ADEVA
TRAINING AND CONSULTING

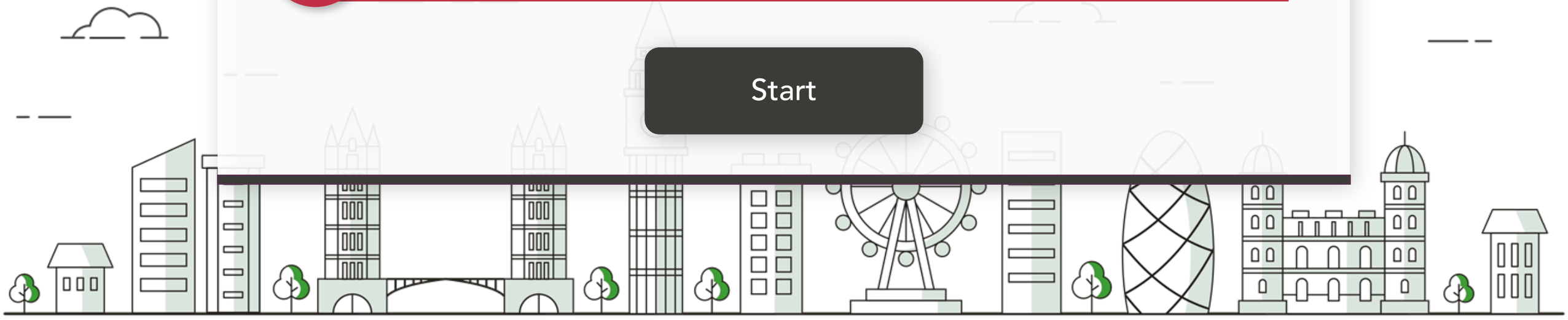
Welcome to

Accounting Principles

This eWorkbook will cover several areas of accounting principles including standards, loans and receivables, securities, derivatives and consolidation.

For best user experience, download this file onto your pc and open in a PDF viewer.

Start



Using this eWorkbook

This eWorkbook contains interactivity that is best viewed on a computer, and if you print it, some elements may not display as intended.

For the best experience, click on the navigation buttons at the bottom of each page to guide you through the learning. A summary of the button functions is provided below. Alternatively, you can navigate using keyboard shortcuts or the built-in PDF tools (as applicable).

Home: Go to the main menu.

Menu: Go to the content menu for the module.

Glossary: Go to the glossary.

Key learning points: Go to the key points covered.

Return: Go back to the last page you visited.

Previous: Go to the previous page.

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Focus your learning

We have identified the **key elements** - the essential information for mastering this topic - throughout this eWorkbook.

Please look out for the icons.

Main Menu

This eWorkbook consists of the following modules, which you can work through in any order. We have estimated the time each module will take to complete.

Module 1:
Accounting Standards
30 mins

Start

Module 2:
Loans & Receivables
1 hour

Start

Module 3:
Securities
1 hour

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Module 4:
Equity
30 mins

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Module 5:
Derivatives
45 mins

Start

Module 6:
Consolidation
30 mins

Start

Derivatives

Accounting Principles

Contents Menu: Derivatives

We estimate this module will take 45 minutes to complete.

You can jump to each topic by clicking on the headings below.

Topics

Key Aims

The aim of this section is to:

- Understand in-the-money versus out-of-the-money transactions
- Understand credit valuation (CVA) and other fair value adjustments
- Understand mitigation techniques: central clearing, netting and collateral
- Understand hedge accounting

Derivatives on the Balance Sheet

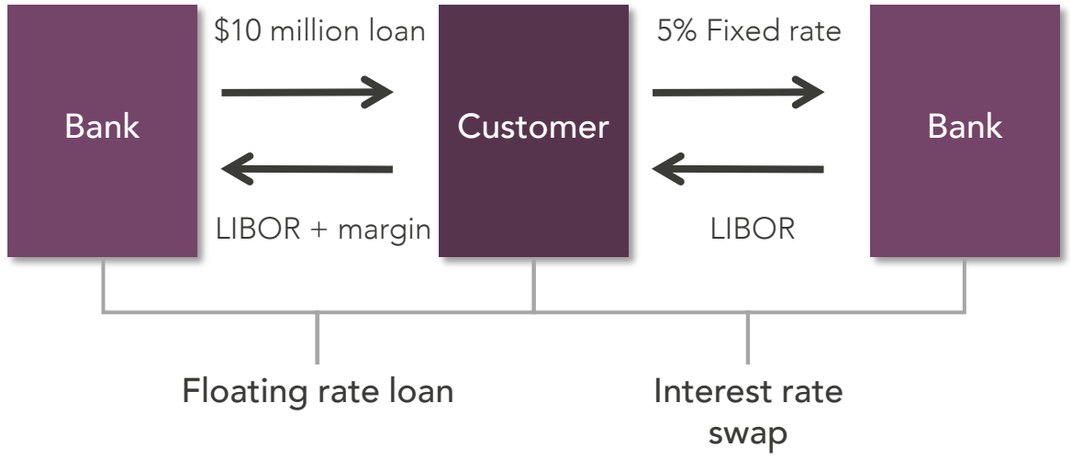
Derivative transactions will appear on the balance sheet at fair value with any changes in value usually going through the profit and loss account (except for certain derivatives accounted for as hedges).

The notional principal is not on the balance sheet as this full amount is not usually at risk but is used just as a means of calculating the cash flows. The notional is, however, disclosed in the footnotes to the accounts.

- Derivative contracts where the bank is making money are known as **in-the-money** transactions. In-the-money transactions appear on the asset side of the balance sheet.
- Derivative contracts where the bank is losing money are called **out-of-the-money** transactions. Out-of-the-money transactions appear on the liabilities side of the balance sheet.

Valuing a Derivative - Derivative contracts are usually agreed at the prevailing market price on that day e.g., the fixed rate part of an interest rate swap locks in the current market SOFR (5% in the example). The value of the swap on the day of contract is therefore zero as the bank is both paying and receiving 5%. However, if the SOFR rate moves, to say 4%, the bank is receiving 5% and paying 4%. This gain must be reflected in the income statement.

This diagram shows an example of an interest rate swap that a customer has used to lock in a fixed interest rate on a loan.



Click here to view **Case Study: Standard Chartered Bank**

Example: Standard Chartered Derivatives

USD million	2024		
Derivatives	Notional principal amounts	Assets	Liabilities
Foreign exchange derivative contracts:			
Forward foreign exchange contracts	4,923,991	54,913	51,128
Currency swaps and options	1,377,308	18,104	18,720
	6,301,299	73,017	69,848
Interest rate derivative contracts:			
Swaps	6,267,261	20,600	22,282
Forward rate agreements and options	294,705	2,233	2,771
Exchange traded futures and options	383,528	30	27
	6,945,494	22,863	25,080
Credit derivative contracts	227,675	397	2,320
Equity and stock index options	10,678	351	194
Commodity derivative contracts	142,393	1,274	1,052
Gross total derivatives	13,627,539	97,902	98,494
Offset	–	(16,430)	(16,430)
Net Total derivatives	13,627,539	81,472	82,064
		in-the-money	out-the-money

Notional principal is not on the balance sheet - only the fair value.

USD million	2024
Assets	
Cash and balances at central banks	63,447
Financial assets held at fair value through profit or loss	177,517
Derivative financial instruments	81,472
Loans and advances to banks	43,593
Loans and advances to customers	281,032
Investment securities	144,556
Other assets	43,468
Current tax assets	663
Prepayments and accrued income	3,207
Interests in associates and joint ventures	1,020
Goodwill and intangible assets	5,791
Property, plant and equipment	2,425
Deferred tax assets	414
Retirement benefit schemes in surplus	151
Assets classified as held for sale	932
Total assets	849,688
Liabilities	
Deposits by banks	25,400
Customer accounts	464,489
Repurchase agreements and other similar secured borrowing	12,132
Financial liabilities held at fair value through profit or loss	85,462
Derivative financial instruments	82,064
Debt securities in issue	64,609
Other liabilities	44,681
Current tax liabilities	726
Accruals and deferred income	6,896
Subordinated liabilities and other borrowed funds	10,382
Deferred tax liabilities	567
Provisions for liabilities and charges	349
Retirement benefit obligations	266
Liabilities included in disposal groups held for sale	381
Total liabilities	798,404

Extracted from the footnotes in Standard Chartered Bank's Annual Report 2024, page 332.

Credit Valuation Adjustments and Other Fair Value Adjustments

When valuing derivatives in the balance sheet at fair value, financial institutions have to adjust both for movements in underlying prices (e.g., FX) and other changes to the fair value.

The table below shows a number of risk and model related fair value adjustments.

HSBC	2024 USD m	2023 USD m
Type of adjustment		
Risk-related	634	692
– bid-offer	366	414
– uncertainty	98	75
– credit valuation adjustment	126	164
– debit valuation adjustment	(24)	(54)
– funding fair value adjustment	68	93
Model-related	50	63
– model limitation	50	63
Inception profit (Day 1 P&L reserves)	92	86
At 31 December	776	841

Credit Valuation Adjustments (CVA) arise from the market's perception of changes in the creditworthiness of counterparties e.g., if the counterparty is downgraded the value of the contract will fall.

Debit Valuation Adjustments (DVA) arise from the market's perception of changes in the financial institution's own creditworthiness.

Funding Valuation Adjustments (FVA) are an adjustment to reflect the funding cost of collateralizing an out of the money derivative position.

Amount deducted from in the money derivative assets on the balance sheet to reflect non price related fair value adjustments.

Extracted from HSBC's Annual Report 2024, page 388.

Derivative Risk Mitigations

Amounts owing between parties on derivatives contracts can be very significant and volatile and so the financial institutions usually reduce the risk using a variety of mitigations as shown below:

Central Clearing

This is a process whereby both parties to an over-the-counter transaction assign the transaction to a third party Central Clearing Party (CCP) e.g., CME (Chicago Mercantile Exchange – CME or LCH Clearnet). The CCP then arranges the clearing and settlement of the transaction and collects collateral from both sides. The effect of central clearing is that a type of payment netting is achieved.

Cash Collateral

Cash collateral is used on many over the counter derivative transactions. The collateral can both be upfront or initial margin or variation margin (nearly always used between financial institutions). Under variation margin the party which is out of the money posts collateral to the other party to cover the outstanding amount owed.

Payment Netting

Payment netting is a type of set-off. It is used in the normal course of business to offset cash flows between two parties on a given day in a given currency into a single net payable or receivable; payment netting is essentially the same as set-off.

Close-out Netting

Close-out netting is used only on default and leads to the termination of the contract and subsequent combining of positive and negative replacement values into a single net payable or receivable.

Securities Collateral

Securities collateral has the same purpose as cash collateral but involves the posting of securities as collateral.

Hedge

Financial institutions can hedge counterparty credit risk using credit derivatives, although this tends to only be done by the large derivatives players as a way of mitigating their counterparty risk and reducing capital requirements.

Test Your Knowledge

Choose one: Which of the following best describes the valuation technique(s) applied to derivatives in the balance sheet of a financial firm?

a. Fair value.

b. Notional principal.

c. Fair value for trading derivatives, amortized cost for hedging derivatives.

d. Fair value but after applicable deductions such as CVA, DVA and FVA?

Click here to view **Answer**

Test Your Knowledge - **Answer**

Choose one: Which of the following best describes the valuation technique(s) applied to derivatives in the balance sheet of a financial firm?

a.	Fair value.		
b.	Notional principal.		
c.	Fair value for trading derivatives, amortized cost for hedging derivatives.		
d.	Fair value but after applicable deductions such as CVA, DVA and FVA?	✓	All derivatives are valued in the balance sheet at fair value after applicable deductions such as CVA, DVA and FVA.

Accounting for Derivative Risk Mitigations

IFRS and US GAAP have very different policies for the recognition of derivative risk mitigations in the balance sheet.

Citigroup (USD millions)

Total derivatives	422,802
Cash collateral paid	
Less: Netting agreements	(334,900)
Less: Netting cash collateral received	(27,303)
Net receivables / payables included on the Consolidated Balance Sheet	60,599

Fair value of in the money derivatives including cleared transactions.

Includes approx. USD 38 billion of centrally cleared and USD 37 billion of exchange-traded transactions.

If reported under IFRS, the derivative assets would be approx. USD 423 billion (after netting exchange traded and cleared transactions).

US GAAP permits the bank to deduct both cash collateral received and the netting from the balance sheet.

Extracted from Citigroup's Annual Report 2024, page 260.

NatWest (GBP millions)

	Gross	IFRS offset	Balance sheet	Effect of master netting and similar arrangements	Cash collateral	Other financial collateral	Non-netted Derivatives	Net amount after effect of netting arrangements and related collateral
Assets								
Derivatives	96,624	(18,746)	77,878	(61,883)	(10,005)	(4,072)	1,918	528

If reported under US GAAP, the derivative assets would be approx. GBP 7.9 billion (GBP 77.9 m - GBP 61.9 m - GBP 10.0 m + GBP 1.9 m).

IFRS permits the bank to deduct central clearing and payment netting (shown here as IFRS offset) but NOT cash collateral received and close out netting.
In calculations of capital, IFRS firms are given credit for netting and cash collateral in a similar way as US GAAP firms.

Extracted from NatWest's Annual Report 2024, page 332.

Test Your Knowledge

Choose one: If a US financial firm under US GAAP and a European competitor adopting IFRS had identical portfolios of derivatives, with the same clearing, close-out and collateral arrangements, which one would have the largest derivative assets on its balance sheet?

a.	They would be the same.	☐
b.	The firm adopting US GAAP.	☐
c.	The firm adopting IFRS.	☐
d.	Derivatives are off balance sheet items and therefore there would be no impact upon the balance sheet of either.	☐

Click here to view **Answer**

Test Your Knowledge - **Answer**

Choose one: If a US financial firm under US GAAP and a European competitor adopting IFRS had identical portfolios of derivatives, with the same clearing, close-out and collateral arrangements, which one would have the largest derivative assets on its balance sheet?

a.	They would be the same.		
b.	The firm adopting US GAAP.		
c.	The firm adopting IFRS.	✓	Only payment netting is deducted under IFRS, whereas US GAAP allows the deduction of payment netting, close-out netting and cash collateral. Therefore, one would expect the derivative assets to be larger in the IFRS firm.
d.	Derivatives are off balance sheet items and therefore there would be no impact upon the balance sheet of either.		

Hedge Accounting for Derivatives

Where derivatives are used to hedge banking book items such as loans or deposits, the fair value treatment of derivatives can lead to timing differences in the recognition of the hedging benefits. To get around this problem, hedge accounting treatment allows the benefit of the hedge to be recognized against the underlying hedged item.

Broadly speaking, hedge accounting treatment works in 2 ways:

1. Offsetting of the movements on the derivatives against the hedged item.
2. Delaying recognition of gains or losses on the derivative until any gains or losses on the hedged item are recognized.

Under IFRS9, hedge accounting treatment has the following requirements:

- Be executed using a range of permitted hedging instruments.
- The hedge must be consistent with the risk management strategy of the firm.
- Demonstrate an economic relationship between the hedge and the underlying item.
- Derivatives which do not qualify for hedge accounting must be shown as trading derivatives with the gain or loss (both realized and unrealized) recognized in the profit and loss.

US GAAP and IFRS both recognize 3 types of hedge for accounting purposes:

	Examples	**Realized** gain and loss	**Unrealized** gain and loss
Cash Flow Hedge	Floating rate assets and liabilities (for example, receivables, investments). Highly probable forecast sales and purchases.	Profit and loss. Set off against underlying exposure.	Other comprehensive income - cash flow hedging reserve.
Fair Value Hedge	Fixed rate investments and liabilities (for example, holdings in fixed rate bonds. Firm commitments to buy or sell.	Profit and loss. Set off against underlying exposure.	Profit and loss. Set off against underlying exposure.
Net Investment Hedge	Net assets (equity) of foreign subsidiaries.	Profit and loss.	Other comprehensive income - net investment in foreign subsidiaries.

Hedge Versus Trading Derivatives

Many derivative transactions entered into by financial institutions are for risk management purposes but are not necessarily eligible for hedge accounting treatment.

Trading derivatives include both market making and customer transactions as well as hedges against a whole portfolio or assets or liabilities which do not qualify for hedge treatment.

Fair value hedges are interest rate swaps used to hedge fixed rate investments, loans and deposits.

Cash flow hedges are used to hedge floating rate receipts in foreign currencies, equity prices and interest rates.

Net investment hedges are FX hedges on the net assets of overseas subsidiaries.

Hedging derivatives are small relative to trading derivatives as this will NOT include portfolio hedges or derivative transactions used to "lay off" exposures to customers.

Standard Bank Group South Africa	Fair value of assets ZAR millions	Fair value of liabilities ZAR millions
Total derivative (liabilities) / assets held for trading	57,920	(74,061)
Derivatives held for hedging		
Derivatives designated as fair value hedges	2,820	(2,040)
Derivatives designated as cash flow hedges	4,806	(562)
Derivatives designated as net investment hedges	3	-
Total derivative assets / (liabilities) held-for-hedging	7,629	(2,602)
Total derivative (liabilities) /assets	65,549	(76,663)

Extracted from Standard Bank's Annual Financial Statements 2024, pages 43-45.

Test Your Understanding

Write your answer: Review the questions below and write your answers in the space provided.

How are derivatives reflected on the balance sheet? What does the asset represent and where is notional principal shown?	
What is CVA and DVA and where are they reflected in the accounts?	
What is the difference between US GAAP and IFRS treatment of netting and collateral and how does this impact balance sheet size?	
What are the three types of derivative hedge?	

Click here to view **Answer**

Test Your Understanding - **Answer**

Write your answer: Review the questions below and write your answers in the space provided.

How are derivatives reflected on the balance sheet? What does the asset represent and where is notional principal shown?	Derivatives are shown at fair value on the balance sheet less valuation adjustments such as CVA/DVA. The asset is the fair value of all positions where the firm is in the money. The notional principal is not on the balance sheet but usually disclosed in the notes.
What is CVA and DVA and where are they reflected in the accounts?	CVA is a credit valuation adjustment reflecting changes in the credit standing of counterparties who owe money to the firm. It is deducted from the derivative asset and any gain or loss reflected in the P&L. DVA is a debit valuation adjustment on the bank's own derivative liabilities with gains and losses similarly reflected in the P&L.
What is the difference between US GAAP and IFRS treatment of netting and collateral and how does this impact balance sheet size?	US GAAP allows deduction of close out netting and cash collateral, but IFRS does not, meaning IFRS firms with significant derivative activities have significantly larger balance sheets.
What are the three types of derivative hedge?	Fair value, cash flow and net investment.

Derivatives: Key Learning Points

1	Derivatives: Are valued at fair value through the profit and loss (unless treated as a hedge). Notional principal is not on the balance sheet but disclosed in the footnotes. In the money derivatives where the counterparty owes money to the financial institution are shown as an asset; out of the money derivatives where the firm owes money are shown as a liability.
2	In the money derivatives are stated net of credit valuation adjustments (CVA) to reflect any movement in the credit standing of the counterparty. Out of the money derivative liabilities are stated net of debit valuation adjustments (DVA) reflecting the firm's own credit standing.
3	Netting and collateral: US GAAP permits firms to deduct, payment netting, close out netting and cash collateral from derivative positions on balance sheet, and so balances are much lower than for firms reporting under IFRS. Under IFRS only payment netting agreement is recognized in the balance sheet.
4	Hedging derivatives: There are three types of hedge derivative – fair value, cashflow and net investment hedge and these permit the firm to match gains and losses on the derivative against the underlying. Despite a loosening of hedge accounting criteria under IFRS 9, the requirements to recognize a derivative as a hedge are often inconsistent with the way that banks hedge risks, and therefore many firms include portfolio and other hedges within trading assets and liabilities.