Accounting for derivatives

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What are we going to cover?

- Practical accounting considerations for:
  - futures
  - swaps
  - options
  - forward FX
  - new instruments – longevity swaps

Accounting framework

2010 UK GAAP

- Statement of Recommended Practice for Pension Schemes
- CIPFA Code of Practice on Local Authority Accounting (2007)

2011 IFRS

- International Accounting Standard 26
- CIPFA/LASAAC Code of Practice on Local Authority Accounting in the United Kingdom 2010/11.

Accounting framework

- Derivatives stated at fair value
- Separate asset classes in net asset statement – no offset of assets and liabilities
- Comprehensive description of derivative terms in notes to the accounts
- Include in investment risk disclosures and pricing hierarchy analysis (levels 1, 2 and 3)

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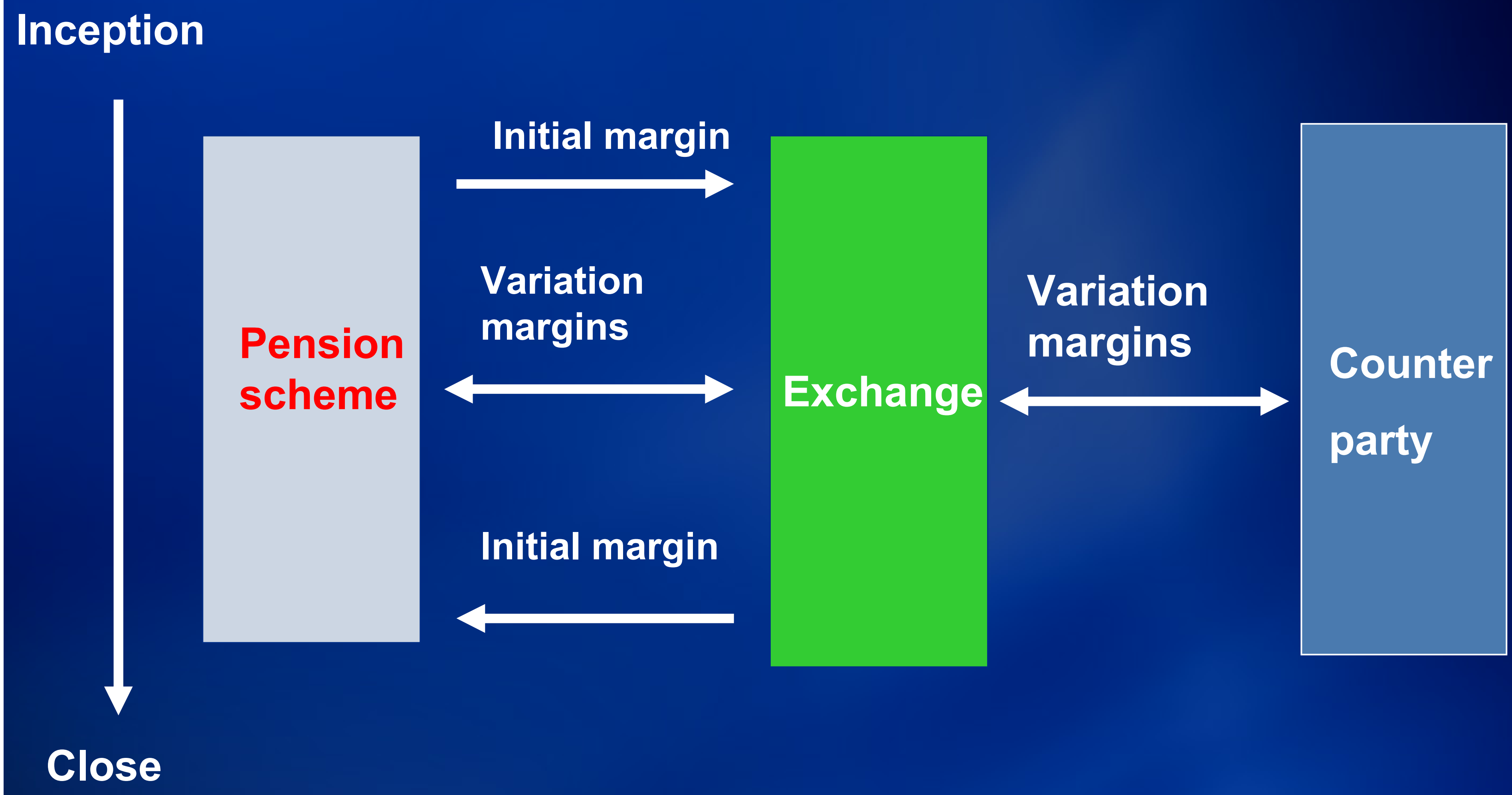
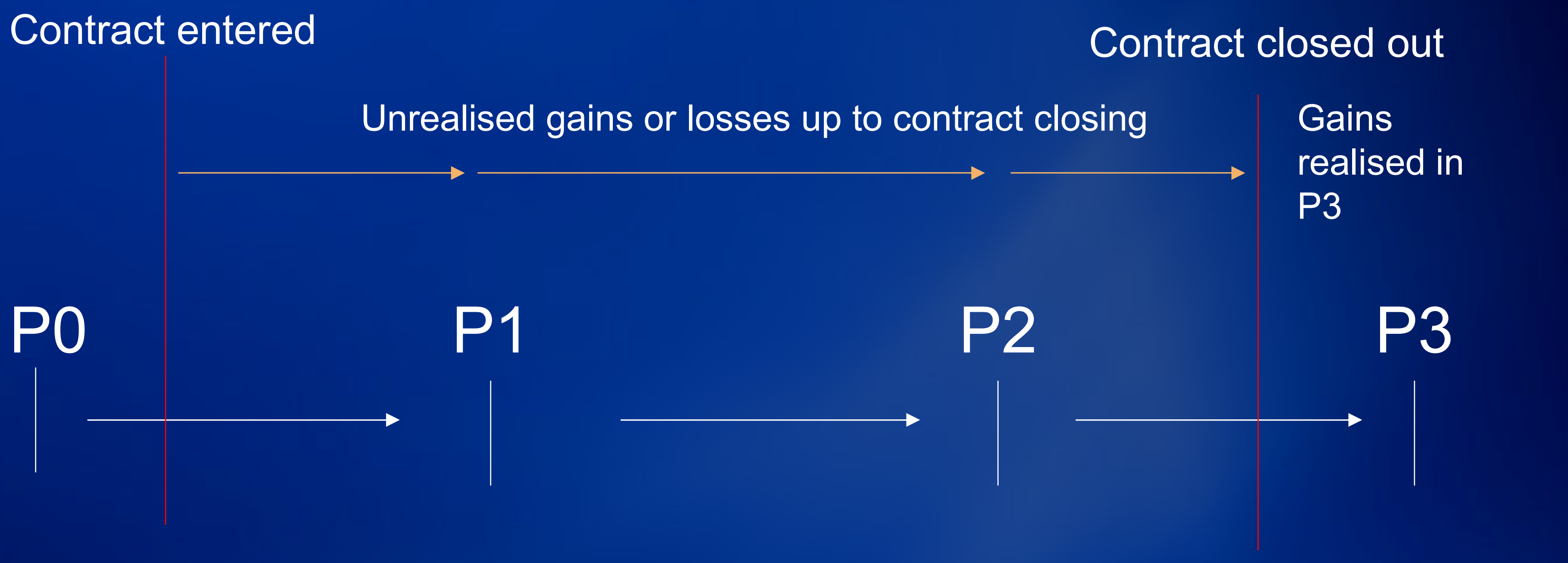
Futures

Futures –focus on cash flows



Futures accounting – treatment of variation margins/unrealised/realised gain and losses



Cash flows

Initial margin on inception of contract paid to exchange

Variation margin at end of P1 (to)/from exchange

Variation margin at end of P2 (to)/from exchange

Final variation margin to/from exchange and return of initial margin

Derivative accounting - futures

- no initial consideration so no purchase cost
- initial and variation margin cash movements are transfers between cash/amounts due to/from brokers
- unrealised gains/losses = typically variation margin cash movements over life of contract
- gains and losses are unrealised until the contract is closed out
- no sale proceeds
- economic exposure in notes to accounts

Futures

	Opening market value £000	Purchases / derivative payments £000	Sales / derivative receipts £000	Change in market value £000	Closing market value £000
Fixed interest	620,234	451,466	(495,134)	30,536	607,102
Equities	267,345	45,234	(34,245)	104,256	382,590
Derivatives:					
Foreign exchange forwards	3,049	1,751,345	(1,752,312)	2,100	4,182
Interest rate swaps	-	350,000	(350,000)	-	60,139
Futures	51,234	341,000	(332,095)	-	60,139
	941,862	**2,939,045**	**(2,963,786)**	**152,126**	**1,069,247**
Cash	(52,347)			2,434	(58,299)
Total	**889,515**			**154,560**	**1,010,948**

- There are two problems here which are very much linked – a large market value for the futures and a large negative cash balance or investment creditor.
- Another issue you may also see is futures with a £Zero market value.
- What is going on?

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Futures – SORP accounting

Set up of contract	Dr margin cash held at broker	1,000	
	Cr cash		1,000
Receive margin cash	DR margin cash	100	
	CR amount due to broker		100
Mark to market	DR derivatives (futures)	100	
	CR change in market value		100
Result:	Derivatives	100	
	Margin cash	100	
	Initial margin cash at broker	1,000	
	Amount due to broker		100
	Change in market value		100

- The SORP treats the receipt of margin cash as a payment on account to cover the credit risk.
- Until the contract closes, any change in market value is an unrealised gain.

Futures – Fund manager accounting

Set up of contract	DR bonds	2,000	
	CR cash backing		2,000
	Dr margin cash held at broker	1,000	
	Cr cash		1,000
Receive margin cash	DR margin cash	100	
	CR cash backing		100
Mark the contract to market	DR bonds	100	
	Change in market value		100
Result:	Bonds	2,100	
	Cash backing bonds		2,100
	Margin cash held at broker	1,000	
	Margin cash	100	
	Realised gains		100

Or derivatives of £0

- The fund manager is treating the receipt of margin cash as a realised gain.

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Futures comparison of accounting

	Fund manager	SORP
Derivatives	2,100	100
Derivatives cash backing	(2,100)	
Margin cash	100	100
Amount due to broker	-	(100)
Change in market value	100	100
Initial margin cash at broker	1,000	1,000

- No difference in net assets.
- No difference in change in market value.
- But a difference in the market value of the derivative.

Swaps

Swaps – reporting

Swaps reported as present value of the two legs eg

	£
Pay variable	**(100)**
Received fixed	**150**
Value of swap contract	**50**

Swap cash flows normally settled net

Derivative accounting - swaps

- no initial consideration – no purchase price
- account for net cash flows under swap as realised gains/losses or income/expense
- revalue swap at period end to fair value based on discounted future cash flows
- change in period end values = unrealised gain or loss
- collateral arrangements normally disclosed in the notes to the financial statements but watch out for re-hypothecation

Swaps

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Are we seeing £350 million spent and received on swaps or are we seeing the scheme entering into £350 million of interest rate swaps? How can we tell?...

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Swaps – practical considerations – reporting how we would like it

Gross up swap contract as assets and liabilities

		Asset	Liability
Contract A			
Pay (V)	(100)		
Receive (F)	110	10	
Contract B			
Pay (V)	(90)		
Receive (F)	70		(20)
Contract C			
Pay (V)	(110)		
Receive	140	30	

Swaps – practical considerations – reporting how it sometimes is

Pay legs		Assets	Liabilities
A Pay (V)	(100)	10	
B Pay (V)	(90)		(20)
C Pay (V)	(110)		
Receive legs			
A Receive (F)	110		
B Receive (F)	70		
C Receive (F)	140	30	

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SWAP collateral

SWAPS – key collateral considerations

Accounting – current PRAG guidance

- no impact on net asset statement
- Collateral deposited by counterparty for scheme = asset of counterparty
- Collateral deposited by scheme for counterparty = scheme asset
- Note to the accounts discloses collateral position

SWAPS – collateral

Swap in the money

Scheme	Global custodian	Broker	Counter party
SWAP £50 Cash £100 Total £150	Cash £100	Collateral £55	Swap £(50) Cash deposited as collateral £55

SWAPS - collateral

Swap out of the money

Scheme	Global custodian	Broker	Counter party
SWAP £(45) Cash £100 Total £55	Cash £50	Cash collateral £50	Swap £45

SWAPS – key collateral considerations

Re-hypothecation

- legal title of collateral assets passes to counterparty who can recycle them in their business
- Counterparty must return ‘equivalent’ collateral assets ie the same but not original
- Scheme retains economic benefits of collateral assets
- And vice versa if scheme receives collateral

SWAPS – collateral re-hypothecation

Swap out of the money

Scheme	Global custodian	Counter party	
SWAP £(45)		Swap	£(45)
Cash £100	Cash £50	Cash	£50
Total £55		Amount due to scheme	£(50)

SWAPS – collateral re-hypothecation

Swap in the money

Scheme

SWAP	**£50**
Cash	**£100**
Collateral cash	**£55**
Amount due to counterparty	**£(55)**
Total	**£150**

Global custodian

Cash £100

Collateral cash £55

Counter party

Swap £(50)

Forward foreign exchange contracts

Foreign exchange forwards

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Is it likely that a pension scheme with £1 billion of assets has had cash outflows of £1.7 billion of foreign exchange?

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Foreign exchange forwards

What is the custodian/fund manager doing?

- There is no cost to enter into a foreign exchange contract
- But to record the contract on the valuation system, both legs of the contract are entered.
- This allows the fund manager/custodian to value the contract
- Most custodians/fund managers account for forward foreign exchange contracts in this way and most 'SORP' reports provided have this grossing up issue
- The custodians will usually provide a report to 'correct' the accounting entries that have been made.
- the SORP allows grossing up for forward foreign exchange contracts but it would be better to net them down, BUT BE PRACTICAL!

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Options

Derivatives – options

- reported at fair value – use option valuation models
- premiums paid or received “deferred” over life of contract ie not realised until the contract closes
- no offset of asset and liability positions

Derivatives – options

‘Zero’ cost options

- Normally buy and sell options with same premium therefore no net purchase cost
- Sometimes cash flows only at end of contracts
- Not always picked up by global custodians investment reporting systems!
- Should be separately reported as assets/liabilities ie no offset

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New products – longevity swaps

Typical structure:

- variable receipts from swap provider based on pensions paid over time exceeding set limits
- fixed payments to swap provider

- Not strictly a derivative under IAS 39
- Valuation – mark to model/actuarial method
- Collateral arrangements as per interest/inflation swaps

Derivatives – Top Accounting ‘Watch Out’ issues

- Grossing up of legs of derivative contracts
- ‘Simplified’ futures accounting
- Economic exposure reporting of derivatives by investment managers/global custodians
- Lack of information on collateral positions/valuations
- Collateral re-hypothecation accounting implications
- Opaque/hard to understand reporting by investment managers/global custodians
- New types of derivative products
- Lack of understanding of derivative products by investment accounting service providers

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