# IFRS 9 – Hedge accounting ED

## DACT

10 March 2011

**Warning:** This presentation contains decisions and discussions based on the Exposure Draft.

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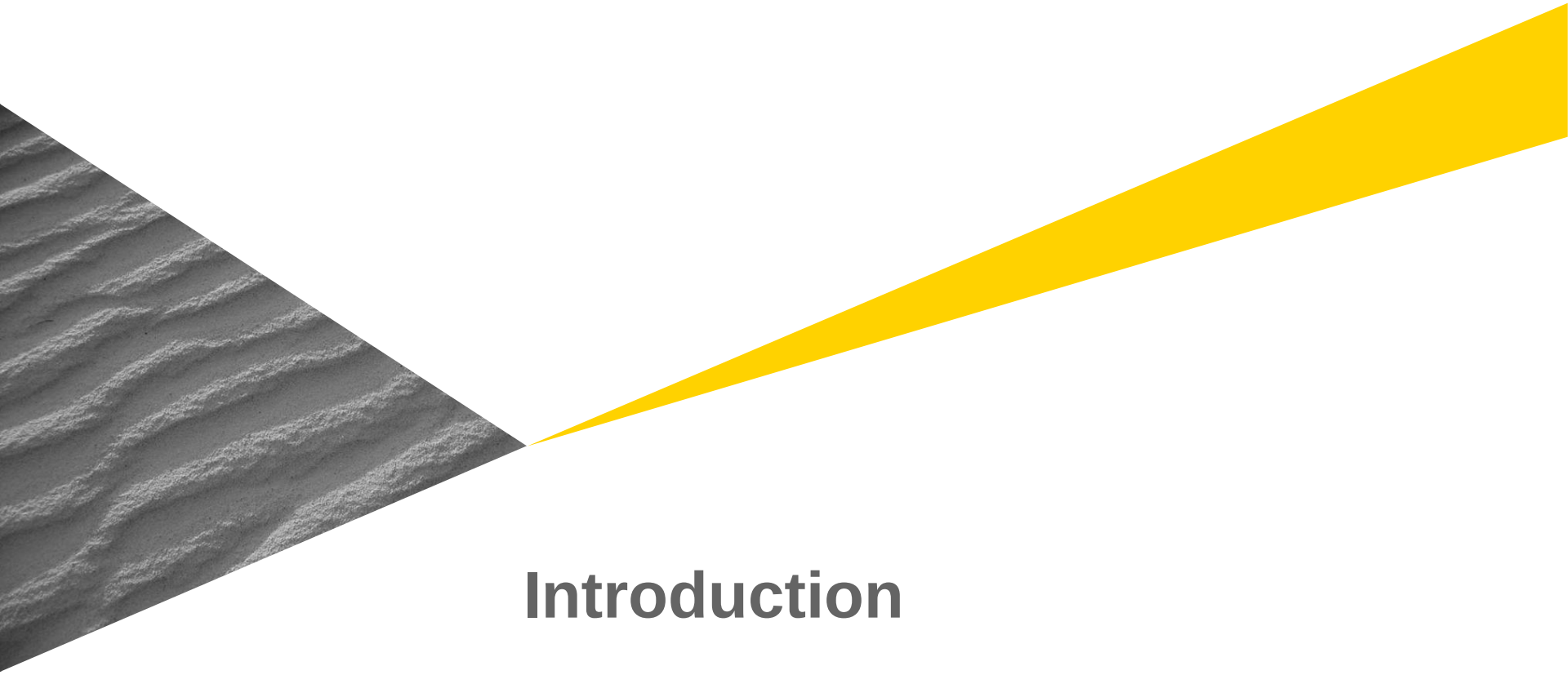
# Agenda

- Introduction
- Objective of hedge accounting
- Criteria for hedge accounting
  - Eligible hedge relationships
  - Hedge effectiveness assessment
  - Measurement of hedge ineffectiveness
  - Hedge documentation requirements
  - Significant disclosure requirements
- Hedge accounting mechanics
  - Changes to fair value hedge accounting
  - Hedge rebalancing and discontinuation
  - Time value of options



# Introduction

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# Financial instruments: timeline

| | H2 2009 | H1 2010 | H2 2010 | H1 2011 | H2 2011 |
|---|---|---|---|---|---|
| **Classification and measurement** | | | | | |
| ▸ Financial assets | **IFRS** | | | | |
| ▸ Financial liabilities | | **ED** | **IFRS** | | |
| **Impairment** | **ED** | | | **Supp/ IFRS** | |
| **Hedge accounting** | | | **ED** | **IFRS** | |
| ▸ Macro hedging | | | | **ED?** | **IFRS?** |
| **Balance sheet offsetting** | | | | **ED/ IFRS** | |
| **Derecognition – improved disclosures** | | | **IFRS** | | |

# Objective of hedge accounting

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# Objective of hedge accounting

- The objective of hedge accounting is to represent in the financial statements the effect of an entity's risk management activities that use financial instruments to manage exposures arising from particular risks that could affect profit or loss. This approach aims to convey the context of hedging instruments in order to allow insight into their purpose and effect.

# Criteria for hedge accounting

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# Eligible hedge relationships

- Hedging of risk components
  - Eligible risk components
  - Common ineligible risk components
- Derivatives included as hedged items
- Designation of portions
- Hedging of closed groups
- Equity investments designated as FV through OCI

# Hedging of risk components

- Issue under IAS 39:
  - Misalignment of hedge accounting and risk management strategy
    - Many risk management strategies manage exposures by type of risk rather than type of instrument
    - Hedge accounting uses the entire item as the default hedged item
  - Differentiation between financial and non-financial instruments
    - For financial items IAS 39 allows designation of risk components as hedged items if they are identifiable and measureable
    - For non-financial items this is prohibited irrespective of whether or not risk components are identifiable and measureable (except for foreign currency risk)
  - Inability to hedge components can have a major impact on hedge accounting result
    - In some cases leading to increased P&L volatility compared to a similar entity where no economic hedging was undertaken

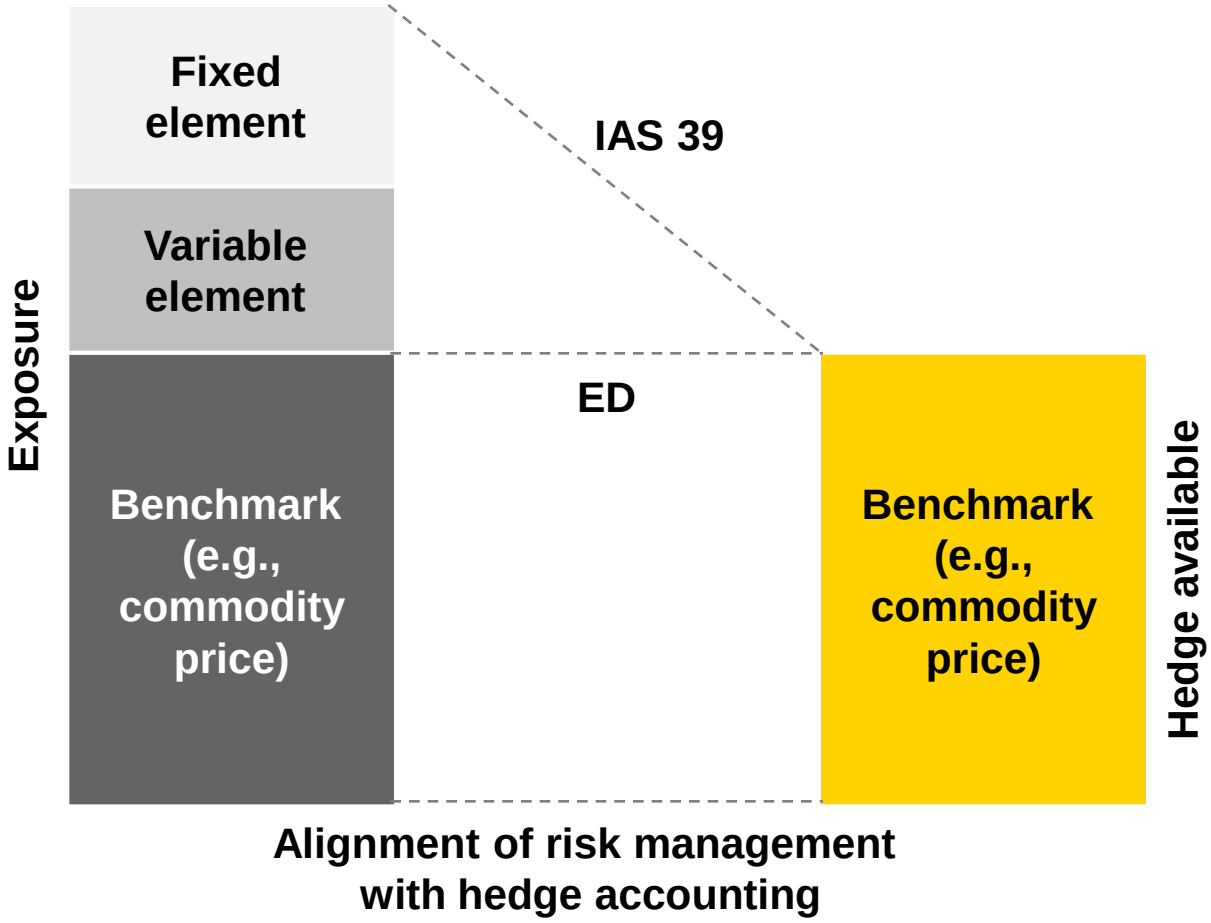
# Eligible risk components (cont'd)

- Works well for financial instruments to separate interest rate and FX risk
- However the July 2008 Amendment to IAS 39 on Eligible Hedged Items, indicated that **inflation** is not a separately identifiable risk and cannot be designated as the hedged risk unless it represents a contractually specified cash flow
  - E.g., Not possible to designate the inflation component of a fixed interest rate as it is not considered to be separately identifiable
  - E.g., Possible to designate the inflation rate as the inflation-linked coupon on a debt instrument

# Hedging of risk components (cont'd)

- Hedging of risk components
- Permitted, if ***separately identifiable*** *and* ***reliably measurable***
  - For both financial and non-financial hedged items
  - Components need ***not*** be contractually specified
  - Retain restrictions regarding the designation of risk components when the designated component would exceed the total cash flows of the hedged item e.g., the 'sub-Libor' issue
  - Needs guidance for evaluating the facts and circumstances with regard to particular market structure to which the risk relates and in which the hedging activity takes place
  - Price elasticity is key in the analysis

# Eligible risk components (cont'd)



# Common ineligible risk components – credit risk

- Under IAS 39, it has been very difficult to achieve any kind of hedge accounting for hedging of credit risk
- Issues:
  - Credit derivatives are commonly used to hedge undrawn facilities or loan commitments which are out of scope for IFRS 9 thus FVO is not available for them
  - Even for on balance sheet exposures, the FVO would not be helpful as:
    - Have to designate at initial recognition
    - Must apply to the entire instrument not just a proportion
  - CDS prices are not considered as a proxy for measuring credit risk for hedge accounting purposes. It is also impossible to determine the 'intrinsic value' of a CDS as it is a binary option
- Risk management strategies are normally dynamic thus a flexible solution is required

# Common ineligible risk components – credit risk (cont'd)

- Accounting mismatch exists where the fair value changes of the hedging credit derivative is reflected in P&L with no offset with the fair value changes of the loans or loan commitments for changes in credit risk
- IASB Staff proposals:
  - Specific rule for hedging credit risk only
  - Electing FVTPL
    - Proportions
    - Turning on/off

# Common ineligible risk components – the 'sub-Libor' issue

- An entity uses a derivative (hedging instrument) that is based on a benchmark risk (Libor) to hedge a financial instrument whose effective interest rate is lower than the benchmark rate (sub-Libor), thus the total cash flows are less than those associated with the benchmark (i.e., a negative spread to Libor)
- Issue – is there a Libor component of an interest-bearing hedged item if its EIR is lower than Libor? If so, can the Libor-component is an eligible hedged item?
- Restrictions retained of IAS 39.AG99c-d regarding the designation of risk components when the designated component would exceed the total cash flows of the hedged item
  - E.g., Entity A issued a bond paying 6% (prevailing market rates+1% credit) two years ago and now wishes to swap into floating as part of a fair value hedge but the market rate for the IRS is now 7.5%
  - However, can apply hedge accounting where all of the cash flows of the entire hedged item is designated for changes attributable to Libor – creating ineffectiveness

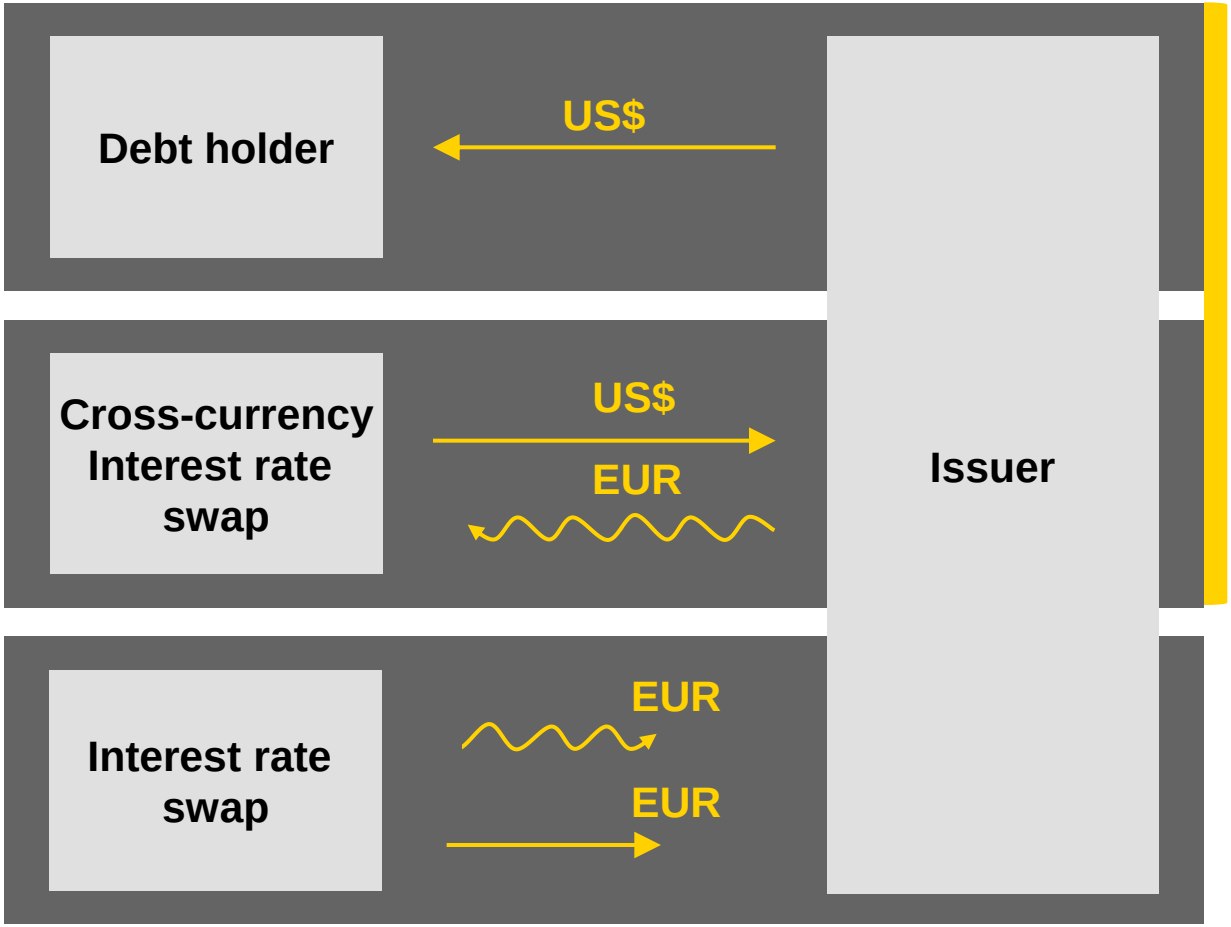
# Derivatives included as hedged items

- Entities commonly use different risk management strategies for FX risk and IR risk, typically because the exposures are managed for different time horizons and at different times
- E.g.
  - For a USD 10-year fixed rate loan an Entity may hedge the foreign currency (FX) risk for the entire term of the debt instrument with a fixed-to-floating cross currency interest rate swap (CCIRS). Subsequently it decides floating rate exposure in its functional currency is only preferable for the medium term (say greater than two years), with fixed rate exposure in its functional currency for near two years.
  - An Entity expects to issue foreign currency floating rate debt in six months time and wishes to lock in the functional currency interest rate today. If both the issuance of debt and transacting a floating to floating cross currency swap are highly probable, a floating to fixed functional currency IRS may be designated as a cash flow hedge relationship

# Derivatives included as hedged items (cont'd)

- **Under current IAS 39**, it is prohibited to designate the existing FX derivative as part of the hedged item. As a result, the interest rate hedge is often left at FVTPL, which results in overstating P&L volatility. Alternatively, if the interest rate hedge is included within a hedge relationship, overstatement of hedge ineffectiveness results, from the necessity to de-designate the derivative that is part of the synthetic exposure (debt issuance and FX hedge) and then re-designate it in combination with the derivative (interest rate hedge) as the hedging instrument. This means the first derivative (FX hedge) is already in or out-of-the-money at the time of re-designation, which results in hedge ineffectiveness
- **Under the ED**, the fixed rate debt and the 10-year fixed-to-floating cross-currency interest rate swap (CCIRS) in combination can be viewed as domestic 10-year variable rate debt for hedge accounting purposes. Hence this synthetic domestic debt can be designated as a hedged item in second hedge relationship

# Derivatives included as hedged items (cont'd)




**Not allowed as hedged item under IAS 39**

**Under new proposals, derivatives can be designated as hedged items, including when hedged exposure is a combination (derivative + non-derivative items)**

# Derivatives included as hedged items (cont'd)

- E.g., A EUR functional currency Entity issued a 10-year fixed rate debt of USD100m at 4%
- Risk management strategy:
  - Hedge **FX risk** using a 10 year fixed USD to floating EUR CCIRS to swap USD100m into EUR145m at 3M EURIBOR+10 bps
  - Hedge **IR risk** arising from the 2-year interest cash flow in EUR using a 2-year IRS (receiving 3M EURIBOR and pay 4.5% on EUR145m nominal amount)

| Hedge designations | Fair value hedge | Cash flow hedge |
|---|---|---|
| Hedged item | USD Fixed rate debt | USD Fixed rate debt and CCIRS |
| Hedging instrument | CCIRS | IRS |
| Hedged risk | FX | Interest rate |
| Life of hedge relationship | 10 years | 2 years |

# Designation of portions

- IAS 39 permitted the designation of a proportion of a hedged item within a hedge relationship, e.g., 80% of EUR100m fixed rate bond for both fair value and cash flow hedges.
- However for cash flow hedges only, under IAS 39, it was possible to designate layers of hedged items, e.g., the first EUR300k of forecast sales in January
- The new proposal is to permit the designation of portions or layers of hedged items within fair value hedges as well
- Will be a requirement to be able to appropriately identify the hedged item, in order to measure ineffectiveness

# Designation of portions (cont'd)

- In particular where the hedged item has some non-performance risk, it would be common risk management practice not to hedge the full amount.
- E.g.,
  - Entity A has a signed contract with Entity B to purchase 10 items of machinery for EUR10m, in total. Although it is a legally binding contract, Entity A is aware that Entity B may not be able to deliver all 10 items of machinery. Hence Entity A chooses to hedge only EUR8m of the FX exposure, in line with its risk management policy. If Entity A is able to designate the first EUR8m of cash flows under the contract, then if one or two items of machinery were not delivered this would not impact the effectiveness test of the eight that were delivered
  - Buy back a fixed rate bond (more later)
  - Hedging a fixed rate asset when expect to sell some
- In addition the ability to designate hedged items in layers may also minimise ineffectiveness when impairment is recognised on fixed rate assets

# Designation of portions (cont'd)

- Designating the bottom layer portions will not eliminate all ineffectiveness from 'underhedging'
  - Hedge ineffectiveness from the bottom layer hedge will still arise if fair value movements of the hedged bottom layer is different to the fair value movements from the hedging instrument.
    - E.g., as a result of basis risk inherent in the hedge relationship, derivative counterparty credit risk, etc
- Hedge of portions for fair value hedges is only permitted if the fair value of any termination option in the hedged item is not affected by the hedged risk, i.e., option to prepay at fair value.
- Usual hedge eligibility requirements apply for hedges of portions

# Designation of portions (cont'd)

- E.g., At 1 September 2010 Entity C issued EUR100m of fixed rate debt with a **prepayment** option at fair value. Entity C has a risk management policy to have less than 50% of debt at fixed rate, hence it transacts EUR50m IRS receiving fixed, paying floating. There is a chance that Entity C will repay EUR30m of the debt at the end of the year. Entity C has the following hedging designation choices:
  1. Designate a 50% proportion of the debt as the hedged item
  2. Designate the bottom EUR50m of debt as the hedged item
  3. Designate the top EUR50m of debt as the hedged item

- Outcome will change dependent on the designation

# Hedging of closed groups

- Requirement to demonstrate that risk management on a group basis
- Same eligibility requirements apply as for one to one hedges
- No requirement for all items in group to be proportionally impacted by the hedged risk but
  - If hedging portions of closed groups, the performance of the hedge should be expected to be the same regardless of which items in the group are ultimately included in the portion.
- Can combine group hedges, e.g.,
  - Sub group 1 bottom layer of USD400k from group of 10 firm commitments purchases expected to occur in 6 months time, and
  - Sub group 2, bottom layer of USD100k of a group seven firm commitments expected to occur in 18 months time, as part of a six month rolling FX strategy
- Bottom layer means the first USD400k and USD100k per sub group respectively, not the first USD500k of either sub group

# Hedging of closed groups – net positions

- Net positions should be eligible hedged items for all fair value hedges and some cash flow hedges
- Designations would still need to be performed on a gross basis
- For cash flow net position hedges, there are restrictions to prevent recognition of value changes of anticipated transactions in profit or loss or in other comprehensive income
  - The effect of this restriction is that a net position of hedged items, in a cash flow hedge, would not be eligible for hedge accounting, if the offsetting cash flows affect profit or loss in different periods

# Equity investments at fair value through OCI

- Hedge accounting prohibited for equity investments for which the OCI presentation alternative is selected, as the hedged item does not affect P&L
- This could result in the possible discontinuation of certain hedges
- For example:
  - Entity hedges the equity share investment in a direct supplier (common East Asian practice)

# Hedge effectiveness assessment

- The objective of effectiveness assessment testing is:
  - To ensure that the hedging relationship will produce an unbiased result and minimize ineffectiveness. This for accounting purposes, hedging relationships should not reflect a deliberate mismatch between the weightings of the hedged item and the hedging instruments within the hedging relationship
  - In addition, hedging relationships are expected to achieve offsetting of changes between the hedged item and the hedging instrument that are attributable to the hedged risk (other than accidental offsetting)

# Hedge effectiveness assessment (cont'd)

- No bright line 80 to125% effectiveness pass/fail test
- Prospective test only
- Requirement to amend effectiveness test methodology
- Appropriate effectiveness assessment methodologies
  - Qualitative or quantitative assessment
  - Influence of materiality
  - Use of hypothetical derivatives
  - Expectation of unbiased result
  - All known sources of ineffectiveness
  - Perfect effectiveness or the best reasonably achievable
  - Risk management strategy
  - Reduces risk

# Practical methods to assess effectiveness

As discussed in B33, an entity chooses its effectiveness assessment method on the expected hedge ineffectiveness including its sources.

B33:

"…an entity shall use a method that captures the relevant characteristics of the hedging relationship including the sources of hedge ineffectiveness. Depending on those factors the method can be a qualitative or a quantitative assessment."

Zero/low expected hedge ineffectiveness:

- Qualitative assessment
- Simple scenario analysis (f.e. rates up and down)

Higher level of expected hedge ineffectiveness:

- Scenario analysis using multiple scenarios
- Regression analysis
- Monte Carlo simulation

# Hedge ratio and ineffectiveness

$$HR = \frac{N_{Instrument}}{N_{Item}}$$

$N_{Item}$= amount of hedged item

$N_{Instrument}$=amount of hedging instrument

$$\text{Ineffectiveness}_t = \Delta FV_{Item,t} \cdot N_{Item} - \Delta FV_{Instrument,t} \cdot N_{Instrument} \Leftrightarrow$$

$$\text{Ineffectiveness}_t = N_{Instrument} \cdot \left[ \frac{\Delta FV_{Item,t}}{HR} - \Delta FV_{Instrument,t} \right]$$

Hence, ineffectiveness is a function of the chosen hedge ratio. As the requirements in IFRS 9 discuss properties of the distribution of expected ineffectiveness of the life of the hedge relation, we may need to change the hedge ratio to achieve our goal.

# Hedge ratio and ineffectiveness (cont.)

Distribution of ineffectiveness over the life of the hedge relationship

1. Unbiased result → mean of the distribution = 0
2. Minimize expected ineffectiveness → minimize standard deviation of the distribution

Changes in the hedge ratio will influence the mean of the distribution. The standard deviation will be independent of changes in the hedge ratio (for linear exposures).

IFRS 9 effectively allows for differentiation of expected ineffectiveness in different market structures.

# Measurement of hedge ineffectiveness

- No change to IAS 39 measurement rules
- All ineffectiveness must be recognised in P&L
  - Includes effect of credit risk
  - Includes time value of money (difference in timing of cash flows)
- Measurement using a dollar-offset basis, i.e., change in fair value of hedged item against the change in fair value of the hedged instrument
- Will need to consider the impact of rebalancing on measurement
- Recognition will differ based on whether it is a cash flow hedge or a fair value hedge
  - For cash flow hedges, no ineffectiveness if cumulative change in FV of hedging instrument is < cumulative change in FV of hedged item
  - For fair value hedges, any ineffectiveness will be a transfer from OCI
- Ineffectiveness measurement result need not directly impact success of failure of assessment test

# Hedge documentation requirements

- Hedge documentation is still a requirement
- But may be a more **dynamic** document to reflect any necessary changes to the hedge relationship after initial designation, in order to fully comply with the risk management strategy
- The formal hedge documentation would still include:
  - Risk management objectives and strategy for undertaking the hedge
    - It would be key to refer to the risk management strategy in detail
      - Expect additional details compared to existing hedge documentations
      - Better link to actual risk management strategy
    - The risk management may be documented in an ‘umbrella’ document
    - But needs to be a dynamic document
  - Date of designation and approval

# Hedge documentation requirements (cont'd)

- Type of hedge
  - Fair value, cash flow or net investment hedge
  - No changes are expected
- Hedged item or transaction
  - Identifying the hedged item is necessary to
    - Assess hedge effectiveness
    - Measure ineffectiveness
    - For cash flow hedges, determine when to reclassify from OCI to P&L
    - Determine the P&L geography – where to recognise gains/losses from hedging instruments, i.e., which P&L line- driven by the hedged item
- Hedging instrument
  - Must include any new hedging instruments that are transacted or closed out in line with any changes to the risk management strategy
  - In practice these may be documented in supporting work papers

# Hedge documentation requirements (cont'd)

- Hedged risk
  - Clearly identify if hedging a risk component
- Method of assessing hedge effectiveness
  - Must include how the effectiveness test will be performed with some indication on the expected level of effectiveness – if it is shown that the effectiveness will be above or below the expected level of effectiveness, a rebalancing is needed
  - Must be up to date
- Method of measuring and recording ineffectiveness
  - No changes

# Significant disclosure requirements

- IFRS 7 to be expanded, entities will need to disclose:
  - All exposures that are managed
  - Risk management strategy
  - The extent to which risks are hedged
- Fair value hedges
  - Cumulative gain/loss of hedged item highlighted as a separate line item on the balance sheet
- The effect of hedge accounting on the primary statements to be presented in a tabular format by type of risk and type of hedge

# Hedge accounting mechanics

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# Changes to fair value hedge accounting

- Changes to fair value hedge accounting
  - Aligned with mechanics for cash flow hedge accounting
  - FV changes in hedged item and hedging instrument to be recognised in OCI
  - Any ineffectiveness to be transferred to P&L immediately
  - Cumulative gain/loss of hedged item presented as a separate line item on the balance sheet
  - 'Lower of test' used for cash flow hedges not applied to fair value hedges
    - For fair value hedges, recognise ineffectiveness if cumulative change in FV of the hedging instrument is <> cumulative change in FV of the hedged item
    - For cash flow hedges no ineffectiveness if cumulative change in FV of hedging instrument is < cumulative change in FV of hedged item

# Changes to fair value hedge accounting (cont'd)

## FV of hedged item > FV of hedging instrument

| | |
|---|---|
| FV change of hedged item | 100 |
| FV change of hedging instrument | (80) |
| Accounting – hedged item: | |
| DR Cumulative FVH adjustment (BS) | 100 |
| CR OCI | 80 |
| CR Hedge ineffectiveness (P&L) | 20 |
| Accounting – hedging instrument: | |
| Dr OCI | 80 |
| Cr Hedging instrument (BS) | 80 |

- No net impact on OCI
- Ineffectiveness taken to P&L
- Under cash flow hedge rules, no ineffectiveness would be recognised

## FV of hedging instrument > FV of hedged item

| | |
|---|---|
| FV change of hedged item | 80 |
| FV change of hedging instrument | (100) |
| Accounting – hedged item: | |
| Dr Cumulative FVH reserve (BS) | 80 |
| Cr OCI | 80 |
| Accounting – hedging instrument: | |
| Dr OCI | 80 |
| Dr Hedge ineffectiveness (P&L) | 20 |
| Cr Hedging instrument (BS) | 100 |

- No net impact on OCI
- Ineffectiveness taken to P&L
- Same treatment as cash flow hedges

# Hedge rebalancing and discontinuation

- Under current IAS 39 guidelines dedesignations are required for most changes to the hedge relationship
  - Rebalancing after hedge effectiveness test was failed
  - Proactive rebalancing to preserve effectiveness in future
- However, IAS 39 permits hedges to be discontinued for any reason prospectively
- Under the ED hedge rebalancing will be required, such that we expect a significant reduction in hedge dedesignations
  - In addition voluntary dedesignations are prohibited under the new rules

# Hedge rebalancing and discontinuation (cont'd)

- Discontinuation of hedge accounting is mandatory where the hedge relationship no longer meets the criteria for hedge accounting
  - Hedged item no longer exists or is not highly probable
  - Hedging instruments are closed out or mature
  - Hedge relationship is no longer expected to meet risk management objective
- Adjustments to eligible hedge relationships will only result in discontinuation of the relationship if as a result of a change in risk management approach
- Rebalancing a hedge relationship is required and will be driven by the effectiveness assessment test, such as when some of the variables affecting the hedging relationship change so that the effectiveness assessment test is no longer met i.e., ineffectiveness is higher than the upfront parameters for expected ineffectiveness
  - If effectiveness assessment test indicates that there is bias in a hedge relationship and/or the hedge relationship is not expected to achieve offset from the hedged item and hedging instrument

# Hedge rebalancing and discontinuation (cont'd)

- Rebalancing could include:
  - Layering of new hedging instruments
  - Change in the hedge ratio for hedged instrument and/or hedging instruments (i.e., proportional dedesignations)
  - Amendments to effectiveness assessment methodology to better reflect all sources of ineffectiveness
- This is a significant change from IAS 39 where such changes were largely prohibited
- Where basis risk exists in a hedge relationship in volatile markets, rebalancing is likely to be more frequent
  - Five year fixed rate bond hedged with four year swap, on a duration basis
  - Base rate debt security hedged with libor swap
- Is the range still appropriate?
- Is my effectiveness assessment method still appropriate?

# Hedge rebalancing and discontinuation (cont'd)

- Expected ineffectiveness is from known sources of ineffectiveness on designation. Amounts or degrees may vary over the life of the hedge relationship
  - E.g., increased volatility in known basis risk
  - Any rebalancing is unlikely to require discontinuation of the relationship
- Unexpected ineffectiveness may be as a result of changes to the hedged item or hedging instrument, or as a result of a change in risk management objective
  - E.g., as a result of a change in the type of hedging derivatives used or market pricing convention
  - Any rebalancing will need to be assessed on a case by case basis to determine whether a hedge relationship should continue
- Key factor is whether the risk management objective has changed

# Hedge rebalancing and discontinuation (cont'd)

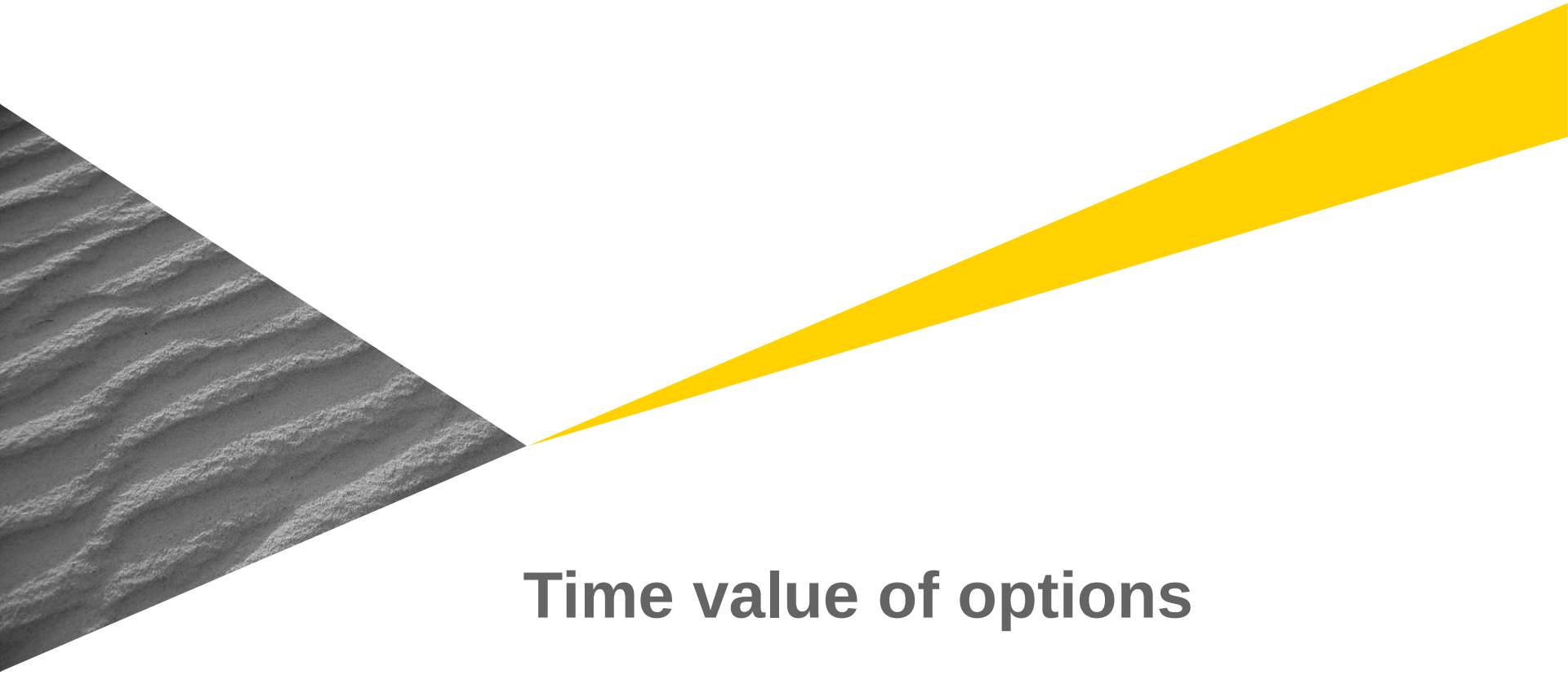
- Proportional dedesignations are permitted
- Rebalancing from overhedging due to changes in basis risk will result in a partial new hypothetical derivative
- Economic inaction is not an excuse not to rebalance an accounting hedge
- Impact of rebalancing is prospective. All retrospective ineffectiveness must be recognised in P&L
  - No ability to retrospectively identify an event that caused an imbalance

# Hedge rebalancing and discontinuation (cont'd)

- Accounting on rebalance of hedge relationship
- Questions to be considered:
  - Is there a requirement to discontinue the hedge relationship?
  - What is the impact on the amount of hedged item and hedging instruments designated in the relationship?
  - How will any ineffectiveness up to the point of rebalancing be calculated?
  - What are likely to be the ongoing sources of ineffectiveness?
  - Is a change in hedge assessment methodology required?
  - What might any hypothetical derivatives look like after the rebalancing?
  - Is there any impact on the entity's ability to achieve hedge accounting in the future?

# Hedge rebalancing and discontinuation (cont'd)

- Outstanding questions:
  - Is there a requirement to rebalance where any 'bias' occurs
  - Frequency of effectiveness assessment is only on reporting dates as minimum, would this be better aligned with risk management monitoring?
  - If assessing effectiveness quarterly, but it is evident retrospectively that the hedge should have been rebalanced in month 2, is the only impact recognition of larger than necessary ineffectiveness, with no other penalty for not rebalancing
  - Is there a concept of materiality for rebalancing? If the optimal hedge ratio changed from 0.9 to 0.91 would minor changes to the hedge be required given the operational impact of amending designations



# Time value of options

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# Time value of options - IAS 39

IAS 39 gives entities the choice to:

- **designate the option as a hedging instrument in its entirety; or**
- **separate the time value and the intrinsic value of the option and designate only intrinsic value as the hedged item.**

Not separating could create a high risk of failing the 80-125 per cent effectiveness assessment range. If not separated, changes in time value could result in ineffectiveness.

If separated, the undesignated time value is treated as ‘held-for- trading’ and accounted for at fair value through profit or loss.

Accounting-driven bias towards the use of non-option derivatives over the use of option-type derivatives.

# Time value of options - IFRS 9

- Accounting for the time value of an option as an insurance premium.

Transaction related hedged item:

**Cumulative change in the fair value of the option's time value accumulated in OCI and recycled under the general requirements (basis adjustment or profit or loss).**

Time-period related hedged item:

**Cumulative change in the fair value of the option's time value accumulated in OCI with that part of the original time value paid relating to the current period transferred to profit or loss (on a rational basis).**

# Time value of options - IFRS 9 continued

Misalignment of option and exposure (e.g. 11M exposure hedged with a 12M instrument):

- **The initial time value of the purchased option (actual time value).**
- **The time value that would have been paid for an option that perfectly matches the hedged item (aligned time value).**

The amount recognised in OCI is determined by reference to the lower of the cumulative fair value change of:

- **the actual time value; and**
- **the aligned time value.**

If the actual time value is higher than the aligned time value, the differences in the fair value movements between the two time values would be recognised in profit or loss.

# Transaction related hedge example input

| Time | Hedged Item Fair Value | Hedging Instrument Fair Value | Hedging Instrument Intrinsic Value | Hedging Instrument Time Value | Aligned Time Value |
|---|---|---|---|---|---|
| 0 | 0 | 30 | 0 | 30 | 20 |
| 1 | -140 | 150 | 134 | 16 | 10 |
| 2 | -100 | 120 | 113 | 7 | 4 |
| 3 | -90 | 102 | 100 | 2 | 0 |

| Time | Hedged Item Fair Value | Hedging Instrument Fair Value | Hedging Instrument Intrinsic Value | Hedging Instrument Time Value | Aligned Time Value |
|---|---|---|---|---|---|
| 1 | -140 | 120 | 134 | -14 | -10 |
| 2 | -100 | 90 | 113 | -23 | -16 |
| 3 | -90 | 72 | 100 | -28 | -20 |

# Transaction related hedge example T1

Intrinsic Value (cash flow hedge accounting):

**Cumulative change intrinsic value hedging instrument:134**

**Cumulative change fair value hedged item: -140**

**Lower of test:**

- effective portion (OCI): 134
- ineffective portion (P&L): 0

Time Value:

**Cumulative change actual time value: -14**

**Cumulative change aligned time value: -10**

**Lower of test**

- recognised in OCI: -10
- expensed in P&L: -4

# Transaction related hedge example T2

Intrinsic Value (cash flow hedge accounting):

**Cumulative change intrinsic value hedging instrument:113 (period -21)**

**Cumulative change fair value hedged item: -100**

**Lower of test:**

- effective portion (OCI): 100 (period -34)
- ineffective portion (P&L): 13 (period +13)

Time Value:

**Cumulative change actual time value: -23 (period -9)**

**Cumulative change aligned time value: -16**

**Lower of test**

- recognised in OCI: -16 (period -6)
- expensed in P&L: -7 (period -3)

# Transaction related hedge example
# T3 pre recycling

Intrinsic Value (cash flow hedge accounting):

**Cumulative change intrinsic value hedging instrument:100 (period -13)**

**Cumulative change fair value hedged item: -90**

**Lower of test:**

- effective portion (OCI): 90 (period -10)
- ineffective portion (P&L): 10 (period -3)

Time Value:

**Cumulative change actual time value: -28 (period -5)**

**Cumulative change aligned time value: -20**

**Lower of test**

- recognised in OCI: -20 (period -4)
- expensed in P&L: -8 (period -1)

# Transaction related hedge example T3 recycling

Cumulative change in fair value hedging instrument: 72

**Intrinsic value (cash flow hedge accounting): 100**

- Effective portion (OCI): 90
- Ineffective portion (P&L): 10

**Time Value:**

- Recognised in OCI: -20
- Expensed in P&L: -8

Recycling:

**Effective Portion (OCI): -90**

**Time value of option (OCI): 20**

**Inventory (BS): -70**

# Transaction hedge example results summary

| | T0 DR/(CR) | T1 DR/(CR) | T2 DR/(CR) | T3 *Pre recycling* | T3 *Recycling* | T3 *Post recycling* |
|---|---|---|---|---|---|---|
| **Accounting Hedged Item** | | | | | | |
| Inventory (BS) | - | - | - | 1.000 | 70- | 930 |
| **Accounting Hedging Instrument** | | | | | | |
| Derivatives (BS) - intrinsic value | - | 134 | 113 | 100 | - | 100 |
| Derivatives (BS) - time value | 30 | 16 | 7 | 2 | - | 2 |
| Derivatives (BS) - total | 30 | 150 | 120 | 102 | - | 102 |
| | | | | | | |
| Cash (BS) | 30- | 30- | 30- | 30- | - | 30- |
| OCI (BS) - effective portion | - | 134- | 100- | 90- | 90 | - |
| OCI (BS) - time value of option | - | 10 | 16 | 20 | 20- | - |
| Expenses (P&L) - actual vs aligned time value | - | 4 | 7 | 8 | - | 8 |
| Hedge ineffectiveness (P&L) | - | - | 13- | 10- | - | 10- |

# Time-Period related example input

| Time | Hedged Item Fair Value | Hedging Instrument Fair Value | Hedging Instrument Intrinsic Value | Hedging Instrument Time Value | Aligned Time Value |
|---|---|---|---|---|---|
| 0 | 0 | 20 | 0 | 20 | 15 |
| 1 | -130 | 130 | 120 | 10 | 6 |
| 2 | -80 | 103 | 96 | 7 | 0 |

| Time | Hedged Item Fair Value | Hedging Instrument Fair Value | Hedging Instrument Intrinsic Value | Hedging Instrument Time Value | Aligned Time Value |
|---|---|---|---|---|---|
| 1 | -130 | 110 | 120 | -10 | -9 |
| 2 | -80 | 83 | 96 | -13 | -15 |

# Time-Period related example results

| | T0 DR/(CR) | T1 DR/(CR) | T2 DR/(CR) |
|---|---|---|---|
| **Accounting Hedged Item** | | | |
| Inventory (BS) | 1.000 | 1.000 | 1.000 |
| | - | 130- | 80- |
| **Accounting Hedging Instrument** | | | |
| Derivatives (BS) - intrinsic value | - | 120 | 96 |
| Derivatives (BS) - time value | 20 | 10 | 7 |
| Derivatives (BS) - total | 20 | 130 | 103 |
| | | | |
| Cash (BS) | 20- | 20- | 20- |
| OCI (BS) | - | - | - |
| OCI (BS) - time value of option | - | 9 | 13 |
| Less amortisation | - | 8- | 13- |
| Amortisation of option's time value (P&L) | - | 8 | 13 |
| Expenses (P&L) - actual vs. aligned time value | - | 1 | - |
| Hedge ineffectiveness (P&L) | - | 10 | 16- |

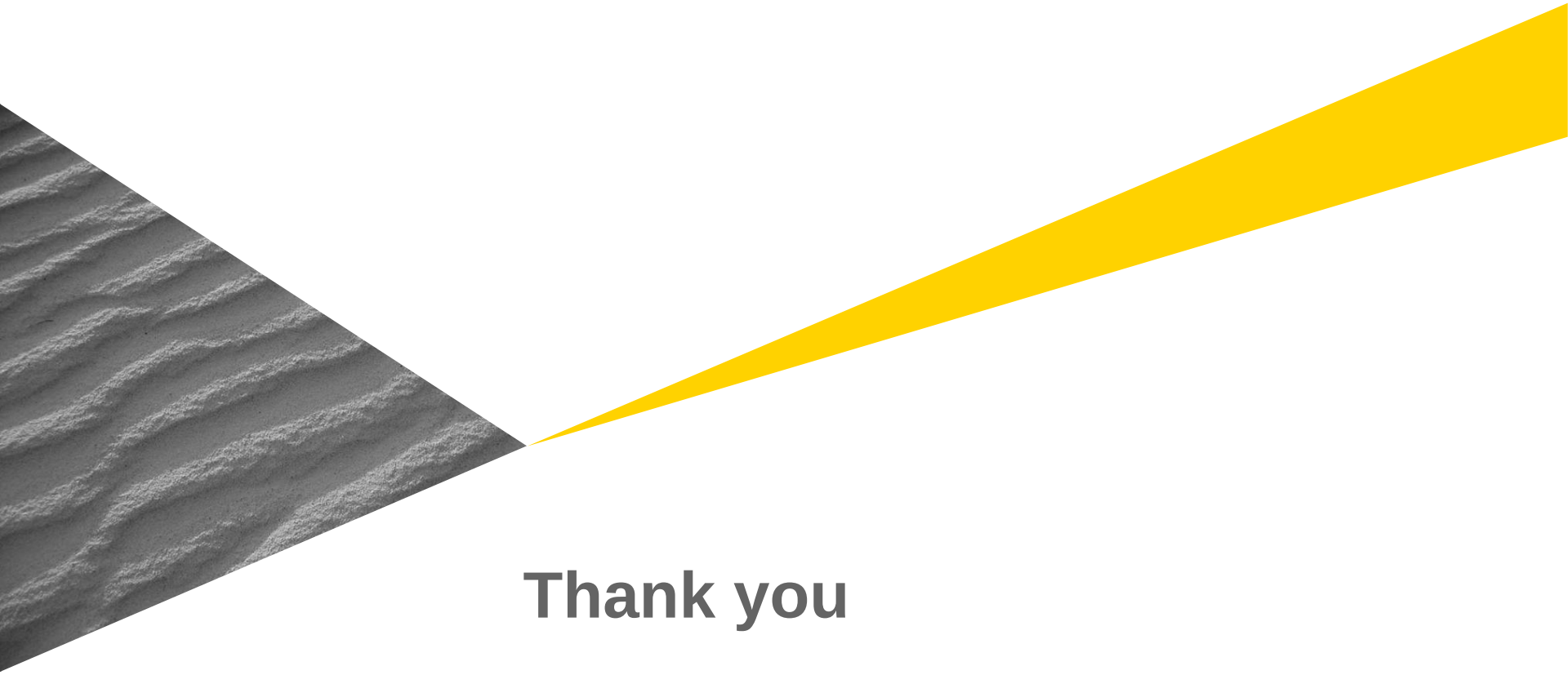
# Questions to be considered

Do we need to consider the aligned time value when the principal terms (i.e. notional, life, underlying) of hedged item and hedging option exactly matched?

What are the amortisation methods considered as acceptable on a 'rational basis'?

- **Currently no prescriptive guidance provided.**
- **Linear amortisation is not a reasonable approximation as the option's time value follows an exponential pattern.**
- **EIR amortisation profile for debt type assets or liabilities could be appropriate for option hedging IR of FX risk.**

How to obtain FV of the aligned time value?



# Thank you

Ernst & Young

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