

Measurements of Employee Pension Liabilities

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Measurements of Employee Pension Liabilities

It's not difficult – it's just confusing!



Nature of Pension Benefits

Pension Benefits

- regular cash payments (**pension**) whilst alive
- single payments (**cash**) on death
(possibly other circumstances)



Measurements of Employee Pension Liabilities

- Pension Payments

Quantum - how much

Payment Risk - when and how many / how long

- Cash Payments

Quantum - how much

Payment Risk - when



Quantum

Quantum depends on

a) Benefit Formula

- fixed amount
- % or multiple of earnings
- % of earnings per year of service
- other alternative
- 'linked' increases



Quantum

b) **Linked Increases**

- actual earning increases
(% of promotion & wage growth)
- inflation (e.g. RPI, HICP, etc)
- fixed increases (% p.a. compound)
- discretionary increases



Payment Risk

Payment timing depends on “demographic” contingencies

- Life expectancy
- Death
- Leaving service
- Ill health
- Earlier Retirement
- Exercise of options



based on principle
of equal value



Measuring Pension Benefits

Value – capitalises pension benefits, allowing for:

- Quantum
- Payment Risk
- Time value of money

These are the fundamentals



Constituents of Value

Consumer	Producer
Quantum	Quantum
Payment Risk	Payment Risk
Time value of money	Time value of money
Preference	Preference
	Risk Capital Cost



- That's as difficult as it gets, but now for the confusing part!



Core Concepts

Concept	Issue	Questions
Value	Meaning of value	<ul style="list-style-type: none">- market/tradable value- other value meaning



Core Concepts

Concept	Issue	Questions
Accrual (of parts of the liability)	Separation of “past” and “future” events	Association of: <ul style="list-style-type: none">• benefit accrual to time periods• linkage increases to time periods
Example	Earnings increase due to past events	None Price inflation Wage inflation Seniority increases



Core Concepts

Concept	Issue	Questions
Time value of money	<ul style="list-style-type: none">• Asset based return• Risk free rate• Money based return	Does this depend on the objective of the measurement?
Example	<p>Discount Reference</p> <ul style="list-style-type: none">• Actual/notional asset portfolio• Absolute risk free or best hedge risk free• State currency v state debt	Income yield or total yield



Measurement Objectives

- Liability value/
accrual cost
 - present value of future benefit payments
- Funding Payments
 - amount of employer financing payments
- Funding/Solvency Capital
 - the required level of financing assets
- Capitalised
 - present value of employer financing payments



Common Confusion

- Most differences and confusion relates to different
 - core concept beliefs
 - measurement objectives



Questions & discussion

