IFRS 9 – Revisions to the Accounting of Financial Instruments

Categorization

Main aspect

IAS 39 – Categorization:
There are four different categories and generous options for reclassification.

The aim of IFRS 9 is to reduce complexity and to improve the decision-making benefits for the addressee of the annual accounts.

IFRS 9 – Categorization:
Financial assets are classified according to
- The business model
- The characteristics of the receivable cash flows

There are two basic categories
- Amortized costs
- Fair value (through OCI & P&L)

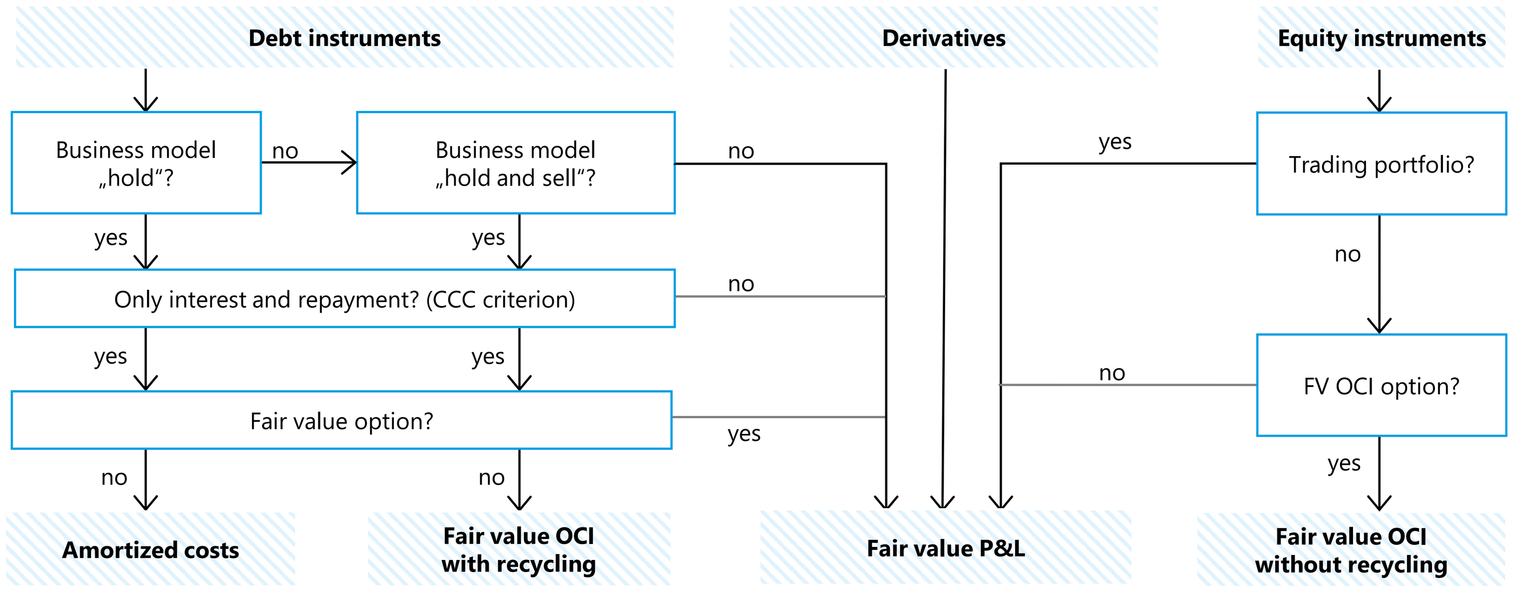
Reclassification

Only valid reason: changes in the business model

Amortized costs → **Fair value**
- Measurement at fair value on the reclassification key date
- The difference has to be recognized in the profit and loss statement

Fair value → **Amortized costs**
- Fair value on the reclassification key date is the new book value
- The reclassification key date is always the first day of the accounting period starting after the change of the business model

Classification into four categories

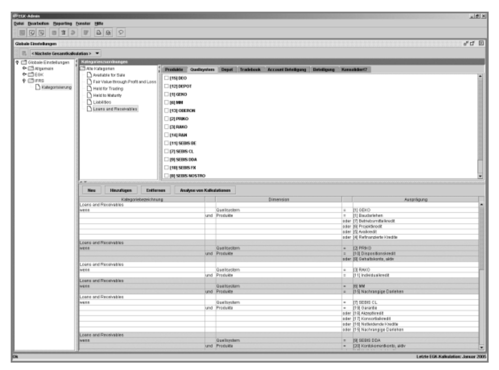


Embedded derivatives

Embedded derivatives are components of a structured instrument consisting of a non-derivative host contract and a derivative. Contrary to IAS 39, the derivative is not recognized separately from its financial asset host. Instead, under IFRS 9, the overall contract is recognized. In most cases this will lead to a measurement at fair value through profit or loss. In case of a non-financial host contract or financial liability, the accounting of the embedded derivative is still effected in accordance with IAS 39.

Our software solution

- Allocation of financial instruments to the defined IFRS categories
- Definition of the categorization rules through a graphical user interface
- Identification of conflicts and discrepancies in the categorization rules
- Audit-proof recording of all settings



Definition of categorization rules

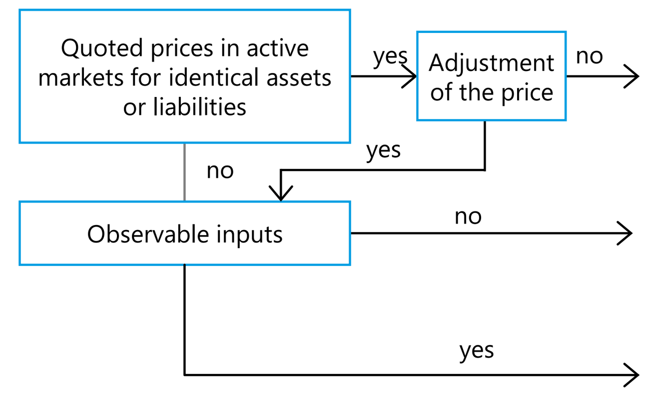
Measurement

Main aspect

IAS 39 – measurement:
Assets and liabilities are to be valued according to their categorization.

IFRS 9 – measurement:
Financial instruments are also to be valued according to their categorization. In general, measurement is at (amortized) cost or as (other liability" (through effective interest, if applicable) or at fair value.

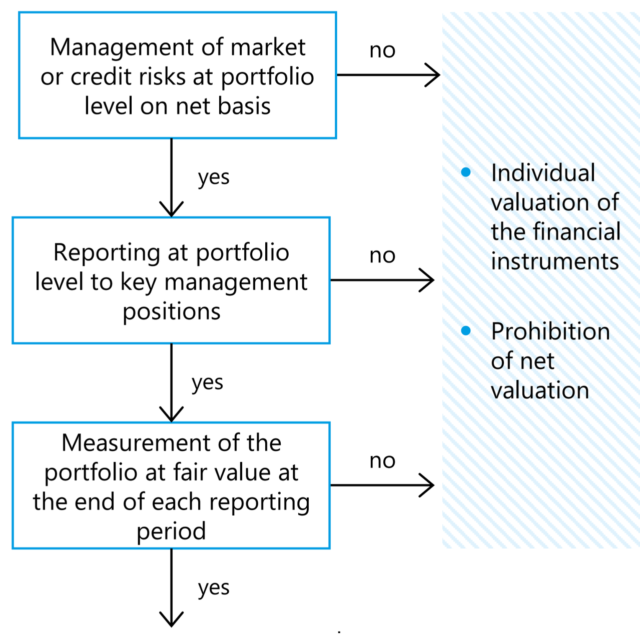
Fair value hierarchy under IFRS 13



Level 1	Unadjusted, quoted prices in active markets for identical assets or liabilities that the entity can access at the valuation date
Level 2	Directly or indirectly observable input factors ≠ level 1: • Quoted prices for similar assets/liabilities • Swap interest rates, credit spreads, implied volatilities etc.
Level 3	Valuation methods with input parameters not directly observable on the market

Fair value = Selling/transfer price for an asset/liability in a regular transaction under current market conditions between economically acting market participants in the principal market

Managed portfolios



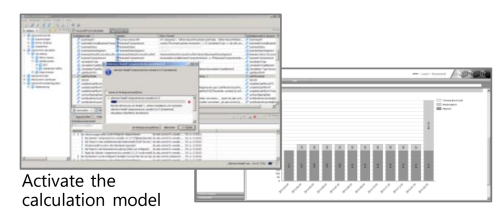
- Possibility to calculate the fair value at portfolio level
- But: no net accounting

Non-performance risk in fair value

Liabilities	**Own credit spread**	• The price of a liability needs to reflect ist solvency • Separately contacted guarantees must not be included in the price • With fair value liabilities, the effect of the own solvency usually has an impact on OCI
Derivatives	**CVA**	• The counterparty risk must be included in the fair value • It has a lowering effect on the price • Changes have a direct effect on the P&L statement
	DVA	• The own credit risk must also be included in the fair value • It has an increasing effect on the price • Changes have a direct effect on the P&L statement
	FVA	• The funding costs should also be included in the fair value • It has a lowering effect on the price • Changes have a direct effect on the P&L statement

Our software solution

- Supports all IFRS-relevant measurement methods (amortization at a constant effective interest rate, conncetion to an external price feed, mark-to-model valuation)
- Covers a broad product range in the customer business as well as in propietary trading



Activate the calculation model

Interest risk calculation

Consequences

Challenges
- Analysis of business models and portfolios as to the necessity of using the fair value approach and of the discretion available for AC measurement
- The classification is usually carried out at portfolio level – this mostly being the financial & risk management level of credit institutions. The aggregation of portfolios is possible, as long as this is compliant with the financial and risk management.
- Analysis of contractual CF characteristics

Approach
- Flexible simulation and pricing of the product portfolio to be calculated
- Identification of conflicts and discrepancies in the categorization rules

...

Challenges
- Analysis of the existing loan contracts for the determination of fair value using the DCF method or a suitbale model
- In the FV measurement, the solvency of the parties involved in the contract of a financial instrument has to be taken into account

Approach
Re-usable standard valuation algorithms (functional modules) of zeb or specific ones of the client

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Challenges
- The closer relation to risk management/treasury leads to improved realization capacities in hedge accounting, i.e. a stronger link to economic management possible
- Examination of the applicability of methods and parameters from risk controlling

Approach
Early analysis and simulation to assess the possible impact (positive/negative) of hedge accounting when changing to IFRS 9 general hedge accounting

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Challenges
- Early conception and implementation of the EL/ELL-based impairment model, perform impairment simulations for managing future P&L volatility & creation of transparency about the first-time adoption effect
- Review and follow-up checks of periodic changes of the credit quality for purposes of (re-)allocation via the three-stage logic

Approach
- Institution-specific definition of stage-transfer criteria depending on borrower groups, volumes, days in arrears, etc.
- Development of appropriate calculation models for EL/ELL and analysis of quantitative impacts

Hedge Accounting

Core aspect

IAS 39 – Hedge accounting:
Focus on balance sheet, only limited coverage of economic risk hedging under IAS 39 provisions

IFRS 9 – Hedge accounting:
Economic focus, aimed at an integrated view on risk management up to financial reporting hedge accounting

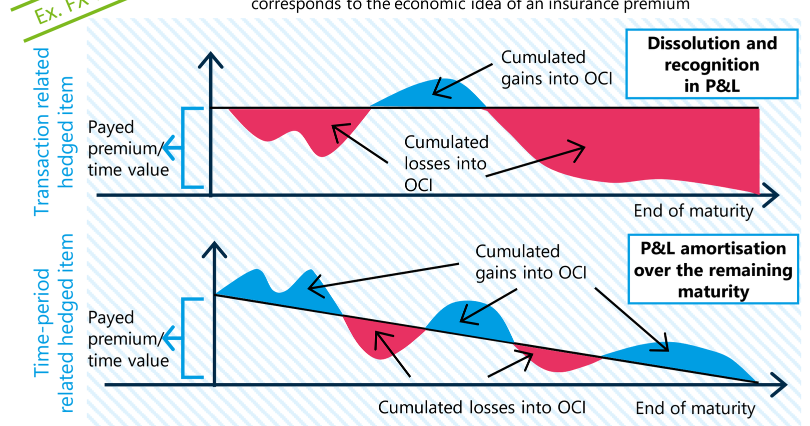
On effective date of first application of IFRS 9, an entity may choose to apply IAS 39 hedge accounting instead

Application of IAS 39 interst rate risk portfolio FVHA still allowed

Separation of time value of options, spot leg of forwards and FX-basis of the cross-currency swaps

Ex. FX-basis

The treatment of the FX-basis as costs when designating a cross-currency swap corresponds to the economic idea of an insurance premium



Beneficial for banks with ...
- One-sided risks
- Forward risks
- Cross-currency risks

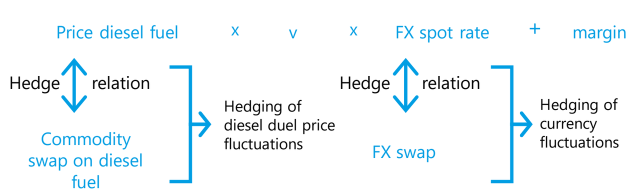
Designation of risk components of non-financials

Example: A wholesaler needs diesel fuel on a regular basis and therefore aims to hedge against increasing prices

1 **Suppositions**
- The risk components must be separately identifiable
- The fair value changes due to changes of the risk component must be reliably measurable

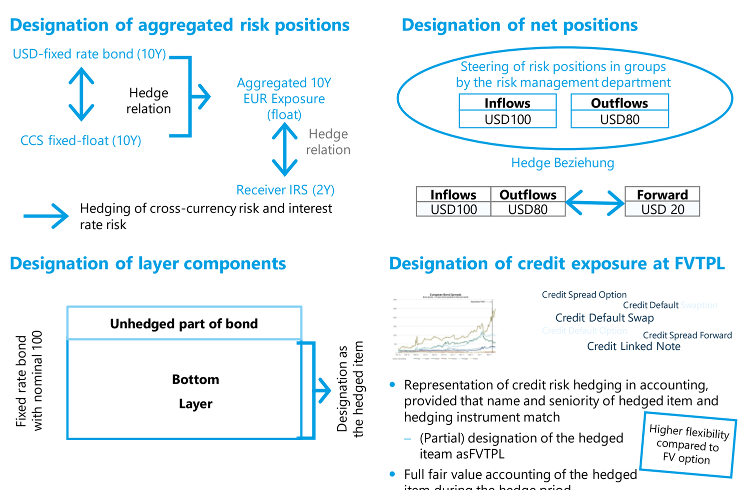
Price diesel fuel x tax x FX spot rate + margin

2 **Designation hedge relationships:**
Hedging of single risk components increases hedge effectiveness and threfore reduces P&L volatility



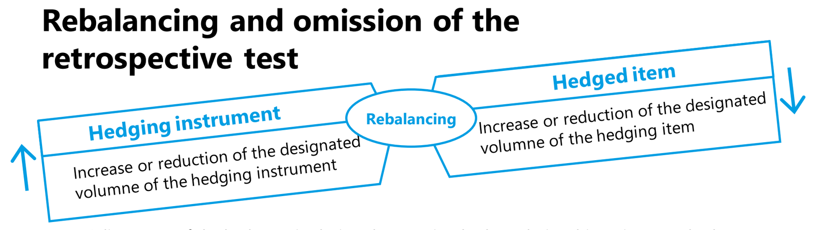
Beneficial for corporates with ...
- Business models depending on the price of base materials

Better representation of RM-strategies by extending the set of eligible hedged items



Beneficial for banks with ...
- Hedging of combined risk positions
- Many-sided hedging strategies in risk management

Rebalancing and omission of the retrospective test



- Adjustment of the hedge ratio during the ongoing hedge relationship to improve hedge effectivity
- Rebalancing has only prospective impact → direct recognition of the accumulated ineffectivity in the next profit and loss for the period

Example: Fair value hedge of a bond by means of a interst rate swap

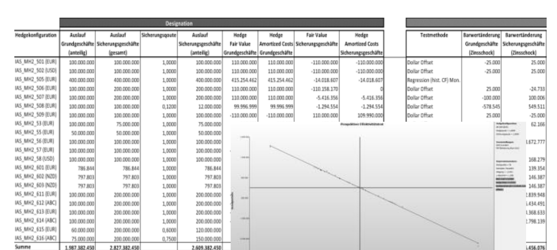
Period	Designated amount bond	Designated amount IRS	Hedge ratio	Hedge fair value bond	Fair value IRS	Line item	FV-change IRS	Effectivity	P&L recognition – rebalancing effect (IFRS 9)
0	- 500.000	500.000	100%	-500.000	0	0			
1	- 500.000	500.000	100%	-590.000	70.000	-90.000	70.000	78%	ineffective
1 (after rebalancing)	-389.000	500.000	77,8%	-459.020	70.000	-70.020	70.000	100%	-19.980

De-designation and re-designation under IAS 39 would result in P&L amortisation of 90.000 instead of 19.980!

Beneficial for banks with ...
- Hedge relations where hedging instrument and hedged item do not offset exactly
- Proxy hedging

Our software solution

- Implementation of all variants under IFRS 9 general hedge accounting
- Integrated simulation and decision-making model for ALM and hedge accounting
- Process support and extensive reporting functions



Prospective effectiveness test

Prospective effectiveness test by means of regression analysis

Impairment

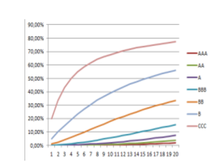
Core aspects

IAS 39 – Incurred loss model:
Loss provisioning at the point where the loss has acutally been incurred
Criticism: Losses often recognized too late and to an insufficient extent

IFRS 9 – Expected loss model:
Loss provisioning at initial recognition and subsequent adjustment depending on the credit quality changes of a financial asset
Idea: providing timely information on credit default risk and prevention of pro-cyclical lending

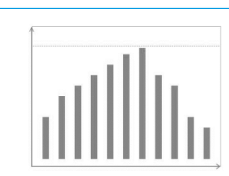
Varianten zur Modellierung der 1YR und Lifetime EL

PD



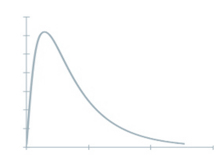
- Derivation of periodic forward PDs for the lifetime view with granularity at different levels
- Possible estimation methodologies:
  – Direct model-based estimation
  – Estimation through migration matrices
  – Life cycle models etc.

EAD



- Modeling of the customer repayment behavior, incl. Option rights within EAD
  – Setup of nominal repayment profiles and derivation of LT nominal amounts
  – Estimation of EAD vectors
- Distinction on- and off-balances sheet exposures

LGD



- Forecast of collateral value trend over the remaining time to maturity of engagements
- Consideration of the period-specific macroeconomic situation

Challenge Development and provision of suitable ELL calculation procedures depending on the composition of the portfolio and the bank-specific data availability

Our software solution

- Customized configuration of the stage allocation process
- Calculation of EL/ELL on single contract level based on CFs and parameters
- Comprehensive options for reporting and simulations over the course of time

3-stage impairment model and categorization requirements

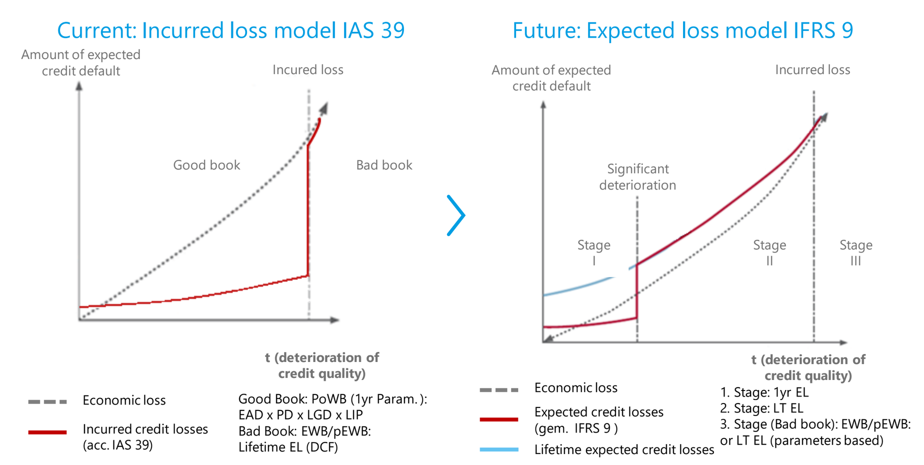
Deterioration of the credit quality since the conclusion of the transaction

	Stage 1	Stage 2	Stage 3
Stage	Performing	Underperforming	Credit impaired
Contents	• Credit quality equals investment grade and/or no significant aggravation of the credit risk	• Credit quality equals investment grade and a significant deterioration of the credit quality (not impaired)	• Evidences for a value adjustment are available (incurred)
Ripro[1]	• 12-month expected credit losses (EL)	• Lifetime expected credit losses (ELL)	• Lifetime expected credit losses (ELL)
Interest rate	• Effective interest rate on gross book value	• Effective interest rate on gross book value	• Effective interest rate on net book value

Challenge
- Setup of a categorization logic for the allocation of transactions to the corresponding stage and definition of the required valuation (EL or ELL)?
- Comparison of the categorization between the previous and the current period in order to identify shifts between stages (deteriorations and improvements possible)

1) Risk provision

IFRS 9: Incurred vs. expected loss model



- With the new impairment model, loss provisions are already recognized initial recognition of the asset
- Transition to expected lifetime credit loss causes a „leap" in the amount of loss provisions

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