The term "hedging" describes the securing of an unsettled position by setting up an offsetting position. "Hedge accounting" is the term used when opposing value developments for a hedged item subject to a risk and a hedging instrument are offset in accounting practice. The aim of hedge accounting is to eliminate the net influence on the profit and loss account. Comprehensive regulations on hedge accounting are required due to the valuation concept in IAS 39 and IFRS 9, which values some financial instruments at fair value and some at amortised cost, and also due to the different effects on profit and loss. Some sections of IAS 39 were revised and extended in IFRS 9.

While the general rules for valuation call for hedging derivatives to be recognised at fair value and for value adjustments to be captured as directly affecting net income, changes in fair value – in so far as they lead to a book value that lies above the cost of purchase – are to be recognised as not affecting net income. If there were no accounting regulations, hedging relationships would lead to uneven P&L effects in this case. Therefore, the aim of the hedge accounting regulations in IAS 39 and IFRS 9 is to capture the value changes of the hedging instruments and the hedged items as largely compensating each other and as affecting or not affecting net income to the same degree.

The FlexFinance hedge solution fully supports the hedge management requirements of IFRS and reduces the P&L effects of the Mixed Model Approach.
The FlexFinance blueprint for Hedge offers users a solution that covers the full lifecycle of a hedge from designation to termination.
It fully supports IFRS requirements for documentation and the audit trail of a hedge relationship.
The effectiveness test can be carried out daily and its results can be tracked to the individual deal level via drilldown. The effectiveness tests can also be manually overridden whenever ineffectiveness should occur.

The blueprint “Hedge” entails the following components.

- **Hedge Management**
  - Support of identification and designation of hedged items and hedging instruments for a hedging relationship
  - Inclusion of a financial instrument with only a portion of its cash flows or fair value into the hedging relationship is possible
  - Freely definable hedge names
  - Choice of used hedge type and risk type
  - Deal search with a wide range of filter criteria for finding perfectly fitting hedging instruments
  - Portfolio assembly and time bucketing in the context of portfolio hedges
  - Documentation of risk purpose and risk strategy as well as additional documentation set up in PDF, Word, Excel etc.
  - Automatic event-driven messaging when ineffectiveness occurs
  - Possibility of manual interaction such as rebalancing or termination.

- **Valuation / Effectiveness Test**
  - The effectiveness test, financial accounting for hedged items and hedging instruments as well as reporting on hedge relations require fine granular valuation elements. These elements can be delivered by any third party tool or they can be calculated by FlexFinance components. These components are part of the blueprint “Valuation” and integrate perfectly with hedge components.

Valuation Elements	§§
Remaining capital/principal	
Interest Accrua, linear	
Premium/Discount Amortisation EIR	IFRS9 5.4.1
Transaction Costs Amortisation EIR	IFRS9 B 5.4.1/B 5.4.2
Impairment Adjustment / Unwinding	IFRS9 5.5.1 and 5.4.1 (b)
Forward Adjustment Amortisation EIR	IFRS9 B 3.1.4
Basis Adjustment Amortisation EIR	IFRS9 B 6.5.4
Hedge Adjustment Amortisation EIR	IFRS9 6.5.10
Fair Value Changes, Δ Market-Price	IFRS9 6.5.2, (IAS21)
Fair Value Cahnges, Δ Credit Spread	IFRS9 6.7.1, (IAS21)
Credit Valuation Adjustment	IFRS 13 82
Cross Currency Basis Spread	IFRS9 6.5.16

Diagram: Valuation elements supported by FlexFinance Hedge.

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- Since the financial crisis, due to market evolvements, tenor basis spread and currency basis spread have significant impact on valuation of financial instruments. At the same time the multi-curve valuation approach has been commonly adopted. In multi-curve valuation for collateralised transactions, the OIS curve is applied as the discount factor while cash flow forecasting is based on the forward rate curve related to specific tenor (3M, 6M etc).
- In case of uncollateralised transactions, the followings options are provided:
    - The OIS curve can be still used as a discount factor to calculate the so-called “no default” fair value. The fair value of the financial instruments will be then adjusted by CVA and DVA. As practice in some banks, regular LIBOR/EURIBOR can also be used as discount factor. Or,
    - The credit spread is applied on top of benchmark curve like the OIS or the LIBOR curve as part of the discount factor. This can be used in case the fair value of the financial instrument is always positive (as asset) or always negative (as liability)
- FlexFinance measures the effectiveness of a hedge relationship according to a pre-defined measurement schedule, which is configured according to your risk management strategy. At the most rudimentary level, the measurement takes place at the initial valuation of the deal and when the bank prepares its financial statements. The measurement takes place automatically.
- The following prospective and retrospective effectiveness tests are supported:

    1. Prospective test:
        - Critical Terms Match
        - Market Data Shift Method
        - Regression analysis (based on runs of market data shift method).
    2. Retrospective test:
        - Dollar Offset Method (ratio analysis)
        - Advanced Dollar Offset Method (threshold test + ratio analysis)
        - Regression Analysis
        - Benchmark Interest Rate Method
- Effectiveness Monitoring: It can be configured if the retrospective (mandatory for IAS 39) effectiveness and/or solely the prospective effectiveness (mandatory for IFRS9/IAS39) of the hedging relationship are checked. These checks can be performed at the beginning of and during the deal term.
    - The value of the expected highly effective compensation of future value changes for the hedged item and the hedging instrument is to be calculated (prospective effectiveness test).
    - Mandatorily in IAS 39 and optionally in IFRS 9, it is checked if the actual compensation lies in the range between ‘80% and 125%’ (retrospective effectiveness test). In addition to the range of ‘80% to 125%’ required by IAS 39, Flex Finance enables users to define an internal range that can, in turn, be used as an early warning system.
    - If a hedge becomes ineffective over time, Flex Finance supports the termination (IAS 39) or it can rebalanced (IFRS 9).

- **Hedge Financial Accounting**
    - Rule-based generation of debit/credit entries
- **Hedge Reporting**

Different **hedge types** are permitted under hedge accounting. Jabatix supports the creation of

- <u>Cash Flow Hedges</u>

A future cash flow that is safeguarded against certain risks that might affect profit or loss is defined as a cash flow hedge.

A typical example of a cash flow hedge is the safeguarding of interest payments for a variable-rate bond by a receiver interest rate swap which entails transforming the future variable interest payments into payments with a fixed amount.

The accounting practice in the Jabatix Hedge Manager for hedged items and hedging instruments in a cash flow hedge fulfils the requirements for Hedge Accounting under IFRS. The hedged item is still valued and accounted for in accordance with the regulations in force while the hedging instrument is designated at full fair value and is disclosed at this value on the balance sheet.

- <u>Fair Value Hedges</u>

A fair value hedge entails safeguarding against fair value changes in hedged items and hedging instruments. The following are to be recognised in profit or loss:

- the profit and loss from changes in the fair value of the hedging instrument and
- the profit and loss from changes in the fair value of the hedged item, in so far as these are related to the hedged risk.

The following table shows hedged risks and hedging instruments for loans support by FlexFinance Hedge

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Hedge Type		Hedged Risk	Hedging Instruments
Fair Value Hedge	Micro 1:1 Macro n:m	Interest Rate Risk	IRS, C-IRS
		Interest Rate Risk and Currency Risk	C-IRS
		Option Price Risk for Interest Rate Products	Caps, Floors, Collars, Swaptions, Futures
	Portfolio Fair Value Hedge	Interest Rate Risk	IRS
Cash Flow Hedge		Interest Rate Risk	IRS, C-IRS
		Intereset Rate Risk and Currency Risk	C-IRS
		Currency Risk	FX Forward Deals, FX Swaps

Diagram: Hedge Types for loans supported by FlexFinance Hedge.

This also applies if the hedged deal is also otherwise valued at amortised cost or the value changes are captured as not affecting net income in the revaluation reserve.

The value changes of the hedging instrument and the hedged item are therefore recognised (largely compensated) on the balance sheet as affecting net income.

Safeguards against different types of risk can be implemented for one hedge. FlexFinance supports hedging against the following types of risk:

- Interest rate risk
- Currency risk
- The combination of interest rate risk and currency risk

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