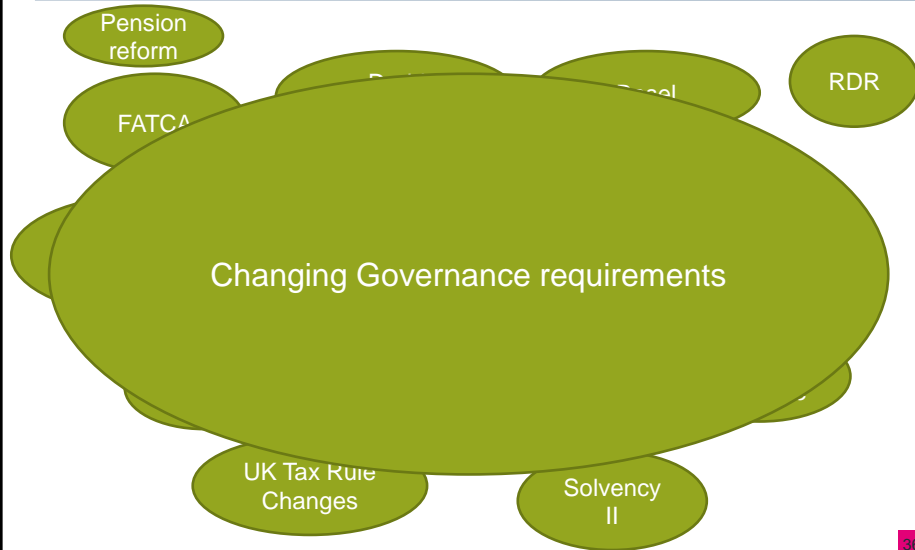
## Our Changing Futures?



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## Our Changing Futures?



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## Credit Risk – A unit linked challenge?

**Scenario:** Life Company X invests in Life Company Y's funds – via reinsurance

Y gets into difficulty and suspends fund dealing

X faces an immediate liquidity issue via t&c commitments

Y then becomes insolvent

- Y customers, on insolvency, may rank ahead of X customers.
- Ring-fencing on Y's UL funds may cease to apply
- Y creditors (inc Company X) may in extremis get £0 back.
- Y customers may be able to seek recovery from the FSCS
- X customers are unlikely to be able to as not direct investors in Y

So X runs:

- A liquidity issue whilst Y works out its position
- A credit issue (with liquidity concerns) when Y has.

Does Company X or its customers – linked or even non-linked - want this risk?

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## Credit Risk – Conflicting Requirements?

### Balance sheet Challenge versus Customer Expectations

Solvency/liquidity linked to the credit worthiness of a 3<sup>rd</sup> party

Difficult to offset credit risk

Does literature clearly transfer risk on?

If not, increased capital to support certain types of fund?

Are there solutions that address the issue?

NBC and VIF loss risk as funds liked and offered by others

Should understand market risk

Do they understand the link to Company Y as well as the general “stocks & shares” moves?

Like the (potential?) tax efficiency of a life assurance wrapper.

Loss probability feels extreme

May (wrongly?) expect FSCS cover

Funds have been around for sometime so why the issue now

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## Credit Risk – FSA observations

### Excerpts from FS 12/2

- Any reference to the extent to which FSCS cover applies to the policy must set out clearly instances where it does not. Without this requirement being met, it is not clear that the firm is treating the customer fairly. If the policy is silent on reinsurance credit risk exposure, our approach continues to be that the risk falls on the firm.
- We do not accept that policyholders bearing such risk is inherent in the general nature of unit-linked business.
- We are also not content for firms to seek to amend the terms and conditions of existing policies to shift, retrospectively, the risk from themselves and onto the policyholders without the policyholders' express agreement.
- We also believe that the risk of consumer loss is further mitigated by the increasing of insurers' capital requirements.

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## Unit linked liabilities under Solvency II

### SOLPRU 5

#### **Specific rules covering the valuation of technical provisions**

**5.6** Technical provisions must correspond to the current amount that the firm would have to pay in order to transfer its insurance and reinsurance obligations immediately to another Solvency II firm.

**5.7** The technical provisions are made up of the best estimate of the probability-weighted average of the future cash flows relating to the insurance or reinsurance obligations of the firm plus a risk margin representing the cost of holding regulatory capital in respect of those insurance and reinsurance obligations.

## Unit linked liabilities under Solvency II

### FS12/2:

On close matching requirements in COBS 21.2.2R, rules under SOLPRU 7.2.4R will require firms to closely match assets and liabilities. The draft rules in CP11/22 stated that "the firm must cover its technical provisions in respect of its linked long-term liabilities as closely as possible". To avoid doubt, this means firms will be required to closely match their unit-linked business.

## Unit linked liabilities under Solvency II

### Previously.....

Liability = Unit Face Value

### Under SII (broadly).....

Technical provisions = (Unit Face Value - VIF)

N.B. Not just limited to products with surrender penalty

## Unit linked liabilities under Solvency II

### Considerations for the insurer

Unit price integrity

Box management

Risk management

Capital management

## Unit linked liabilities under Solvency II

### Considerations for the insurer

<b>Unit price integrity</b>	Does this affect the pricing process ?
<b>Box management</b>	
<b>Risk management</b>	
<b>Capital management</b>	

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## Unit linked liabilities under Solvency II

### Considerations for the insurer

<b>Unit price integrity</b>	Does this affect the pricing process ?
<b>Box management</b>	What is the liability to match daily ?
<b>Risk management</b>	
<b>Capital management</b>	

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## Unit linked liabilities under Solvency II

### Considerations for the insurer

<b>Unit price integrity</b>	Does this affect the pricing process ?
<b>Box management</b>	What is the liability to match daily ?
<b>Risk management</b>	Does this introduce new risks or change their balance ?
<b>Capital management</b>	

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## Unit linked liabilities under Solvency II

### Considerations for the insurer

<b>Unit price integrity</b>	Does this affect the pricing process ?
<b>Box management</b>	What is the liability to match daily ?
<b>Risk management</b>	Does this introduce new risks or change their balance ?
<b>Capital management</b>	How is the capital position affected ?

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## Unit linked liabilities under Solvency II

### Considerations for the UL customer

#### Unit price integrity

Does this affect the pricing process ?

#### Security

Does this practice affect the security of the customer's claim ?

### Considerations for *other* customers

#### Security

Does the practice for UL affect the security of a customer's claim for non-linked business e.g. annuity ?

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## Unit Linked Governance and Actuaries

**Simplicity is in the eye of the beholder.**

**Actuaries can, do and should provide support and insight to improve the understanding of the risks involved in unit pricing...**

**Bringing transparency to the hidden**

Everything we see hides another thing, we always want to see what is hidden by what we see.

- Rene Magritte

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## Questions or comments?

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

